

**INDIAN AFFAIRS
NATIONAL ENVIRONMENTAL POLICY ACT
(NEPA) GUIDEBOOK**

59 IAM 3-H



**DIVISION OF
ENVIRONMENTAL AND CULTURAL
RESOURCES MANAGEMENT**

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Division of Environmental and Cultural Resources Management
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Reston VA 20191

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TABLE OF CONTENTS

SECTION 1	INTRODUCTION	1
1.1	GENERAL	1
1.2	AUTHORITIES AND GUIDANCE	1
SECTION 2	NEPA AND BIA DECISION-MAKING	2
2.1	NEPA PROCESS	2
2.2	DOCUMENTS USED TO COMPLY WITH NEPA	5
2.3	TRIBAL INVOLVEMENT	6
2.4	PUBLIC INVOLVEMENT	7
2.5	SEQUENCING NEPA WITH OTHER RELATED LAWS	7
SECTION 3	FEDERAL ACTIONS AND NEPA	8
3.1	ACTIONS REQUIRING NEPA COMPLIANCE.....	8
3.2	ACTIONS NOT REQUIRING NEPA COMPLIANCE	9
3.3	ACTIONS EXEMPT FROM NEPA AND EMERGENCY ACTIONS	9
SECTION 4	CATEGORICAL EXCLUSIONS (CE).....	11
4.1	GENERAL	11
4.2	IDENTIFICATION	11
4.3	APPLICATION OF EXTRAORDINARY CIRCUMSTANCES.....	11
4.4	ENDANGERED SPECIES AND HISTORIC PROPERTY CONSULTATION.....	13
SECTION 5	USING EXISTING ENVIRONMENTAL DOCUMENTS	14
5.1	GENERAL	14
5.2	INCORPORATION BY REFERENCE	14
5.3	TIERING	14

5.4 SUPPLEMENTATION	15
5.5 ADOPTING ANOTHER AGENCY’S NEPA ANALYSIS	15
5.6 COMBINING DOCUMENTS	16
SECTION 6 ENVIRONMENTAL ASSESSMENTS (EA).....	17
6.1 GENERAL	17
6.2 PUBLIC INVOLVEMENT	17
6.3 EA PREPARATION.....	17
6.4 CONTENTS AND FORMAT OF AN EA	18
6.5 EA PROCESSING	22
6.6 PUBLIC REVIEW.....	23
6.7 CONTENTS OF THE NOTICE OF AVAILABILITY (NOA).....	23
6.8. CONTENTS OF THE FINDING OF NO SIGNIFICANT IMPACT (FONSI)	23
SECTION 7 ENVIRONMENTAL EFFECTS AND SIGNIFICANCE	25
7.1 GENERAL	25
7.2 DIRECT AND INDIRECT EFFECTS.....	25
7.3 CUMULATIVE EFFECTS	25
7.4 DISPROPORTIONATE EFFECTS (Environmental Justice)	26
7.5 SIGNIFICANCE OF EFFECTS	26
SECTION 8 ENVIRONMENTAL IMPACT STATEMENTS (EIS).....	28
8.1 GENERAL	28
8.2 DEFINING RESPONSIBILITY.....	28
8.3 PUBLIC INVOLVEMENT	29
8.4 CONTENTS AND FORMAT OF AN EIS	31
8.5 REVIEW	35
8.6 THE RECORD OF DECISION (ROD).....	37
8.7 FUNDING AND CONTRACTS	39

SECTION 9	MONITORING AND ADAPTIVE MANAGEMENT	42
9.1	MONITORING	42
9.2	ADAPTIVE MANAGEMENT	42
SECTION 10	THE ADMINISTRATIVE RECORD	44
10.1	ENVIRONMENTAL DOCUMENTS	44
10.2	SUPPORTING DOCUMENTS	44
SECTION 11	REVIEWING OTHER AGENCIES NEPA ACTIONS	45
11.1	REVIEWING AND COMMENTING ON EISs	45
11.2	COOPERATING AGENCY	45
11.3	PRE-DECISION REFERRALS TO CEQ	45
11.4	POST-DECISION REFERRALS TO EPA	46

LIST OF FIGURES

Figure 1	Determining the Need for NEPA Documentation	2
Figure 2	The Steps in NEPA Documentation	4
Figure 3	The Steps in Completing a Categorical Exclusion Exception Review	12
Figure 4	Components of the Human Environment	20
Figure 5	The Steps in Completing an Environmental Assessment	24
Figure 6	The Steps in Completing an Environmental Impact Statement	41

APPENDICES

- 1 List of Acronyms**
- 2 Categorical Exclusion Exception Review (CEER) Checklist (Example)**
- 3 FONSI (Example)**
- 4 NOI (Example)**
- 5 DEIS NOA (Example)**
- 6 FEIS NOA (Example)**
- 7 Notice of Correction (Example)**
- 8 Notice of Cancellation (Example)**
- 9 Record of Decision (Example)**
- 10 Scoping Package (Example)**
- 11 Disclosure Statement (Example)**
- 12 National Environmental Policy Act**
- 13 Council on Environmental Quality Regulations (40 CFR Part 1500)**
- 14 Department of Interior Regulations (43 CFR Part 46)**
- 15 Departmental Manual 516 DM 10**
- 16 Indian Affairs Manual 59 IAM 3**
- 17 NEPA 40 Most Asked Questions**
- 18 Environmental Justice Guidance**
- 19 Cumulative Impact Guidance**
- 20 Other Relevant Environmental Laws**
- 21 CEQ Guidance for Appropriate Use of Mitigation and Monitoring**
- 22 CEQ Guidance for Categorical Exclusions**

SECTION 1 INTRODUCTION

1.1 GENERAL

This document provides guidance to Indian Affairs (IA) to help comply with the National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR Parts 1500–1508) and the Department of the Interior (DOI) NEPA regulations (43CFR Part 46).

Because the majority of activities on Indian trust lands include Federal funding or approval through the Bureau of Indian Affairs (BIA), the responsibility for complying with NEPA generally falls to the BIA. However, NEPA applies to every office and program within IA, and compliance lies with the office with the direct responsibility to fund, develop or approve a proposal or action. Although the guidance throughout this handbook is directed to the BIA, the instructions are valid for all programs and all references to BIA should be understood as applying to all IA offices and programs. Expertise in NEPA compliance can be found at BIA Regional Offices and when other offices have questions regarding NEPA, they should contact the BIA Regional Office NEPA Coordinators for advice. The responsibilities of IA officials for administering compliance with NEPA may be found in the Departmental Manual (DM) at 516 DM 10 and in the Indian Affairs Manual (IAM) at 59 IAM 3 (See Appendices 15 and 16).

This Guidebook is strictly advisory. It does not create policy, add to, delete from nor otherwise modify any legal requirement. The procedures described in this Guidebook are intended to aid IA officials in the internal administration of the agency, and are subject to re-interpretation, revision, or suspension by IA as circumstances may require.

1.2 AUTHORITIES AND GUIDANCE

Appendices 12 through 16 include the following relevant directives and guidance for complying with NEPA:

National Environmental Policy Act of 1969 (42 U.S.C 4321-4347).

Council on Environmental Quality Regulations (40 CFR Parts 1500-1508).

The Department of Interior Regulations (43 CFR Part 46). This codifies portions of Chapters 1-6 of Part 516 of the Departmental Manual

Departmental Manual Part 516. Chapter 10 of the manual (516 DM 10) is specific to the BIA's management of the NEPA process. The DOI, through the Office of Environmental Policy and Compliance (OEPC), also continuously updates a series of environmental statement, review, and compliance memoranda.

59 IAM Chapter 3: The IA Manual further defines NEPA policy, authority and responsibility of staff.

SECTION 2 NEPA AND BIA DECISION-MAKING

2.1 NEPA PROCESS

The NEPA process is intended to facilitate public participation and disclosure in the Federal planning process, and also help Federal government officials “make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment” (40 CFR 1500.1(c)). The NEPA process analyzes and discloses the significant impacts a proposed action may have on the quality of the human environment.

The initial step in the process is determining if there is a Federal action and if the action is subject to NEPA review. (IA adopts the 43 CFR 46.100 definition of Federal action as synonymous with any reference to “Major Federal action” defined in the CEQ regulations 40 CFR 1508.18). Figure 1 illustrates the basic questions to be answered in starting the process. The BIA Regional Office and Agency Office NEPA Coordinators can offer the best advice in answering these questions:

- 1. Is the proposed action subject to BIA control?** If BIA is initiating, funding or approving a project, then it is a Federal action as defined by NEPA. However, not all activities on Indian trust lands require BIA funding or approval, and therefore may not be subject to NEPA (See Section 3.1).
- 2. Will the action have effects that can be meaningfully evaluated?** It should be recognized that not all actions affect the environment, and therefore require no NEPA review. These are largely internal administrative actions (See Section 3.2).
- 3. Is the action exempt from NEPA?** Few Federal actions are exempt from NEPA, but in rare cases they can occur (See Section 3.3).

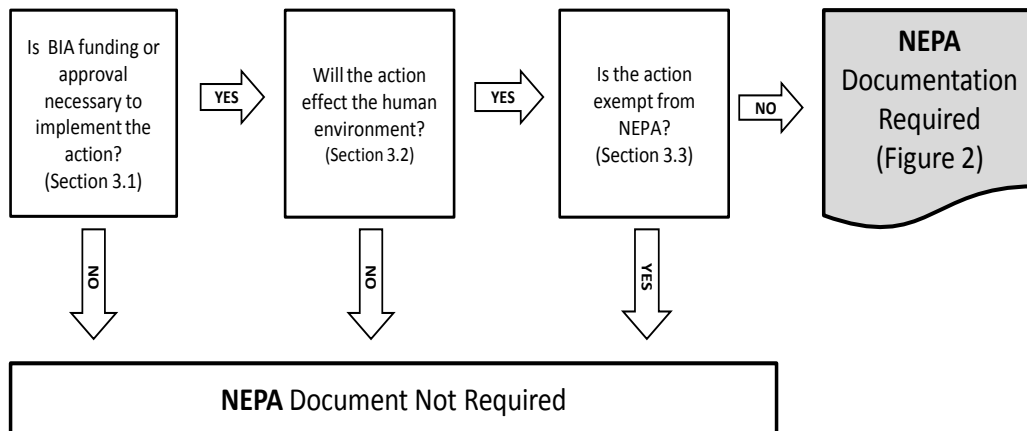


Figure 1 Determining the Need for NEPA Documentation

After determining if the action is subject to NEPA review, additional questions can then be asked to determine the level of review and the kind of documentation required. Figure 2 illustrates the general steps to be followed in NEPA documentation. Again the BIA Regional Office and Agency Office NEPA Coordinators can offer the most direct advice in answering these questions:

1. Are significant effects expected? Generally, if a Federal action is expected to have significant effects on the human environment, an environmental impact statement (EIS) will be prepared (See Section 7). Actions normally requiring an EIS are listed in 516 DM 10. An environmental assessment (EA) may be needed to determine if the effects are significant and if an EIS is needed.

2. Is it a categorical exclusion? If a Federal action falls under a previously defined categorical exclusion (CE), a categorical exclusion exception review (CEER) will be conducted to determine if any extraordinary circumstances apply (See Section 4). Departmental CEs are listed in 43 CFR Part 46 and BIA CEs are listed in 516 DM 10.

3. Are there extraordinary circumstances? If the CEER finds that no extraordinary circumstances apply, the decision on the action may proceed. If the action is not categorically excluded, or if extraordinary circumstances apply, then an EA (Section 6) or EIS (Section 8) will be prepared.

4. Is it covered by an existing NEPA document? If the action and its effects are analyzed in an existing EA or EIS, it may be possible to use all or portions of the document to expedite and complete the process (See Section 5). If the EA identifies no significant effects, a Finding of No Significant Impact (FONSI) will be completed (See Section 6.8). If there are significant effects an EIS will be prepared and a Record of Decision (ROD) will be completed to document the process and the factors affecting the decision (Section 8.6).

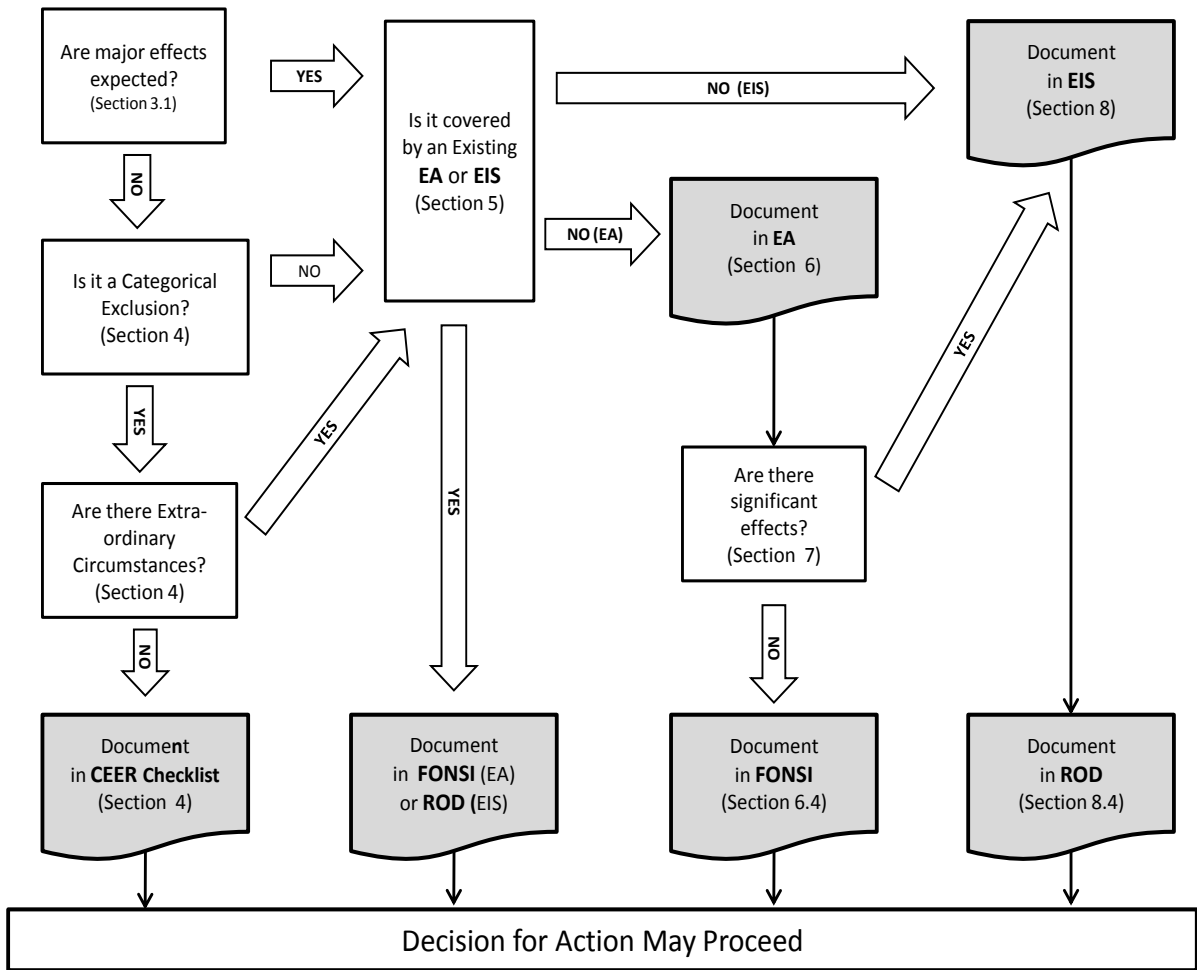


Figure 2 The Steps in NEPA Documentation

2.2 DOCUMENTS USED TO COMPLY WITH NEPA

2.2.1 General

The BIA uses five basic documents to comply with NEPA. These documents can be prepared internally, or they can be prepared by tribal programs that may have P.L. 93-638 Contracts or Self-governance Compacts with the BIA. The EAs and EISs may be prepared by third parties (e.g. applicants, tribal corporations, private consultants). However, the ultimate responsibility for complying with NEPA and for assuring the accuracy and sufficiency of NEPA documentation lies with the BIA. The BIA Responsible Official with decision making authority must sign the appropriate documents.

2.2.2 Categorical Exclusion Exception Review (CEER) Checklist (See Section 4)

If the proposed action belongs to a category of actions that have no potential for significant individual or cumulative environmental effects, it can be categorically excluded from further analysis and documentation in an EA or EIS (40 CFR 1508.4; 43 CFR 46.205). The proposed action must fit within the list of CEs published by DOI (43 CFR 46.210), or BIA (516 DM 10.5) and it must be determined that no “extraordinary circumstances” apply to the action (43 CFR 46.215). To document this review a CEER Checklist is prepared by Regional or Agency NEPA Specialists for approval by the Responsible Official (See Appendix 2).

2.2.3 Environmental Assessment (EA) (See Section 6)

If the action does not fall under a CE; there is no previously prepared NEPA document; or it is unclear whether the action would have a significant effect, then an EA is prepared (40 CFR 1508.9; 43 CFR 46.300). An EA is a concise document that provides sufficient evidence and analysis for determining the significance of effects from a proposed action. The EA will determine if an EIS is necessary. An EA can also be prepared at any time to assist in BIA planning and decision-making (43 CFR 46.300(b)).

2.2.4 Finding of No Significant Impact (FONSI) (See Section 6.8)

If the analysis in an EA shows the action will not have a significant effect, a FONSI is prepared to document that there is no need to prepare an EIS (40 CFR 1508.13; 43 CFR 46.325). The FONSI is made available to the public before proceeding with the decision.

2.2.5 Environmental Impact Statement (EIS) (See Section 8)

If a proposed action will have a significant environmental effect (NEPA, Sec. 102(2)(c)), then an EIS must be prepared (40 CFR 1502.4; 43 CFR 46.400). The EIS process is initiated with publication of a Notice of Intent in the *Federal Register* and local public media, and also requires public scoping. Draft EISs are made available for public review and comment, and Final EISs include responses to comments received. Both require formal Notices of Availability in the *Federal Register*.

2.2.6 Record of Decision (ROD) (See Section 8.6)

After an EIS is completed, the BIA decision on the action must be documented in a ROD (40 CFR 1505.2). The ROD explains the decision and identifies the environmentally preferred alternative (40 CFR 1505.2(b); 43 CFR 46.450), as well as other alternatives considered and the factors that influenced the decision. The ROD is made available to the public before proceeding with the decision (See Appendix 9 for an example.)

The NEPA analysis documents are not agency decision documents, and they are not subject to IA administrative protest or appeal provisions. However, a decision based on a CE, an EA/FONSI, or an EIS/ROD is an agency action and may be protested or appealed, regardless of the type of NEPA compliance documentation completed, and such appeals would follow the standard Indian appeals process (25 CFR Part 2).

2.3 TRIBAL INVOLVEMENT

Complying with NEPA is an inherently Federal responsibility. However, tribal governments have substantial authority through their retained tribal sovereignty for environmental protection on lands within their jurisdiction. This tribal governmental authority is distinct from the responsibilities of the BIA under NEPA and other Federal environmental laws. Activities affecting the environment on Indian lands often require the approval of both the BIA and the tribal government. Because of this dual authority, the BIA's NEPA process should be coordinated with the tribal decision-making process. Such coordination helps reduce paperwork and delay, integrates environmental considerations into the early stages of planning, and increases the usefulness of the NEPA process for decision-makers. Tribal governments and their delegated tribal programs should not only be consulted, but should be partners with the BIA in the NEPA process, and invited to serve as cooperating agencies.

If a tribal government has enacted any environmental law or ordinance that applies to a proposed action for which the BIA must prepare an EA or an EIS, compliance with the law(s)/ordinance(s) must be addressed in the EA or EIS. If the proposed action is categorically excluded, but taking the action might violate a tribal environmental law or ordinance, an EA must be prepared (43 CFR 46.215(i)).

Through allotments the BIA has trust responsibility to individual Indians as well as tribes. The BIA will seek to involve all stake holders (tribes and allottees) in the NEPA process. Any requests by other tribes to participate as a cooperating agency with respect to the preparation of a particular EA or EIS must also be considered and either accepted or denied. However, the BIA retains sole responsibility and discretion in all NEPA compliance matters.

The P.L 93-638 provides tribes the opportunity to contract BIA programs or projects. Under such contracts and compacts tribes may also assume the responsibility to prepare the appropriate NEPA documents. However, compliance with NEPA remains an inherently Federal function and the scope and content of any NEPA document remains the responsibility of the appropriate BIA Responsible Official.

2.4 PUBLIC INVOLVEMENT

Public disclosure and involvement is a key requirement of NEPA (40 CFR 1506.6). The extent of public involvement is largely dependent of the level of NEPA review being conducted. The CEER is an internal BIA process; preparation of an EA and FONSI include limited public notification and review; and EIS preparation involves considerable public scoping, review and comment.

2.5 SEQUENCING NEPA WITH OTHER RELATED LAWS

The CEQ regulations (40 CFR 1502.25) encourage agencies to prepare Draft EISs concurrently with other relevant Federal statutory and regulatory requirements, such as Endangered Species Act (ESA) evaluations and consultations, National Historic Preservation Act (NHPA) Section 106 Consultation, evaluations of hazardous building materials or site conditions (e.g. Phase I and II Environmental Site Assessments), Clean Water Act permits (e.g. Section 401 and 404 permits), and others. Depending on the nature of the action, it is best to plan all levels of NEPA documentation to run parallel with requirements of other Federal laws, as well as any, state and tribal laws that may apply (See Appendix 20). To the extent possible, these other compliance actions should be completed by the end of the NEPA process (FONSI or ROD). Information, conclusions and commitments of the agency related to these compliance actions will be discussed in the NEPA document.

The CEQ regulations (40 CFR 1506.2) also encourage agencies to eliminate duplication with state and local procedures. As appropriate, the BIA will integrate its NEPA process with a Tribal Environmental Policy Act (TEPA), when such TEPA is in place. However, a TEPA does not replace nor relieve the BIA from responsibility of complying with NEPA.

SECTION 3 FEDERAL ACTIONS AND NEPA

3.1 ACTIONS REQUIRING NEPA COMPLIANCE

3.1.1 Introduction

The NEPA applies to “Major Federal actions” that are subject to Federal control and responsibility. (IA adopts the 43 CFR 46.100 definition of Federal action as synonymous with any reference to Major Federal action.) As defined in the CEQ regulations (40 CFR 1508.18(b))-, Federal actions include adoption of official policy, adoption of formal plans, adoption of programs, and approval of specific projects.

3.1.2 BIA Initiated Actions

The BIA programs often directly fund or undertake a variety of actions on Indian trust lands that require NEPA compliance. These include Fire Management Plans, Forest Management Plans, Integrated Resource Management Plans, Range Unit Management Plans and Agriculture Resources Management Plans. Sometimes these plans are prepared directly by the BIA and other times they are in partnership with Tribes or written directly by Tribes with funding provided through the BIA.

A variety of construction projects may also be undertaken by BIA. The roads program may improve roads or construct new roads on trust lands. Even if projects are not located on trust lands NEPA may be triggered, because Federal funds are used. For example, if a BIA road project needs to open a gravel or borrow pit on private land, NEPA would be triggered because the pit would be opened with Federal funds. Building construction, improvements, and removals through the Office of Facilities Management and Construction also require NEPA review.

3.1.3 Actions Proposed By Others

Proposals to use or develop resources on Indian trust lands may also trigger NEPA. Applicants may include tribal governments and individual tribal members, as well as other Federal, state and local agencies, and private individuals or corporations. If the BIA acts on such proposals, NEPA review would be required.

The following are some typical examples of proposals from outside the BIA:

- Applications for rights-of-way/easements
- Land transactions (e.g. fee-to-trust and trust-to-fee transactions)
- Mineral activities including leasing, exploration and development
- Farm and grazing leases
- Homesite and business leases.

The BIA is in a unique position with respect to Indian trust lands, which include tribal and allotted lands. Many actions proposed by tribes or individual tribal members require BIA approval. However, in some cases the BIA may have no approval authority for actions on trust

lands and NEPA may not apply. For example, if an individual allottee is the sole owner of a parcel of land, he or she may construct a house and a new access road on that parcel without the approval of the BIA, so NEPA may not be triggered unless another Federal agency is approving or funding the project.

The complex pattern of tribal, allotted and private lands on many reservations can also make NEPA compliance complicated. In the example cited above, if the access road were to cross an adjacent tribal or another allotted tract of land, and the BIA would need to approve a right of way for those parcels, NEPA would be triggered. Applicants should contact the BIA Regional Office NEPA Coordinators, as well as the Regional Realty Officers to determine the level of BIA involvement in any proposed action.

3.2 ACTIONS NOT REQUIRING NEPA COMPLIANCE

As discussed in Section 3.1 above, if a proposed action is subject to BIA control and responsibility, it is generally subject to the procedural requirements of NEPA (40 CFR 1508.18). However, DOI regulations further clarify that an action is subject to these procedural requirements, “if it would cause effects on the human environment” (43 CFR 46.100(a)) and if the effects “can be meaningfully evaluated” (43 CFR 46.100(b)(2)). The BIA, like many other bureaus in DOI, is responsible for a variety of actions that do not cause effects that can be meaningfully evaluated. These would include routine administrative procedures, such as personnel actions, budget processes and equipment purchases. As well as general grants and funding to tribes that may not be related to a specific project or activity. Although they can also be considered under the lists of DOI categorical exclusions (43 CFR 46.210), the BIA generally considers these to be administrative actions that do not fall under the procedural requirements of NEPA, and do not require NEPA documentation. Therefore no further NEPA review is conducted.

Determining whether a proposed action is subject to the procedural requirements of NEPA also depends on the extent to which the BIA exercises control and responsibility over the proposed action and whether Federal funding or approval are necessary to implement it. If Federal funding is provided with no Federal agency control as to the expenditure of such funds by the recipient, NEPA compliance is not necessary (43 CFR 46.100(a)). If tribes or individual Indians undertake actions on Indian trust lands that do not require any kind of funding, permit or approval by BIA, then compliance with NEPA may not be required. However, if funding is provided and controlled by other Federal agencies, then those agencies are required to comply with NEPA. Often joint responsibility will occur, but generally the funding agency or the agency with the technical expertise will serve as the Lead Agency (See Section 8.2).

3.3 ACTIONS EXEMPT FROM NEPA AND EMERGENCY ACTIONS

Few Actions are exempt from NEPA, but in certain defined circumstances NEPA analysis may not be required. The BIA Regional Office NEPA Coordinators should be consulted to determine if any special exemptions apply.

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508.1 Congressionally Exempt Actions

Some actions are congressionally exempt from NEPA compliance. This is uncommon and is applicable only on a case-by-case basis. If an action is congressionally exempt, it will be specifically stated in the law authorizing the action.

3.3.2 CERCLA

It is the position of the Department of Justice that NEPA is not applicable to cleanups conducted pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. sections 9601 et seq. (CERCLA). For further information regarding this issue, or how it may apply at a particular site, contact the Office of the Solicitor.

3.3.3 Actions Mandated By Statute

If the BIA is required by law to take an action and no discretion is allowed, NEPA may not be triggered. For example, if BIA is directed by an act of Congress to take land into trust, the transaction is an act of Congress and not an action of the BIA.

3.3.4 Emergency Actions

Actions are typically considered emergency actions, if they must immediately be taken to protect public health and safety or important resources. The responsible BIA Official may take the actions to control the immediate impacts of the emergency, take into account the probable environmental consequences and mitigate the foreseeable adverse environmental effects to the extent practical (43 CFR 46.150(a)). These actions can be completed without preparing any NEPA analysis. However, the determination of the emergency and the actions taken must be documented in writing (43 CFR 46.150(b)).

Subsequent actions that are not immediately needed to protect public health and safety or important resources must undergo normal NEPA procedures. If the actions are not likely to have significant environmental impacts, an EA and FONSI shall be prepared (43 CFR 46.150(c)). Generally, follow-up actions such as fire rehabilitation, abandoned mine land reclamation, or flood cleanup are not considered emergency actions.

If the subsequent actions are expected to have significant impacts, CEQ regulations (40 CFR 1506.11) and DOI regulations (43 CFR 46.150 (d)) provide for alternative arrangements for dealing with emergencies. However, in such a case CEQ must be consulted about any alternative arrangements.

SECTION 4 CATEGORICAL EXCLUSIONS (CE)

4.1 GENERAL

Most Federal actions do not result in significant environmental impacts. The CEs are categories of actions that Federal agencies have determined do not have a significant effect on the quality of the human environment (individually or cumulatively) and neither an EA nor an EIS is required (40 CFR 1508.4; 43 CFR 46.205). The CEQ developed the CE process to reduce unnecessary paperwork and potential delays associated with NEPA compliance. It also provides guidance in establishing and applying CEs (Appendix 22). The BIA consulted with CEQ when developing its CEs, and all proposed CEs were made available in the *Federal Register* for public review and comment. The BIA's published CEs are listed in 516 DM 10.5 and those published for all of DOI can be found in 43 CFR 46.210. The majority of Federal actions reviewed by the BIA fall under CEs.

To categorically exclude an action it must be reviewed and this review must be documented. The Categorical Exclusion Exception Review (CEER) conducted by the BIA is an internal two-step process that (1) identifies which CE is appropriate for the proposed action, and (2) determines if any "extraordinary circumstances" apply. A CEER can be conducted for a single action or for group of identical actions, provided the review for extraordinary circumstances has been appropriately conducted.

As discussed in Section 3.2, not all BIA actions cause effects to the human environment. Administrative actions, such as day to day personnel processes and office operations do not require a CEER.

4.2 IDENTIFICATION

Each CEER identifies if an appropriate CE is applicable. Both the DOI (43 CFR 46.210), and the BIA (516 DM 10.5) lists of CEs that may be appropriate. Some proposed actions may fit within more than one CE. In determining the appropriate CE to use, the CE that most closely matches the objectives of the proposed action, and is the most specific, should be selected.

4.3 APPLICATION OF EXTRAORDINARY CIRCUMSTANCES

The critical part of all CEERs is to determine if any extraordinary circumstances apply. Extraordinary circumstances are those circumstances for which the DOI has determined that further environmental analysis and documentation is required for an action either through an EA or EIS (43 CFR 46.205 (c)). These extraordinary circumstances are listed in 43 CFR 46.215. The CEER Checklist is a simple check-box form used by the BIA to document this review (See Appendix 2). The steps for completing the review are listed below:

- (1) Review 43 CFR 46 210 and 516 DM 10.5.** Is the proposed action listed? If yes, go to Item (2). If no, determine whether to prepare an EA or an EIS.

(2) Enter on the Exception Checklist the paragraph number and exclusion category (e.g. 10.5.F.3). Write in title and date of document(s), when an earlier NEPA analysis is a provision of the exclusion (such as in 10.5. F.1).

(3) Determine (yes or no) if any of the circumstances listed exist in the case of the proposed action. If the answer is no for all listed circumstances, obtain all signatures indicated on the CEER Checklist. Retain the signed checklist, and any other associated documents as appropriate (e.g. Section 106, Section 7), for the record. This completes the NEPA requirement for the proposed action. If the answer is yes for any listed circumstance, the CE cannot be used, and an EA or an EIS will need to be prepared.

NOTE: If any of the extraordinary circumstances apply to the proposed action, and the action can be modified to alleviate or resolve the circumstances that are considered extraordinary, then it may still be categorically excluded.

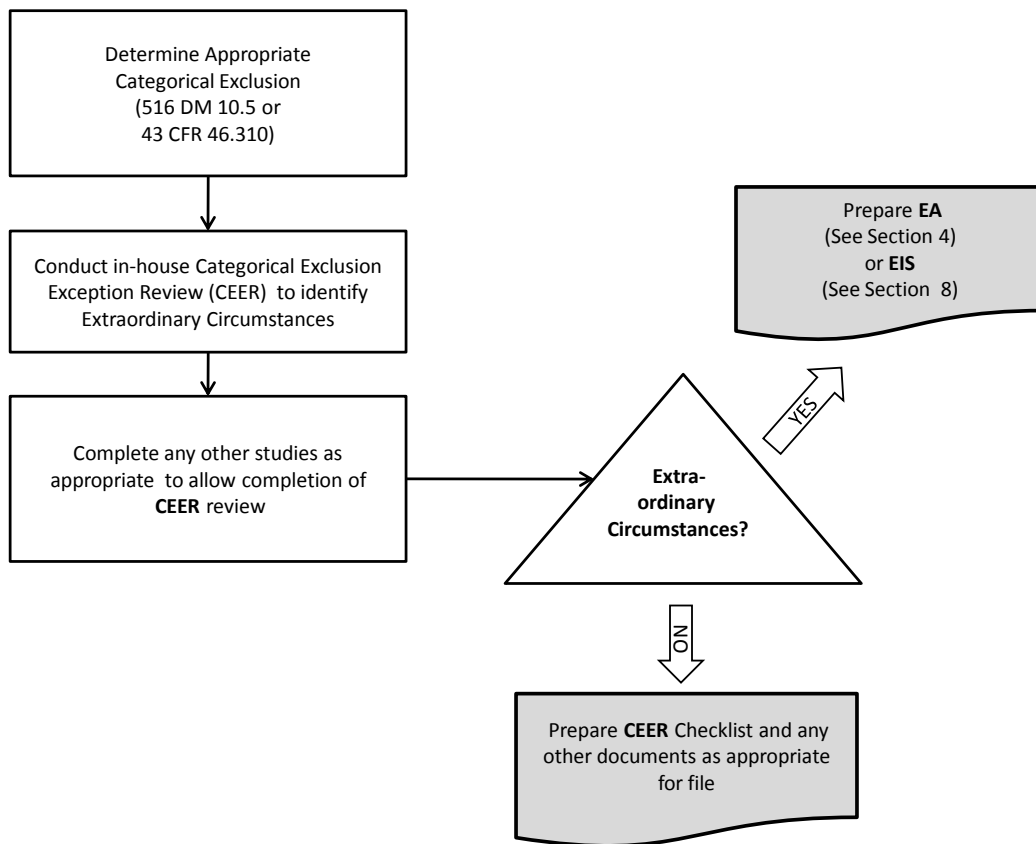


Figure 3 The Steps in Completing a Categorical Exclusion Exception Review

4.4 ENDANGERED SPECIES AND HISTORIC PROPERTY CONSULTATION

Section 7 consultation under the ESA (50 CFR 402) is not required when the BIA determines that a project will have “no effect” to an endangered species or critical habitat because none are located in the project area. A designated NEPA coordinator or biologist can make this decision during the CEER by reviewing current endangered species lists and habitat in relation to the scope and nature of the proposed action. Any determination beyond a “no effect” will require informal and possibly formal consultation with the U.S. Fish and Wildlife Service (USFWS). The BIA offices should maintain close coordination with local USFWS offices to ensure proper consultation occurs. If consultation results in a “no effect” or “may effect, not likely to adversely effect” determination, the CE can still be used.

Section 106 consultation (36 CFR 800) with State Historic Preservation Offices (SHPO) or Tribal Historic Preservation Offices (THPO) under the NHPA is not required when the agency determines that the project is the type of activity that has “No potential to cause effects” to a historic property (36CFR 800.3(a)(1)). This is a professional judgment made by the Regional Archaeologist or delegated agency or tribal archaeologist during the CEER. It should be noted it is the type of activity that is critical for making this determination, not the presence or absence of a historic property. Consultation with the SHPO /THPO will normally be required to make any further determination regarding the scope of identification efforts and any effects to historic properties. If consultation results in a “no adverse effect” determination, or if the adverse effects can be resolved, the CE can still be used, but all consultation requirements of 36 CFR 800 should be completed before the signing the CEER checklist.

Any Section 7 and Section 106 determinations will be briefly documented for the project file.

SECTION 5 USING EXISTING ENVIRONMENTAL DOCUMENTS

5.1 GENERAL

In order to streamline the NEPA process, the use of existing environmental documents and analyses is strongly encouraged (43 CFR 46.120). Several methods are available that allow using portions or entire documents.

5.2 INCORPORATION BY REFERENCE

The BIA may incorporate by reference all or portions of any pertinent, publicly available document, provided that the analyses in the original documents are appropriate for the immediate action (40 CFR 1502.21; 43 CFR 46.135). The text of the EA need only include a brief synopsis of such incorporated information. However, a FONSI must rely only on the information contained in the EA itself. Incorporation by reference is useful in preparing both EAs and EISs.

Documents incorporated by reference may include non-NEPA documents, as long as the material is reasonably available for public inspection. At a minimum, incorporated material must be available for inspection in the applicable BIA office. If the material is not or cannot be made reasonably available, it cannot be incorporated by reference. For example, privileged data that is not readily available, such as some seismic data, company financial data, and cultural inventories, may not be incorporated by reference. Instead, the information should be summarized as fully as possible with mention that the privileged information is not available for public review.

In addition, other material may be simply referenced in a NEPA document without being incorporated by reference. Without following the above procedures for incorporation by reference, such material would not be made part of the NEPA document. It may be appropriate to simply reference material when it provides additional information for the reader, but is not essential to the analysis.

5.3 TIERING

Tiering is using the coverage of broader NEPA documents in subsequent, narrower NEPA documents (40 CFR 1502.20; 43 CFR 46.140). This allows the tiered NEPA document to narrow the range of alternatives and concentrate solely on the issues not already addressed. Tiering is appropriate when the analysis for the proposed action will be a more site-specific or project-specific refinement or extension of the existing NEPA document.

Tiering can be particularly useful for cumulative impact analysis. A programmatic EA or EIS will often analyze the typical effects anticipated as a result of the individual actions that make up a program, as well as the total effects of the overall program. An EA prepared in support of an individual action can be tiered to the broader programmatic NEPA document. Tiering to the programmatic EA or EIS would allow the preparation of an EA and FONSI for the individual action, so long as the remaining effects of the individual action are not significant.

In some instances, a broader EA or EIS might fully analyze significant effects on some resources affected by the individual action, but not all resources. The tiered EA for the individual action need not re-analyze the effects on resources fully analyzed in the broader EA or EIS, but may instead focus on the effects of the individual action not analyzed in the broader document.

5.4 SUPPLEMENTATION

The CEQ regulations specifically address draft and final EISs. However BIA also supplements EAs as appropriate and the rationale for EISs below may also be applied to EAs.

A supplement to a Draft or Final EIS must be prepared if, after circulation of a Draft or Final EIS but prior to implementation of the Federal action the following occurs:

- (1) Substantial changes are made to the proposed action that are relevant to environmental concerns (40 CFR 1502.9(c)(1)(i)); or
- (2) Significant new circumstances or information arise that are relevant to environmental concerns and bearing on the proposed action or its effects (40 CFR 1502.9(c)(1)(ii)).

A Supplemental EIS must provide a basis for rational decision-making and give the public and other agencies an opportunity to review and comment on the analysis of the changes or new information (40 CFR 1502.9(c)(4)). If a supplement is prepared for an EA, a new or amended FONSI will be prepared. Likewise, for an EIS a new or amended ROD will be prepared.

5.5 ADOPTING ANOTHER AGENCY'S NEPA ANALYSIS

If an EA or EIS prepared by another agency is relevant to a BIA proposed action, a new EA or EIS may be prepared to incorporate by reference the applicable portions of the other agency's document or BIA may adopt the entire document prepared by another agency.

5.5.1 Adopting Another Agency's EA

An existing EA may be adopted if the BIA reviews the EA and determines that it complies with the relevant parts of the CEQ regulations and program requirements (43 CFR 46.320). When appropriate the BIA may also augment the EA to be consistent with the BIA action (43 CFR 46.320(b)).

NOTE: If adopting another EA, the BIA will prepare its own FONSI. This will document that the BIA has independently evaluated the impacts.

5.5.2 Adopting Another Agency's EIS

The BIA may use another agency's EIS, or portion of, for BIA decision-making (40 CFR 1506.3). This reduces paperwork, eliminates duplication, and makes the process more efficient. An existing EIS, or portion thereof, may be adopted if:

- (1) BIA's proposed action is substantially the same as that in the EIS, the BIA may treat and re-circulate the document as a final EIS (40 CFR 1506.3(b)); or
- (2) there are minor variations in the BIA's action and BIA re-circulates the documents as a draft EIS and announces it is doing so.

The BIA may adopt without re-circulating the EIS of the lead agency if, the BIA is a cooperating agency and after an independent review of the EIS, the BIA's comments and suggestions have been satisfied(40 CFR 1506.3(c)).

5.6 COMBINING DOCUMENTS

The CEQ regulations also allow agencies to combine NEPA documents with other documents to reduce paperwork (40 CFR1506.4). This allows larger program documents such as Forest Management Plans or Range Management plans to include an appropriate level of NEPA analysis as part of their plan development.

SECTION 6 ENVIRONMENTAL ASSESSMENTS (EA)

6.1 GENERAL

The DOI regulations (43 CFR 46.300(a)) specify that an EA must be prepared for any Federal action except those: (1) covered by a CE; (2) covered by an earlier environmental document; or (3) a decision has already been made to prepare an EIS. The EA is the document that provides sufficient analysis for determining whether a proposed action may or will have a significant impact on the quality of the human environment and therefore requiring the preparation of an EIS. If the EA does not reveal any significant impacts, a FONSI is prepared.

6.2 PUBLIC INVOLVEMENT

The CEQ and DOI regulations encourage agencies to facilitate public involvement in the NEPA process (40 CFR 1506.60), but the extent of public involvement in preparing an EA is at the discretion of the decision-maker (43 CFR 46.305(a)). Depending on the nature of the action the BIA may hold both internal and public scoping to define issues and appropriate alternatives.

The CEQ requires making a FONSI available for 30 day review if: (1) the proposed action is normally one that requires an EIS; or (2) the nature of the proposed action is one without precedent (40 CFR 1501.4(e)(2), also see Appendix 17). However, for most routine non-controversial actions the DOI regulations only require notifying the public of the availability of an EA and FONSI(43 CFR 46.305(c)). There is no minimum time period for this notification and there is no requirement to seek comments. A shorter review period may be used for most routine non-controversial actions, but in general the Notice of Availability (NOA) for the EA and FONSI should be published at the same time as the decision to proceed. The time between the NOA and the time when the action may be implemented will then correspond to the 30-day appeal period on the decision to proceed as required in 25 CFR. 2.7. This NOA should be published in a local newspaper, but NOAs for minor localized actions need only be posted at the agency and tribal offices.

Because of the unique government to government relationship and the sovereignty of tribes, the BIA should involve tribal governments and relevant tribal programs in the development and review of EAs, especially when NEPA actions affect lands within reservation boundaries. Tribes are not viewed as members of the public, but as partners in the NEPA process and should be invited to participate as cooperating agencies when developing EAs as well as EISs.

6.3 EA PREPARATION

An EA is not supposed to be a short EIS and CEQ regulations encourage agencies to write concise EAs (40 CFR 1508.9). The analysis in an EA need not go beyond that needed to determine whether impacts will or may be significant. This analysis should rely on existing data, but where appropriate, additional studies may be necessary to provide sufficient background information to determine if impacts will be significant. In following the guidance of CEQ, the

BIA encourages preparers to restrict the size of EAs to no more than 15 pages (See Appendix 17, Question 36a). Larger documents may be appropriate for more complex actions or programmatic reviews.

An EA can be prepared at any time, to facilitate the planning process and can be combined with planning documents (43 CFR 46.300(b)). When appropriate, the use of programmatic EAs is encouraged for actions that are identical and/or confined to a geographic location. Such analysis can programmatically address common environmental issues, and eliminate the need to replicate the review of those issues in subsequent projects.

6.4 CONTENTS AND FORMAT OF AN EA

The DOI regulations (43 CFR 46.310) define the minimal requirements of an EA to include: (1) the proposal; (2) the need for the proposal; (3) the environmental impacts of the proposed action; (4) the environmental impacts of the alternatives considered; and (5) a list of agencies and persons consulted. The BIA uses the following format.

6.4.1 Cover Sheet

This will include the title and location of the proposed action; date of issue of the EA; name of responsible Federal agency(s); and name(s) of the preparing entity(s). If the EA is to be circulated as a draft, this will be clearly marked on the cover sheet.

6.4.2 Table of Contents

This lists chapter and section headings, along with tables, figures and illustrations.

6.4.3 Proposal and Need for the Proposal

In this section, explain the proposal and why the BIA is considering the action. This should clearly answer the questions: What Federal action triggered NEPA? Why here? Why now? For many types of actions, the “need” can be described as the underlying issue the BIA is addressing with the action. Descriptions of proposed actions in EAs usually include four elements:

- (1) “Who” is the Federal agency guiding the analysis and making the decision.
- (2) “What” is the specific activity proposed. Sufficient detail must be provided, so the effects of the proposed action may be compared to the effects of the alternatives,
- (3) “When” is the timeframe in which the project will be implemented and completed.
- (4) “Where” is the location of the proposed action. This will be described as specifically as possible, with relevant maps.

6.4.4 Alternatives

For an EA where there are no unresolved conflicts with respect to alternative uses of available resources only the proposed action needs to be considered (43 CFR 46.310(b)).

Even if there are no unresolved conflicts, the No Action alternative may also be considered in EAs. This alternative provides a useful baseline for comparison of environmental effects (including cumulative effects) and demonstrates the consequences of not meeting the need for the action. The description of the No Action alternative depends on the type of action proposed. It can either be no change from the current management practices, or a description of what is reasonably foreseeable, if the proposed action does not take place.

If there are unresolved conflicts, other alternatives must be considered. If there are no conflicts, other alternatives may be considered, depending on the nature of the action (43 CFR 46.310 (b)). For some EAs, these can be described and eliminated in this section, with reasons given for not considering them further.

6.4.5 Environmental Impacts

The principle components of the environment to consider are listed in Figure 3. While all of these components should be considered, only those which will be affected by the proposed action need be described. For the remaining components, a brief statement of why the components will not be affected is sufficient.

Good analysis in this section is the key to a good EA. Since the purpose of preparing an EA is to determine whether or not the proposed action will or may significantly affect the human environment, analyze all potentially significant effects, beneficial and adverse. Analyze in this section the impacts on the components of the human environment as identified above. Discuss the consequences of each alternative on a component of the environment before moving on to the next component.

The effects analysis must demonstrate BIA took a “hard look” at the impacts of the action. The analysis will concentrate on those components of the affected environment that will truly be affected. The effects analyzed include direct, indirect, cumulative, and disproportionate (Environmental Justice). For each type of effect, consider those that are short term, long term, irreversible and irretrievable.

The significance of the effects is a critical analysis, because this determines if there will be a need to complete an EIS. The analysis of environmental effects and significance are discussed in more detail in Section 7.

The Human Environment

- (1) Land Resources
 - (a) Topography (land forms, drainage, gradients)
 - (b) Soils (types, characteristics)
 - (c) Geology, Mineral and Paleontological Resources
- (2) Water Resources (surface and ground; quality, quantity, use, rights)
- (3) Air (quality/achievement, visibility)
- (4) Living Resources
 - (a) Wildlife (terrestrial, aquatic, threatened/endangered)
 - (b) Vegetation (terrestrial, aquatic, riparian, threatened/endangered)
 - (c) Ecosystems and Biological Communities
 - (d) Agriculture (livestock, crops, prime and unique farmland)
- (5) Cultural Resources
 - (a) Historic and Archeological Resources
 - (b) Cultural, Sacred and Traditional Cultural Properties
- (6) Socioeconomic Conditions
 - (a) Employment and Income
 - (b) Demographic Trends
 - (c) Lifestyle and Cultural Values (rural, urban)
 - (d) Community Infrastructure (public services, utilities)
 - (e) Environmental Justice
- (7) Resource Use Patterns
 - (a) Hunting, Fishing, Gathering
 - (b) Timber Harvesting
 - (c) Agriculture
 - (d) Mineral Extraction
 - (e) Recreation
 - (f) Transportation Networks
 - (g) Land Use Plans
- (8) Other Values
 - (a) Wilderness
 - (b) Noise and Light
 - (c) Visual
 - (d) Public Health and Safety
 - (e) Climate Change (Greenhouse gases).
 - (f) Indian Trust Assets
 - (g) Hazardous materials

Figure 4 Components of the Human Environment

6.4.6 Mitigation Measures

Mitigation includes specific means, measures or practices that would reduce or eliminate effects of the proposed action or alternatives. Mitigation measures can be applied to reduce or eliminate adverse effects to biological, physical, or socioeconomic resources. Mitigation may be used to reduce or avoid adverse impacts, whether or not they are significant in nature.

As defined in the CEQ Regulations (40 CFR 1508.20) mitigation can include:

- (1) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (2) Minimizing impact by limiting the degree of magnitude of the action and its implementation.
- (3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (5) Compensating for the impact by replacing or providing substitute resources or environments.

Measures or practices will only be termed mitigation measures if they have not been incorporated into the proposed action or alternatives. If mitigation measures are incorporated into the proposed action or alternatives, they are design elements, not mitigation measures. Design elements are those specific means, measures or practices that make up the proposed action and alternatives. Standard operating procedures, stipulations, and best management practices are usually considered design elements (43 CFR 46.130(b)).

For an action analyzed in an EA, mitigation can be used to reduce the effects of an action below the threshold of significance, avoiding the need to prepare an EIS. Enforceable mitigation measures will result in a “mitigated FONSI” and will be clearly described in the FONSI.

Mitigation measures are critical elements for the decision maker to allow an action to move forward. The CEQ regulations (40 CFR 1505.3) require agencies to (a) include appropriate conditions in grants, permits or other approvals; (b) condition funding of actions on mitigation; (c) upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures which were adopted by the agency making the decision; and (d) upon request, make available to the public the results of relevant monitoring.

Any mitigation measure must be enforceable and it is important for BIA Regional and Agency Offices to establish monitoring programs to ensure that mitigation is carried out (See Section 9 and Appendix 21).

6.4.7 Consultation

In this section, include a list of agencies, organizations and individuals consulted, and coordination with applicable statutes, regulations, Secretarial Orders and Executive Orders. Affected tribes and appropriate tribal programs should always be included in this consultation.

Federal, tribal, state, and local agencies, such as those having jurisdiction by law or special expertise, and the interested public should be consulted in preparing the EA. This effort must involve all minority/low income communities that might be affected by the proposed action. List in this section the agencies, organizations and individuals consulted. Include appropriate correspondence in appendices.

Compliance with statutes, regulations and Executive Orders that apply to the proposed action should be addressed in the EA. A partial list is included in Appendix 20. Because of the time that may be required for compliance, this coordination should begin early in the EA process. If compliance cannot be achieved by the time the EA is completed, explain in the EA how compliance will ultimately be accomplished.

Analyses of the impacts to endangered species and historic properties are critical components of the EAs, and compliance with Section 7 of the ESA and Section 106 of the NHPA should be accomplished during EA development. Any formal consultation letters and formal agreements should be referenced or included in the EA to document this compliance.

6.4.8 List of Contributors

List all persons, with position title and area of expertise/discipline, who contributed to the development of the EA.

6.4.9 Appendices

Include correspondence and reports resulting from consultation and coordination, a list of references cited, and any other pertinent material.

6.5 EA PROCESSING

The EA, the FONSI and NOA will be prepared for the BIA Responsible Official, if appropriate along with recommendations for a finding. The Responsible Official may then:

- (1) Sign a FONSI. A FONSI is appropriate if the Responsible Official determines that the proposed action will not have a significant impact on the quality of the human environment, or if sufficient mitigation measures have been included to reduce the environmental effects.
- (2) Direct Further Work on the EA. The Responsible Official may decide that the EA is not sufficient to determine whether or not an EIS is required. In such a case, he or she may direct the preparer(s) to revise analyses, consider new alternatives or mitigation measures, seek public involvement, or take other measures to make the EA adequate for making a decision.
- (3) Initiate an EIS. An EIS shall be prepared if the Responsible Official determines that the proposed action may or will have a significant impact on the quality of the human environment. (See Section 7).

REMINDER: An EIS may be initiated at any time during the EA process, without completing the EA, if it becomes apparent that the proposed action will have a significant impact on the quality of the human environment.

6.6 PUBLIC REVIEW

The EA will be made publically available by publishing or posting NOA of the FONSI (See Section 6.2).

6.7 CONTENTS OF THE NOTICE OF AVAILABILITY (NOA)

The NOA shall:

- (1) Briefly describe the proposed action;
- (2) State that based on an EA, it has been determined that the action will not result in significant impacts to the quality of the human environment, therefore, an EIS is not required;
- (3) Identify a person to contact for further information or to obtain a copy of the FONSI and EA; and
- (4) Include the following statement: “This FONSI is a finding on environmental effects, not a decision to proceed, therefore it cannot be appealed. 25 CFR 2.7 requires a 30 day appeal period after the decision to proceed with the action is made before the action may be implemented. Appeal information will be made publically available when the decision to proceed is made.”

6.8. CONTENTS OF THE FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The FONSI is the document that explains the reasons why an action will not have a significant effect on the human environment and, why, therefore, an EIS will not be required (40 CFR 1508.13). The basic contents of a FONSI include (See Appendix 3 for an example):

- (1) The statement: “Based on the [title and date of EA], it has been determined that the proposed action will not have a significant impact on the quality of the human environment, therefore, an environmental impact statement is not required.”
- (2) A brief statement of the reasons, with references to pertinent portions of the EA; supporting the finding;
- (3) Description of any mitigation measures proposed to reduce the level of impact.
- (4) References to all other environmental documents related to the EA; and
- (5) Signature line for decision maker.

The EA can be completed while consultation under other applicable laws is on-going. However, the FONSI must not be issued before consultation under Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act has been completed, when they are applicable.

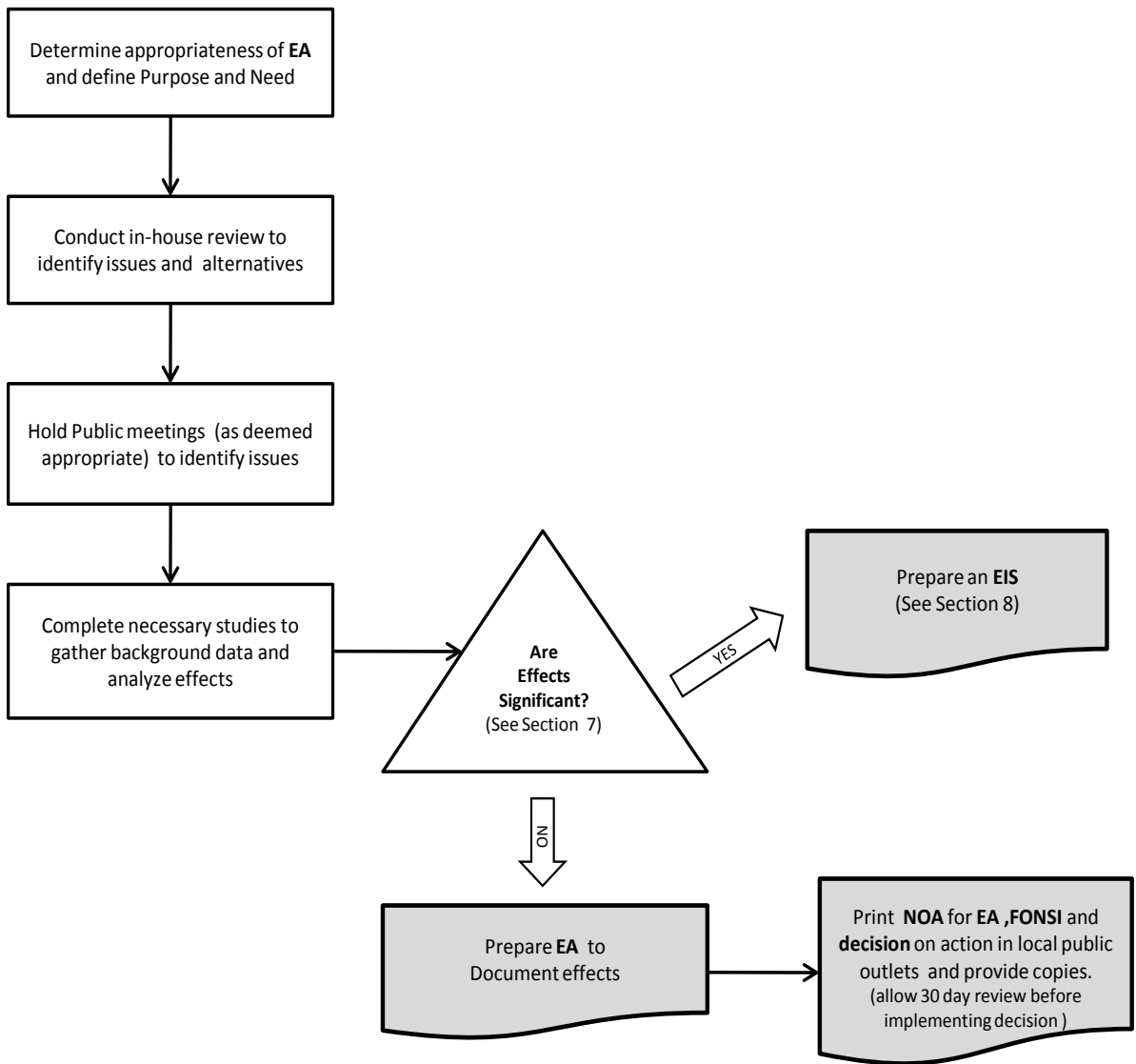


Figure 5 The Steps in Completing an Environmental Assessment

SECTION 7 ENVIRONMENTAL EFFECTS AND SIGNIFICANCE

7.1 GENERAL

The environmental effects describe the effects on the human environment; they can be ecological (such as the effects on natural resources and the components, structures, and functions of ecosystems), aesthetic, historic, cultural, economic, social, or health.

The NEPA document must describe the analytical methodology sufficiently so the reader can understand how the analysis was conducted and why the particular methodology was used (40 CFR 1502.24). This explanation must include a description of any limitations inherent in the methodology.

The NEPA document must state the analytical assumptions, including the geographic and temporal scope of the analysis, the baseline for analysis, as well as reasonably foreseeable future actions.

7.2 DIRECT AND INDIRECT EFFECTS

The CEQ regulations direct that EAs and EISs must analyze and describe the direct effects “...which are caused by the action and occur at the same time and place” (40 CFR 1508.8(a)). For example the application of a pesticide kills a plant. They also direct the analysis of indirect effects “which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable” (40 CFR 1508.8(b)). For example, birds die from eating seeds contaminated by the application of a pesticide. The value in requiring analysis of both direct and indirect effects is to make certain that no effects are overlooked.

7.3 CUMULATIVE EFFECTS

The CEQ regulations define cumulative effects as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions” (40 CFR 1508.7). The purpose of cumulative effects analysis is to ensure Federal Responsible Official considers the full range of consequences of the proposed action and alternatives, including the No Action alternative. Detailed guidance is in Appendix 19.

(1) Geographic Scope: Defining the geographic limits will help bound the description of the affected environment. The geographic scope is generally based on the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the proposed action and alternatives. If the proposed action and alternatives would have no direct or indirect effects on a resource, there is no need to analyze cumulative effects on that resource.

- (2) Timeframe:** The long-term and short-term effects must be defined as well as the duration of the effects. Timeframes, like geographic scope, can vary by resource.
- (3) Past, Present, and Reasonably Foreseeable Actions:** The cumulative effects analysis considers past, present, and reasonably foreseeable future actions that would affect the resource of concern within the geographic scope and the timeframe of the analysis. The analysis must consider other BIA actions, tribal actions and even private actions. Analysis must consider past actions within the geographic scope to provide context for the cumulative effects analysis. Past actions need to be summarized in order to adequately describe the present conditions. Consider present actions within the geographic scope. Present actions are actions which are ongoing at the time of analysis.

Cumulative effects analysis will usually need to be addressed separately for each alternative, because each alternative will have different direct and indirect effects.

The analysis of the No Action Alternative describes the cumulative effect of past, present, and reasonably foreseeable actions, without the effect of the proposed action or alternatives. The analysis of the proposed action will include those same effects, as well as the effects of the proposed action, and thus will demonstrate the incremental difference resulting from the proposed action.

7.4 DISPROPORTIONATE EFFECTS (Environmental Justice)

Executive Order (EO) 12898 (February 11, 1994), “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” requires Federal agencies to identify and address any disproportionately high and adverse human health or environmental effects their proposed actions might have on minority communities or low-income communities. The BIA must specifically address in the environmental analysis any such communities that might be affected by a proposed action. Detailed guidance is provided in Appendix 18.

7.5 SIGNIFICANCE OF EFFECTS

An action must be analyzed in an EA to determine if an action will have a significant effect. The evaluation of significance is critical because it determines if further NEPA analysis will be required in an EIS. Significance has specific meaning in NEPA analyses and requires the consideration of two key elements: context and intensity (40 CFR 1508.27).

(1) Context. This means the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, for a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short-term and long-term effects are relevant.

(2) Intensity. This refers to the severity of effect. The CEQ regulations (40 CFR 1508.27(b)) include the following ten considerations for evaluating intensity:

Impacts that may be both beneficial and adverse. The consideration of intensity must include analysis of both beneficial and adverse effects, not just a description of the net effects. Only a significant adverse effect triggers the need to prepare an EIS.

The degree to which the action would affect public health and safety. For example, evaluation should include hazardous and solid wastes, air and water quality; and their relation to public health and safety.

Unique characteristics of the geographic area. These generally include historic or cultural resources, parklands, prime farm lands, wetlands, wild and scenic rivers and ecologically critical areas.

Degree to which effects are likely to be highly controversial. Controversy in this context means disagreement about the nature of the effects, not expressions of opposition to the proposed action or preference among the alternatives. Substantial dispute within the scientific community about the effects of the proposed action would indicate that the effects are likely to be highly controversial.

Degree to which effects are highly uncertain or involve unique or unknown risks. The Responsible Official must exercise some judgment in evaluating the degree to which the effects are likely to be highly uncertain and whether the risks are unique or unknown.

Degree to which the action may establish a precedent for future actions with significant impacts. The decision may allow future actions to take place or implies approval of a future action.

Whether the action is related to other actions with cumulatively significant impacts. Analyze the effect of past, present, and reasonably foreseeable future actions.

Degree to which properties eligible of listed on the National Register of Historic Places are adversely affected. Significance may arise from the loss or destruction of significant scientific, cultural, or historical resources. For resources listed in or eligible for listing in the National Register of Historic Places, significance depends on the degree to which the action would adversely affect these resources.

Degree to which threatened or endangered species and their critical habitat are adversely affected. Significance depends on the degree to which the action would adversely affect species listed under the Endangered Species Act or their designated critical habitat. A determination under the Endangered Species Act that an action would adversely affect a listed species or critical habitat does not necessarily equate to a significant effect in the NEPA context. However, any “jeopardy opinion” must be considered significant.

Threaten violation of Federal, State, or local law or requirements imposed for the protection of the environment. This factor will often overlap with other factors: for example, violations of the Clean Water Act or Clean Air Act would usually involve effects that would adversely affect public health and safety.

SECTION 8 ENVIRONMENTAL IMPACT STATEMENTS (EIS)

8.1 GENERAL

If the action is expected to have significant impacts, or if the analysis in the EA identifies significant impacts, then an EIS will be prepared. The CEQ regulations (40 CFR 1502.1) direct that an EIS “shall provide full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” Much of the guidance given in the previous section on EAs is also applicable to EISs. Two basic differences between an EA and an EIS are: (1) the depth of the analysis, and (2) the formalities of public involvement. Although EISs are more complex documents, CEQ regulations generally seek to limit the size to less than 150 pages, or to 300 pages for unusually complex actions (40 CFR 1502.7).

8.2 DEFINING RESPONSIBILITY

An EIS is more complex than an EA and may likely involve more than one Federal agency, as well as tribal, state and local governments who may also have interests and roles to play. These roles need to be clearly defined.

8.2.1 Lead Agency

The lead agency is the Federal agency preparing, or having taken primary responsibility for preparing and administratively processing the EIS. (40 CFR 1501.5; 43 CFR 46.220)

8.2.2 Joint Lead Agency

When more than one Federal agency has an action being analyzed in the same EIS, such as when one agency is funding a road and another is approving the right of way, the following apply:

- (1) Non-delegated EIS.** The EIS may be referred to Office of Environmental Policy and Compliance (OEPC). The OEPC will then coordinate the administrative processing of the EIS.
- (2) Delegated EIS.** Federal agencies may agree as to which joint lead agency will coordinate the administrative processing of the EIS. If there is a disagreement, OEPC may designate which Bureau within the Department of Interior will assume this role, or may recommend a non-delegated EIS. For joint EIS’s with agencies outside the Department OEPC will represent the Department in consultations with CEQ or other Federal agencies in resolving which joint lead agency will coordinate the administrative processing of the EIS.
- (3) Non-Federal Agencies.** A non-Federal agency may be designated as a joint lead agency if it has a duty to comply with a local, state or tribal EIS requirement that is comparable to NEPA (43 CFR 46.220(b)).

8.2.3 Cooperating Agencies

Any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed action may become a cooperating agency (See 40 CFR 1501.6; 43 CFR 46.225). An affected Indian tribe or state or local agency may similarly become a cooperating agency. Cooperating agencies should be identified and confirmed in writing by the time the scoping process is completed (See Section 11.2).

8.2.4 Designation of EIS Team and Team Leader

When the decision has been made to prepare an EIS, the Regional Director will appoint an EIS team leader and, if required, a Contracting Officer's Technical Representative from the appropriate program staff. The BIA will use an interdisciplinary team approach. Regional environmental staff, as appropriate, shall be on the EIS team and will be responsible for the adequacy of the document. The team leader, in consultation with these environmental staff, will make recommendations to the Regional Director for the selection of other EIS team members.

8.3 PUBLIC INVOLVEMENT

8.3.1 General

Public involvement is critical in the preparation of an EIS. The CEQ regulations (40 CFR 1506.6) stress that an adequate opportunity must be given to allow for public comment through notices, hearings, and public meetings.

8.3.2 Public Notices

Important steps when preparing an EIS are the publication of formal public notices, and these include Notices of Intent (NOI) to prepare and EIS and Notices of Availability (NOA) for both the Draft EIS (DEIS) and Final EIS (FEIS). Although formal notices are published in the *Federal Register*, the BIA office initiating the EIS will also make the any notices available through other media, such as local newspapers, in order to provide adequate notice to the affected public.

(1) NOI. The NOI is the first formal step in preparing an EIS (40 CFR 1508.22; 43 CFR 46.435(a)). The NOI is published by the BIA in the *Federal Register*, to inform the public that the BIA intends to prepare an EIS. The NOI will briefly describe the proposed action and possible alternatives, and the agency's proposed scoping process, including whether, when, and where any scoping meeting(s) will be held. It shall also include the name and telephone number of a contact person within the agency (40 CFR 1508.22). The NOI shall be sent to the Division of Environment and Cultural Resources Management (DECRM) for processing for *Federal Register* publication. The NOI must appear in the *Federal Register* at least 15 days before any public scoping meetings are held (See Appendix 4 for an example).

(2) NOA for the DEIS. By regulation (40 CFR 1506.10(a)), the Environmental Protection Agency (EPA) publishes the formal NOA in the *Federal Register*, but the BIA also publishes a companion notice on or before the EPA notice. The BIA notice contains more detailed information than the EPA notice (See Appendix 5, for an example.) These NOAs are to seek public comments and must allow for at least a 45 day comment period (40 CFR1506.10(c)).

(3) NOA for the FEIS. After receiving comments, the NOA for the FEIS must be published in the *Federal Register* by the EPA, and a companion NOA is also published by the BIA (See Appendix 6 for example). This NOA allow for at least a 30 day review period before proceeding with a decision for the action. It should be noted that this is considered a waiting period and not a formal comment period.

(4) Notice of Correction. Corrections may be required if there are omissions, errors or changes in the information provided in the NOI or NOA. The notice must reference the date and page numbers of all previous *Federal Register* notices relating to the proposed action. This notice must be published in the *Federal Register* and made available through the same media as the original NOI (See Appendix 7 for an example).

(5) Notice of Cancellation. A notice of cancellation shall be prepared if a decision is made to terminate the EIS process. The notice must reference the date and page numbers of all previous *Federal Register* notices relating to the proposed action. This notice must be published in the *Federal Register* and made available through the same media any other notices (See Appendix 8 for an example).

All NOIs, NOAs, Corrections or Cancellations are prepared by the originating office, but they will be sent to the DECRM for *Federal Register* publication. DECRM will obtain the appropriate signatures required for *Federal Register* publication; transmit the notice to the *Federal Register*, and forward notices to OEPC and the EPA, as appropriate.

8.3.3 Scoping

Scoping is an early and open process through which cooperating agencies and interested persons are identified, and the significant issues and alternatives to be addressed in the EIS are determined. The intent of scoping is to focus the analysis on significant issues and reasonable alternatives, to eliminate extraneous discussion, and to reduce the length of the EIS.

Formal public scoping begins after publication of an NOI. However, informal internal and external scoping may occur before the formal scoping period begins.

The CEQ regulations at 40 CFR 1501.7 require the following in an agency's scoping process:

- (1) Invite participation from affected Federal, state, local, tribal organizations and interested persons.
- (2) Determine the scope or extent of the EIS and the significant issues to be analyzed. Scoping is valuable in identifying connected, cumulative, and similar actions.
- (3) Eliminate those issues raised that are not related to potentially significant impacts or those that have been covered in other environmental documents.

- (4) Make assignments for preparation of the EIS between the lead and cooperating agencies.
- (5) Identify any environmental documents being prepared that have relevance to, but are not part of, the scope of this EIS.
- (6) Identify other environmental review and consultation requirements.
- (7) Discuss the relationship between the timing of the preparation of the EIS and the agency's tentative planning and decision-making schedule.

8.3.4 Scoping Meetings

Scoping meetings in various formats are a useful, but optional tool for scoping (40 CFR 1501.7(b)(4)). Local partnerships, collaborative workgroups interactive web sites and other mechanisms should also be considered as means to provide a timely exchange of information with the public so the scoping process and follow-up activities continue to reflect the public's input.

If public scoping meetings are held, the required public notice shall be included in the NOI. The NOI shall be published at least 15 days in advance of scoping meetings. The DECRM must be contacted before meeting dates are set to ensure proper lead time in the NOI.

8.3.5 Scoping Reports

When the scoping process is completed, the EIS team leader submits a scoping package (Appendix 10) to the Regional Director. A copy of the scoping package shall be provided to the affected tribe(s), any cooperating agencies, and any person who requested a copy. The scoping report shall include:

- (1) A statement of the purpose and need for the proposed action;
- (2) The alternatives being considered;
- (3) A summary of the significant issues identified during the scoping process;
- (4) A list of agencies which have agreed to be cooperating agencies;
- (5) A summary of any scoping meetings that were held; and
- (6) Any other information that the EIS team leader deems appropriate.

8.4 CONTENTS AND FORMAT OF AN EIS

This section outlines a suggested format for an EIS, although the specific elements and their order should remain flexible.

8.4.1 Cover Sheet / Letter

The cover sheet/letter shall not exceed one page. It shall include the following (40 CFR 1502.11.):

- (1) The names of the lead agency(s) and any cooperating agencies;

- (2) The title of the proposed action. This title must include the name of the state(s), county(s), Indian reservation(s) or other jurisdiction(s) where the action is located, and must state whether the EIS is a draft, final, or a draft or final supplement;
- (3) The titles of any related cooperating agency;
- (4) The name, address and telephone number of a lead agency contact;
- (5) A one-paragraph abstract of the EIS; and
- (6) The date by which comments must be received.

8.4.2 Cover/Title Page

The cover/title page must contain items (1) and (2) above, plus the name(s) of the preparing entity(s), and the date of issue. The title page is normally signed by the Regional Director. However, in some cases a programmatic or other broad scope EIS is signed by the Assistant Secretary of Indian Affairs (ASIA).

8.4.3 Executive Summary

This summary shall stress the major conclusions, areas of environmental controversy and the issues to be resolved, including the choice among alternatives. Matrices, tables, and other graphic displays may be useful to include in the summary. Specific analysis regarding the impacts and other data will be found in the body of the EIS (40 CFR 1502.12).

8.4.4 Table of Contents

The table of contents should be sufficiently detailed to allow the reader to quickly locate major subject matter in the EIS, particularly specific impact topics and alternatives analyzed in the document.

8.4.5 Purpose of and Need for Action

In this section, explain why the proposed BIA action is being considered. The purpose of and need for the action will, at a minimum, clearly answer the questions described in Section 6.3. The proposed action and alternatives must address the purpose and need directly (40 CFR 1502.13).

8.4.6 Proposed Action and Alternatives

The EIS must describe the proposed action and alternatives (40 CFR 1502.14). The EIS must consider a range of reasonable alternatives, including the Proposed Action and No Action alternative, and provide a description of any alternatives eliminated from further analysis with the rationale for elimination (40 CFR 1502.14(a); 43 CFR 46.420(c)). The No Action alternative is the only alternative that must be analyzed in an EIS that does not respond to the purpose and need for the action (See Section 7.4).

The EIS discussions include Connected, Cumulative and Similar Actions (40 CFR 1508.25). Connected actions are those actions that are closely related and should be discussed in the same

NEPA document. Actions are connected if they automatically trigger other actions that may require an EIS; cannot or will not proceed unless other actions are taken previously or simultaneously; or if the actions are interdependent parts of a larger action and depend upon the larger action for their justification(40 CFR 1508.25 (a)(1)).

Cumulative actions are proposed actions which potentially have a cumulatively significant impact together with other proposed actions and “should be discussed” in the same NEPA document (40 CFR 1508.25(a)(2)).

Similar actions are proposed or reasonably foreseeable Federal actions with similarities that provide a basis for evaluating their environmental consequences together with the proposed action (40 CFR 1508.25(a)(3)).

Features common to all alternatives should be described. These features need only be described in detail once. For example, identify common features in the description of the proposed action and cross-reference to that description in the discussion of each alternative to which they apply. Another option is to describe common features under a separate heading.

Common features typically include standard operating procedures and other requirements prescribed by law, regulation or policy. This may also include a description of relevant laws, regulations, required permits, licenses, or approvals.

The CEQ regulations at 40 CFR 1502.14(e) direct that an EIS identify a preferred alternative or alternatives, if one or more exists, in the DEIS and identify such alternative in the FEIS.

The identification of a preferred alternative does not constitute a commitment or decision in principle, and there is no requirement to select the preferred alternative in the ROD. The identification of the preferred alternative may change between a DEIS and FEIS. Various parts of separate alternatives analyzed in the DEIS can also be “mixed and matched” to develop a complete alternative in the FEIS as long as the reasons for doing so are explained.

8.4.7 Affected Environment

This is a brief description of the environment likely to be affected by the proposed action or alternatives (40 CFR 1502.15). The basic environmental components are identified in Figure 3. The information in an EIS should be more detailed than that in an EA, but no more than necessary to understand the impacts to be analyzed in the Environmental Consequences section. Only those components of the environment that will actually be affected require detailed description. For each of the remaining components, a brief discussion of why the component will not be affected is sufficient.

8.4.8 Environmental Consequences (Effects)

The EIS must describe and provide the analysis of environmental effects of the proposed action and each alternative analyzed in detail (40 CFR 1502.16). This section forms the scientific and analytic basis for comparing the impact of the proposed action and other alternatives, including

the No Action alternative, on the environment. For this section, follow the guidance in Section 7. The information in an EIS should be more detailed than that in an EA, and must also include discussion of:

- (1) Any adverse effects that cannot be avoided;
- (2) The relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity;
- (3) Any irreversible and irretrievable commitments of resources;
- (4) Possible conflicts between the proposed action and the objectives of Federal, tribal, regional, state and local land use plans, policies and controls for the area(s) of concern;
- (5) Energy requirements and conservation potential of alternatives and mitigation measures;
- (6) Natural or depletable resource requirements and conservation potential of alternatives and mitigation measures; and
- (7) The design of the built (manmade infrastructure) environment, including the reuse and conservation potential of alternatives and mitigation measures.

8.4.9 Mitigation

Analysis of alternatives must include a discussion of mitigation measures where mitigation is feasible, and of any monitoring designed for adaptive management. The purpose of including mitigation measures is to permit a full and accurate comparison of the environmental effects of the alternatives. Appropriate mitigation is defined in the CEQ Regulations (40 CFR 1508.20). A more detailed discussion of mitigation can also be found in Section 6.4.

Mitigation of all adverse environmental impacts is not required to implement a proposed action. The purposes of NEPA are met by analyzing these impacts and disclosing them to the public in the EIS.

8.4.10 Consultation and Coordination

This section shall include a list of agencies, organizations and individuals receiving a copy of the document. The FEIS should have an "*" before those entities and individuals that commented on the DEIS.

Include a brief history of the public involvement (including scoping), a list of agencies (including cooperating agencies) and organizations consulted, a list of preparers and their expertise, and a list of recipients of the EIS. In the FEIS, include a section with response to comments.

8.4.11 List of Preparers

List all persons, with position title and area of expertise/discipline, who contributed to the development of the EIS.

8.4.12 Appendices

Appendices should include, but not be limited to, correspondence and reports resulting from consultation and coordination; a list of references cited; studies generated specifically in connection with the proposed action; and any other appropriate material (40 CFR 1502.18).

8.5 REVIEW

8.5.1 General

The CEQ regulations require EISs to be prepared in two stages: Draft and Final (40 CFR 1502.9). However, internal drafts can be prepared at any time in the process to insure legal adequacy, policy consistency, and technical accuracy.

8.5.2 DEIS

After revising any preliminary drafts, prepare the DEIS for printing. Preparers are encouraged to use electronic means of distribution to the maximum extent possible. Posting of the DEIS on a public website is the preferred method. The steps for distribution are defined below:

(1) Printing and Distribution. At least 25 percent more copies of the DEIS should be prepared than the project mailing list indicates are needed; transmittal letters and packaging for mailing the DEIS should be prepared while the DEIS is being printed. The following parties shall be sent copies of, and requested to review and comment on the DEIS.

- (a) Any Federal agency with jurisdiction by law or special expertise with respect to the issue involved in, or impacts resulting from, the proposed action;
- (b) Any Federal, tribal, state, or local agency responsible for environmental review, consultation, coordination, clearance, or permit requirements associated with the project;
- (c) Affected Indian tribes;
- (d) The applicant; and
- (e) All other parties on the project mailing list and anyone else who requested a copy of the DEIS.

(2) File with EPA. In order to file with EPA, the BIA initiating office will ensure the DEIS is available on a public web site and that the files on this site meet EPA size and formatting requirements. DECRM will download and file the DEIS electronically with EPA. DECRM will also notify the eight bureaus and services within DOI at the Central Office level and advise them of the availability of the DEIS on the web site. Three compact disc copies of the DEIS will also be sent to DECRM for internal use and transmittal to the DOI Library.

(3) NOA. EPA serves as the repository for all EISs prepared in accordance with NEPA, and is responsible for publishing the NOA for the DEIS in the *Federal Register* (40 CFR 1506.9 and 1506.10). EPA publishes the NOA on the Friday of the week after the week

in which they receive the DEIS. The DEIS must be available to DOI bureaus and the public before EPA publishes the NOA. EPA's NOA officially starts the comment period for the DEIS.

(4) BIA Notice. The BIA supplements the EPA NOA by publishing and/or posting its own NOA in other media (including Web sites) and/or mailing the notice to reach the widest possible affected public, including minority or low income communities (40 CFR 1506.6). This NOA shall contain a brief description of the proposed action and alternatives; the name, address and telephone number of the individual to whom to submit comments; and the closing date for the receipt of comments. The BIA NOA must be published on or before the date EPA publishes their NOA in the *Federal Register*, and the closing date for comments (at least 45 days) in both NOAs must be same.

(5) DEIS Review and Comment Period. The review period for a DEIS will follow the minimum 45 days time period following the date on which the EPA publishes the NOA in the Federal Register (40 CFR 1506.10(c)). No decision on the action will be made within 90 days of the filing of the NOA for the DEIS (40 CFR 1500.10(b)(1)).

NOTE: All extensions of review and waiting periods must be processed through DECRM. Minor extensions of a few days to individual commenters can be granted locally, but longer extensions from dates published in the *Federal Register* require a new amended notice in the *Federal Register*.

(6) Public Meeting. During the DEIS review period, at least one public meeting must be held. This meeting may be held no sooner than 15 days following EPA's publication of the NOA in the *Federal Register*. A public hearing may be held, and if so, a court stenographer shall record all statements made at the public hearing(s).

NOTE: It is best to hold the public meetings(s) near the middle of the comment period, to allow those attending time to prepare comments they may wish to submit in writing.

8.5.3 FEIS

All comments received during the comment period, including those submitted or recorded at the public meetings or hearings, and responses to those comments will be exhibited in the FEIS (40 CFR 1503.4). If the changes made in response to the public comments are minor, the FEIS may consist of comments, responses and errata sheets to show changes from the DEIS. In such cases, only the comments, responses and errata sheets need to be circulated. Steps for distribution of the FEIS are listed below:

(1) Printing and Distribution. After revising the DEIS in response to the review comments, prepare the FEIS for distribution. The distribution should be the same as for the DEIS. In addition to the parties who received the DEIS, the FEIS must also be sent to anyone who submitted comments on the DEIS.

(2) File with EPA. Same as for DEIS.

(3) Notice of Availability. Same as for DEIS.

(4) BIA Notice. Same as for DEIS. No public hearing is required for an FEIS.

(5) FEIS Waiting Period. The waiting period for a FEIS is 30 days following the date on which the EPA publishes the NOA in the *Federal Register* (40 CFR 1506.10(a)(2)). If

comments are made on the FEIS within the 30-day waiting period, they need not be considered in making the final decision on the proposed action, unless a significant issue has been raised. DECRM will help in making this determination, along with the Office of the Solicitor, if necessary. The comments, however, must be answered in the ROD.

NOTE: The date the EPA NOA appears in the *Federal Register* also serves as the official date for announcing the availability of a draft, final, or supplemental EIS, and starting the required comment periods.

8.5.4 Supplements to DEISs and FEISs

The DEISs and FEISs must be reviewed to determine if they need to be revised or supplemented. Supplemental and revised DEISs and FEISs are subject to the same preparation and review requirements, except for scoping, as DEISs and FEISs, unless they are determined to be for information purposes only. Documents should be reviewed to determine if any of the following criteria apply:

- (1) A DEIS is more than 3 years old and the FEIS has not been completed.
- (2) An FEIS is more than 5 years old for an action not yet taken.
- (3) Substantial changes have been made in the proposed action that may be relevant to environmental concerns (40 CFR 1502.9(c)(1)(i)).
- (4) Significant new circumstances or information relevant to environmental concerns have arisen. (40 CFR 1502.9(c)(1)(ii)).
- (5) Comments received result in the inclusion of a new preferred alternative which was not detailed as a reasonable alternative in the draft or final EIS.

NOTE: The ages of the documents under 1 or 2 alone do not trigger the requirement for a supplemental draft or final EIS. One or more of items 3, 4, or 5 must have occurred.

8.6 THE RECORD OF DECISION (ROD)

8.6.1 ROD Contents

In addition to answering any comments received during the 30-day FEIS waiting period, the ROD must state which alternative has been selected for implementation and briefly discuss the other alternatives considered (40 CFR 1505.2). There is no requirement to select the environmentally preferable alternative. However, if it is not selected, it must be identified as the environmentally preferable alternative in the discussion of the other alternatives considered, and the reason it was not selected must be given (43 CFR 46.450). If the selected alternative includes mitigation measures, these must be incorporated in the ROD. The decision must provide for monitoring or other means, including adaptive management to insure that these measures are implemented (40 CFR 1505.3; 43 CFR 46.145). An example of a ROD is included in Appendix 9.

8.6.2 Appeals

The appeal process for the BIA is outlined in 25 CFR 2. A 30 day appeal period for decisions made by BIA Responsible Officials is identified in 25 CFR 2. The authority for signing a ROD is not delegated to anyone below the Regional Director and for this reason the ROD may be appealed to the Interior Board of Indian Appeals (IBIA). The ROD shall contain the following statement:

“Any person who may be adversely affected by this decision may appeal the decision [if by Regional Director] to the Interior Board of Indian Appeals (IBIA) at 801 N. Quincy Street, #300, Arlington, Virginia, 22203, [if by Superintendent or Field Office Director, to: Regional Director/address] in accordance with the regulations set forth at 25 CFR Part 2. The notice of appeal must be signed and postmarked within thirty days of the date of this decision. The notice will clearly identify the decision being appealed, and a copy of the decision will be attached to the notice of appeal. Copies of the notice must be sent to the Assistant Secretary for Indian Affairs, MS 4140-MIB, U.S. Department of the Interior, 1849 C Street, N.W., Washington, D.C., 20240, as well as to my office and to all other interested parties known to the person appealing the decision. The notice of appeal to the [IBIA or Regional Director] must also certify that the appealing party sent copies to each of these parties. The [IBIA or Regional Director] will notify an appealing party of further appeal procedures. If no appeal is timely filed, this decision will become final for the Department of the Interior.”

EXCEPTION: Decisions made by the ASIA are final (24 CFR 2.6(c)) and are therefore not appealable. Do not include this statement when the ROD is signed by the ASIA.

8.6.3 ROD Timing

The ROD may be issued at any of the following times, but not before consultation under Section 106 of the National Historic Preservation Act (meaning a determination of no adverse effect or the signing of a MOA or PA) and under Section 7 of the Endangered Species Act have been completed.

(1) Immediately After the Close of the 30-day Waiting Period for the FEIS. The advantage of this timing is that it allows any additional comments received during the 30 day waiting period to be addressed in the ROD. The disadvantage is that because there is also a 30-day appeal period for the ROD, the project cannot be implemented for a total of 60 days from the date on which the EPA publishes the NOA for the FEIS.

NOTE: Because there is no appeal period for decisions made by the ASIA, any ROD signed by the ASIA can be implemented immediately after the 30 day waiting period.

(2) At the Same Time EPA Publishes the NOA for the FEIS. Where an agency, such as the BIA, has an appeal period, CEQ allows the ROD to be issued at the same time the NOA is published, so that the waiting period and the appeal period may run concurrently (40 CFR 1506.10(2)). The advantage of this timing is that it allows the earliest possible project implementation, 30 days from the publication date of the NOA for the FEIS. The disadvantage is the risk that comments requiring a response may be

received during the waiting period for the FEIS. In that event, the ROD would have to be reissued to address such comments, and would contain a new 30-day appeal period. This could result in a period of more than 60 days from the date on which the EPA publishes its NOA before the project may be implemented.

(a) When using this option, the FEIS, the ROD and the BIA NOA must explain the timing of the ROD's issuance and the public's right of appeal.

(b) As a variation on this option, the ROD may be issued anytime during the waiting period for the FEIS. In this case the project could not be implemented at the close of the waiting period, but only after 30 days (the appeal period) from the date the ROD was signed.

(c) The ASIA may not sign a ROD prior to the close of the 30-day waiting period for the FEIS, as there is no appeal period in a ROD signed by the ASIA.

(3) Any Time After the Close of the 30-day Waiting Period for the FEIS. There is no maximum time limit on how long after the close of the 30-day waiting period for the FEIS the ROD may be issued. However, depending upon the amount of time that has passed since issuance of the FEIS, the FEIS may need to be reviewed for relevance before the ROD is issued.

8.6.4 ROD Distribution

The ROD must be published and/or posted (including on Web sites), as needed, to reach the widest possible affected public, including minority or low income communities, but does not need to be published in the *Federal Register*. It must also be mailed to the parties who received the FEIS, and to any additional parties who submitted comments on the FEIS.

8.7 FUNDING AND CONTRACTS

Funding the EIS and choosing a consulting firm to prepare the EIS may be done by any of the following means. However, regardless of who prepares the EIS, the BIA shall make its own evaluation of the environmental issues and take responsibility for the scope and content.

8.7.1 Federal Procurement

The BIA may itself fund the EIS and may choose the consulting firm under the Federal procurement regulations.

8.7.2 Tribal Procurement

The BIA, or the project applicant, may transfer funds for the EIS to a tribe, and the tribe may then solicit proposals from consulting firms under its own procurement process. The proposals received are passed along to the BIA, which chooses the consulting firm and informs the tribe of its choice. The tribe, in turn, informs the firm of this choice and enters into a contract with the firm. The contract must contain a provision that the consulting firm is preparing the EIS for, and under the direction of the BIA, and the EIS must in fact be prepared under the ultimate direction of the BIA. A three party agreement may be used to confirm this arrangement.

8.7.3 Third Party Contract.

A project applicant may fund the EIS and solicit proposals from consulting firms. The proposals received are passed along to the BIA, which chooses the consulting firm and informs the project applicant of its choice. The project applicant informs the firm of this choice and enters into a contract with the firm. The contract must contain a provision that the consulting firm is preparing the EIS for, and under the direction of the BIA, and the EIS must in fact be prepared fully under the direction of the BIA. A three party agreement may also be used to confirm this arrangement.

8.7.4 Disclosure Statement

Any consulting firm chosen to prepare an EIS for the BIA must prepare a statement disclosing that it has "no financial or other interests in the outcome of the project." (40 CFR1506.5(c)). An example is in Appendix 11. The disclosure statement may be included as part of the documentation in the EIS, but it must be part of the administrative record.

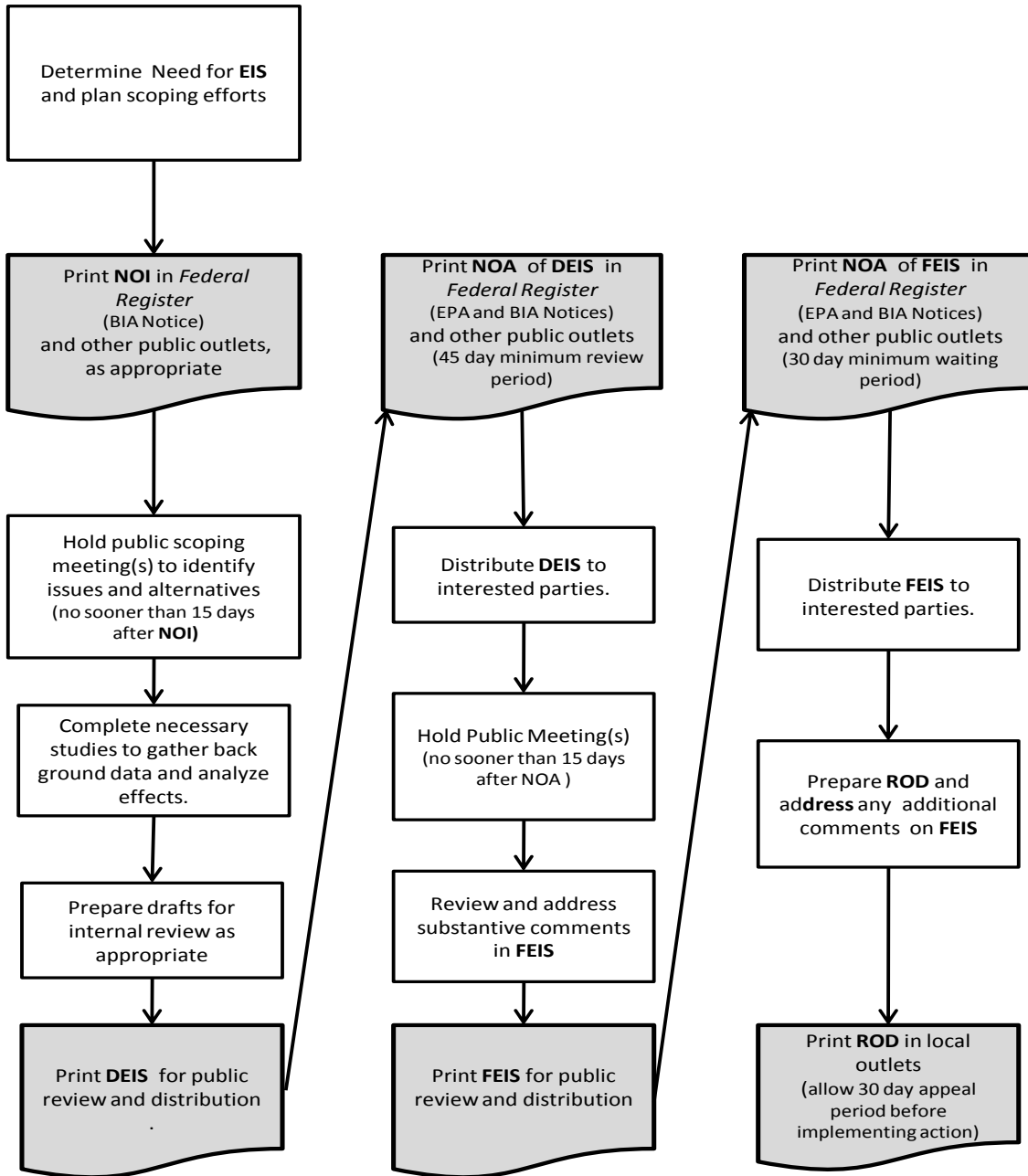


Figure 6 The Steps in Completing an Environmental Impact Statement

SECTION 9 MONITORING AND ADAPTIVE MANAGEMENT

9.1 MONITORING

As specified in 40 CFR 1505.2(c), and in accordance with guidance offered by CEQ in Appendix 21, the BIA will implement monitoring programs for mitigation activities. Monitoring has two basic goals:

- (1) Implementation.** Implementation monitoring should be undertaken to ensure that actions taken comply with the terms, conditions, and mitigation measures.
- (2) Effectiveness.** Effectiveness monitoring should measure and evaluate the effects of the mitigation efforts. If the mitigation measures are not achieving their designed goals, then monitoring should provide a mechanism to adjust the mitigation measures.

Unless specifically defined in the decision document, the Responsible Official has discretion in scheduling monitoring activities, determining monitoring approaches or methodologies, and establishing monitoring standards. The level and intensity of monitoring varies according to the purpose being served. When the expertise is available, tribal programs should be utilized in monitoring efforts. Monitoring efforts will be defined by the following criteria:

- (1) Coverage.** The scope of monitoring activities should meet the intended purpose of monitoring;
- (2) Frequency.** The specific time frames should be established for each monitoring activity; and
- (3) Complexity.** The complexity of monitoring activities will vary according to the issues at hand and with the purpose of the monitoring.

9.2 ADAPTIVE MANAGEMENT

Adaptive management is a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes. DOI regulations (43 CFR 46.145) strongly encourage the use of adaptive management. Monitoring designed for adaptive management must be able to result in appropriate adjustments in project activities as the project is underway and planned mitigation is implemented. This monitoring must be built into the project and considered in the NEPA analysis and documentation. When applying adaptive management, the BIA must involve the public by:

- (1) maintaining open channels of information to the public, including transparency of the monitoring process that precedes adaptive management and the decision making process by which it is implemented. This involves identifying indicators of change; assessing monitoring activities for accuracy and usefulness; and making changes in tactics, activities and/or strategies; and

(2) providing post-activity opportunity for public and affected outside agency review of adaptive management practices, including practices that were exceptions to any resource management plans or that had permitting and/or other regulatory requirements not satisfied by prior coordination.

SECTION 10 THE ADMINISTRATIVE RECORD

10.1 ENVIRONMENTAL DOCUMENTS

The administrative record is the paper trail that documents the BIA's decision-making process and the basis for the decision. The administrative record demonstrates compliance with relevant statutory, regulatory, and agency requirements, and that BIA has followed a reasoned decision-making process. Such documents and records may be either hard copy or electronic. Begin compiling and organizing the administrative record as early in the NEPA process as possible. Official file copies of BIA environmental documents and supporting records must be maintained by the originating office. Environmental documents include:

- Categorical Exclusion Exception Review (CEER) Checklist
- Environmental Assessments (EAs)
- Findings of No Significant Impact (FONSIs)
- Environmental Impact Statements (EISs)
- Notices of Intent (NOIs)
- Records of Decision (RODs)
- Notices of Availability (NOAs)

10.2 SUPPORTING DOCUMENTS

Supporting records consist of material generated or used in the preparation of environmental documents. As a guiding principle, these records must document both the process and information used to reach the final decision. Such records include, but are not limited to:

- Mailing lists
- Summaries of public meetings (including attendance lists)
- Records pertaining to consultations
- Agency determinations made pursuant to law (e.g. ESA, NHPA, etc.)
- Documents or studies incorporated by reference
- Technical reports prepared by staff or contractors
- Materials submitted by applicants
- Records of contractual work related to the project
- Cost recovery forms and records

Not all information in the administrative record is necessarily available to the public; information that is confidential must be marked as such.

SECTION 11 REVIEWING OTHER AGENCIES NEPA ACTIONS

11.1 REVIEWING AND COMMENTING ON EISs

The CEQ regulations (40 CFR 1503.1) require that the lead agency for an EIS obtain comments from Federal agencies with jurisdiction by law or special expertise, and request comments from affected tribes and appropriate state and local agencies. Since the BIA has special expertise in matters affecting Indian tribes, and in some cases also has jurisdiction by law, other agencies frequently ask the BIA for comments on their EISs. In such cases, the BIA has the duty to comment. For bureaus within DOI, the BIA may comment directly to the agency. For agencies outside of DOI, comments must be submitted through DECRM for coordination by OEPC.

The best way for the BIA or a tribe to influence the decision making of another Federal agency is to become involved early in the EIS process. It is far more effective to participate in scoping and/or become a cooperating agency than to wait until the DEIS is written and then submit comments. Also, the BIA should establish working relationships with other Federal agencies wherein the BIA and potentially affected tribes are routinely consulted on proposed actions that may affect Indian tribes.

11.2 COOPERATING AGENCY

The lead agency may request another Federal agency to become a cooperating agency if they have “jurisdiction by law” or “special expertise with respect to any environmental issue” (40 CFR 1501.6). The BIA should be a cooperating agency if: (1) if the proposed action or an alternative is crossing trust lands and a BIA permit or approval is required; (2) resources on trust lands may be affected by an action; or (3) participation would allow the BIA to adopt or tier from the NEPA document (as would be the case with programmatic EISs). The BIA would not need to be a cooperating agency for proposed actions that are not affecting trust lands or resources. Cooperating agency status comes with responsibilities (40 CFR 1501.6(b)), and BIA staff should be aware of the commitment of time and resources that may be required.

When BIA is the lead agency it may also request other agencies and tribes participate as cooperating agencies (See Section 8.2.3). Certainly, the tribe on whose land the action is taking place should be invited as cooperating agency, and any other agencies that may have jurisdiction over a resource, such as the U.S. Fish and Wildlife Service, or over adjacent lands that may be crossed by the project, such as the Bureau of Land Management or state lands.

11.3 PRE-DECISION REFERRALS TO CEQ

11.3.1 Introduction

The CEQ regulations (40 CFR 1504) establish a procedure through which a Federal agency that objects to the proposed action on environmental grounds may refer the matter to CEQ. In such situations, CEQ may take a range of actions including submitting the matter to the President.

11.3.2 Bases for Referral

Pre-decision referral may be triggered by controversy over the material facts in an EIS, or by the likelihood that the proposed action will violate environmental requirements or policies (40 CFR 1504.3), such as the Federal trust responsibility to manage and conserve trust resources for beneficial use by Indian tribes.

11.3.3 Timing and Process

Except where the lead agency has granted an extension, referral of another agency's action must be done within 25 days of the filing of the FEIS with EPA. DECRM must, therefore, be contacted without delay when a referral to CEQ appears warranted. DECRM will then contact the lead agency to try to resolve the problem. If the problem cannot be resolved promptly, DECRM will initiate the referral process. DECRM may ask Regional Office staff to prepare the documentation required by 40 CFR 1504.3(a) - (c), and a cover memorandum highlighting the significant issues.

11.3.4 Pre-decision Referral of BIA Actions by Other Agencies

If another Federal agency informs the BIA that it intends to refer a proposed BIA action to CEQ, DECRM, in coordination with OEPC, will promptly meet with that agency in order to try and resolve the issue.

11.4 POST-DECISION REFERRALS TO EPA

Through Section 309 of the Clean Air Act, EPA is required to refer to CEQ any action the Administrator of EPA believes to be unsatisfactory from the standpoint of public health, welfare, or environmental quality. If at any phase of the proposed action it becomes apparent that an unacceptable environmental impact is expected or is occurring, the ASIA will request that EPA initiate action under Section 309. This action would be subject to demonstration by the ASIA that the impact is unsatisfactory.

APPENDIX 1

APPENDIX 1

List of Acronyms

ASIA:	Assistant Secretary of Indian Affairs
BIA:	Bureau of Indian Affairs
CEQ:	Council on Environmental Quality
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act
CE:	Categorical Exclusion
CEER:	Categorical Exclusion Exception Review
CFR:	Code of Federal Regulations
DECRM:	Division of Environmental and Cultural Resources Management
DEIS:	Draft Environmental Impact Statement
DM:	Departmental Manual
DOI:	Department of Interior
EA:	Environmental Assessment
EIS:	Environmental Impact Statement
EO:	Executive Order
EPA:	Environmental Protection Agency
ESA:	Endangered Species Act
FEIS:	Final Environmental Impact Statement
FONSI:	Finding of No Significant Impact
IA:	Indian Affairs (Includes all Offices and programs under the Assistant Secretary of Indian Affairs)
IAM:	Indian Affairs Manual
IBIA:	Interior Board of Indian Appeals
NEPA:	National Environmental Policy Act
NHPA:	National Historic Preservation Act
NOA:	Notice of Availability
NOI:	Notice of Intent
OEPC:	Office of Environmental Policy and Compliance
ROD:	Record of Decision
SHPO:	State Historic Preservation Officer
TEPA:	Tribal Environmental Policy Act
THPO:	Tribal Historic Preservation Officer
USFWS:	U.S. Fish and Wildlife Service

APPENDIX 2

CATEGORICAL EXCLUSION EXCEPTION REVIEW (CEER) CHECKLIST

Project:	Date:
Letter and Text of category (BIA - 516 DM 10.5 ; DOI - 43 CFR46-210)	

Evaluation of Extraordinary Circumstances (43 CFR 46.215):

1. This action would have significant impacts on public health or safety.	NO	YES
2. This action would have significant impacts on: natural resources & unique geographical features as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild & scenic rivers; national natural landmarks; sole or prime drinking water aquifers; prime farmlands wetlands; floodplains; national monuments; migratory birds; and other ecologically significant areas.	NO	YES
3. This action would have highly controversial environmental effects or unresolved conflicts concerning alternate uses of available resources.	NO	YES
4. This action would have highly uncertain environmental effects or involve unique or unknown environmental risk.	NO	YES
5. This action will establish a precedent for future actions.	NO	YES
6. This action is related to other actions with individually insignificant but cumulatively significant environmental effects.	NO	YES
7. This action will have significant impacts on properties listed or eligible for listing in the National Register of Historic Places.	NO	YES
8. This action will have significant impacts on a species listed or proposed to be listed as endangered or threatened, or Critical Habitat of these.	NO	YES
9. This action violates federal, state, local, or tribal law or requirements imposed for protection of the environment.	NO	YES
10. This action will have a disproportionately high and adverse effect on low income or minority populations.	NO	YES
11. This action will limit access to, and ceremonial use of, Indian sacred sites on federal lands, by Indian religious practitioners, and/or adversely affect the physical integrity of such sites.	NO	YES
12. This action will contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, or may promote the introduction, growth, or expansion of the range of such species.	NO	YES

A “yes” to any of the above exceptions will require that an environmental assessment be prepared.

NEPA Action: CE EA

Project (con't):

Name and Title of person preparing this checklist

Concur:

Regional Archeologist

Date:

Concur:

Other Environmental Professional

Date:

Concur:

Regional/Agency/OFMC NEPA Reviewer

Date:

Approve:

**Regional Director/Agency Superintendent/
OFMC Official**

Date:

NOTES:

APPENDIX 3

Finding of No Significant Impact

Pima Freeway (Loop 101) Project Salt River Pima-Maricopa Indian Community

Based on the attached final Environmental Assessment (EA) for the Pima Freeway (Loop 101) project for a proposal to grant an easement for a 183 acre right-of-way for the development of a two-lane, three mile freeway across the Salt River Pima-Maricopa Indian Community lands in Maricopa County, Arizona, I have determined that by implementation of the agency proposed action and environmental mitigation measures as specified in the EA, the proposed Pima Freeway (Loop 101) will have no significant impact on the quality of the human environment. In accordance with Section 102 (2) ©) of the National Environmental Policy Act of 1969, as amended, an Environmental Impact Statement will not be required.

This determination is supported by the following findings:

1. Agency and public involvement was conducted and environmental issues related to development of Pima Freeway (Loop 101) were identified. Alternative courses of action and mitigation measures were developed in response to environmental concerns and issues.
2. The EA discloses the environmental consequences of the proposed action and three potentially viable alternatives, which include the “no action” alternative.
3. Protective measures will be levied to protect air, noise and water quality, as outlined in Chapter V, Mitigation Measures.
4. The proposed action is planned not to jeopardize threatened and endangered species. See Chapter V, Section E.
5. There are no adverse effects on historic properties for the purpose of 36 CFR 800.9 (b) by preserving archeological value through conduct of appropriate research in accordance with applicable standards and guidelines. Should undiscovered archeological remains be encountered during project ground-disturbing activities, work will stop in the area of discovery and the stipulations 36 CFR 800.11 be followed.
6. Impacts to public health and safety are mitigated through implementation of safety measures described in Chapter V, Section A (6).
7. Impacts to floodplains affected by the proposed alternative have been evaluated in accordance with E.O. 11988. A wetland area would be affected, however, mitigation has been established in the form of a land exchange to compensate for the loss of habitat. See Chapter V, Section A (4), Section LB (2) and Section C (6).

8. The cumulative effects to the environment are mitigated to avoid or minimize effects of implementation of the proposed project.

9. The proposed action would improve the economic and social conditions of the affected Indian community.

Agency Superintendent
Salt River Agency
Bureau of Indian Affairs
U.S. Department of the Interior

Date

APPENDIX 4

[4310-W7-P]

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Notice of Intent to Prepare an Environmental Impact Statement for the Proposed K Road / Moapa Band of Paiute Indians Photovoltaic Solar Facility, Clark County, Nevada.

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice.

SUMMARY: This notice advises the public that the Bureau of Indian Affairs (BIA), as lead agency, with the Moapa Band of Paiute Indians (Tribe), the Bureau of Land Management (BLM), and the United States Fish and Wildlife Service (USFWS), as cooperating agencies, intend to gather information necessary for preparing an Environmental Impact Statement (EIS) for the proposed Moapa Band of Paiute Indians Solar Generation Facility on the Moapa River Indian Reservation, Nevada. This notice also announces public scoping meetings to identify potential issues and content for inclusion in the EIS.

DATES: Written comments on the scope and implementation of the proposal must arrive by [INSERT DATE 30 DAYS AFTER PUBLICATION]. Several public scoping meetings will be held and notices will be published in local newspapers announcing the dates and locations of the meetings.

ADDRESSES: You may mail, email, hand carry or fax written comments to either Ms. Amy Heuslein, Regional Environmental Protection Officer, BIA Western Regional Office Branch of Environmental Quality Services, 2600 North Central Avenue, 4th Floor Mail Room, Phoenix, AZ 85004-3008; telephone: (602) 379-6750; fax: (602) 379-3833;

e-mail: amy.heuslein@bia.gov; or Mr. Paul Schlafly, Natural Resource Officer, BIA Southern Paiute Agency, 180 N. 200 E., Suite 111 or P.O. Box 720, St. George, UT 84771; telephone: (435) 674-9720; fax: (435) 674-9714; e-mail: paul.schlafly@bia.gov.

FOR FURTHER INFORMATION CONTACT: Ms. Amy Heuslein at (602) 379-6750 or amy.heuslein@bia.gov; or Mr. Paul Schlafly at (435) 674-9720 or paul.schlafly@bia.gov.

SUPPLEMENTARY INFORMATION: The proposed Federal action, taken under 25 U.S.C. 415, is the BIA approval of a solar energy ground lease and associated agreements entered into by the Moapa Band of Paiute Indians with K Road Moapa Solar LLC (K Road), and associated approval of rights-of-way and easements, for K Road to construct and operate an up to 350 MW solar photovoltaic electricity generating facility located entirely on Moapa tribal lands. The Moapa Band of Paiute Indians may use this EIS to make decisions under the Tribal Environmental Policy Ordinance. The BLM may use this EIS to support a decision for a proposed approximately 0.5 mile right-of-way across Federal public lands adjoining the Moapa River Indian Reservation that may be used to link the proposed solar generation facility to an existing substation on a transmission line with a rating up to 500 kilovolts. The USFWS may use this EIS to support its decisions under the Endangered Species Act.

The purposes of the proposed action are to: (1) use the Tribe's solar energy resources and complete a transmission line from the existing electrical grid to the Tribe-owned travel plaza on Interstate 15 (thereby reducing or eliminating the use of diesel-powered generation at the plaza) to improve and diversify the economy of the Moapa Band of Paiute Indians and provide other benefits to their members in an environmentally

compatible manner; and (2) generate clean, renewable electricity that can be efficiently connected to existing transmission lines to help utilities in the region meet their renewable energy goals.

The EIS will assess the alternatives to and the environmental consequences of BIA approval, under 25 U.S.C. 415, of a proposed solar energy ground lease and associated agreements between the Moapa Band of Paiute Indians as lessor and K Road as lessee. The ground lease will enable K Road to construct and operate an up to 350 MW solar photovoltaic electricity generating facility on approximately 2,000 acres of Tribal lands held in trust by the United States and located on the Moapa River Indian Reservation, Nevada. The facility will utilize transformers to step up the voltage to interconnection voltage, which will facilitate a connection of the facility with one or more of the following: an existing transmission line on Tribal lands (up to 500 kV); the existing 230 kV Crystal substation operated by NV Energy outside Tribal lands; and/or the existing 500 kV Crystal substation operated by NV Energy outside Tribal lands. The Crystal substation complex is located on BLM land, approximately 0.5 mile from the southern border of the Moapa River Indian Reservation. The proposed BIA actions include approval of the solar energy ground lease and associated agreements, and approval of rights-of-way and easements on the Moapa River Indian Reservation for K Road to construct electric transmission lines and other supporting facilities for one or more interconnections.

K Road has requested the BLM to approve a right-of-way across approximately a 0.5 mile of Federal public lands in Township 17 South, Range 64 East, Section 10, for purposes of constructing an electrical transmission line to connect the solar generating

facility and electric transmission on the Moapa River Indian Reservation with the Crystal substation.

K Road intends to construct and operate the solar facility for a period of 35 years, with an option to renew the lease for another 15 years, if mutually acceptable to the Moapa Tribe and K Road. This area is located in Clark County, Nevada, approximately one mile west of Interstate 15 and approximately 30 miles northeast of Las Vegas, Nevada.

The proposed solar facility will be built in phases of 50 to 100 MW each to meet the needs of offtakers or utilities, up to a total of 350 MW. During the construction of each phase, photovoltaic panels will be affixed to the earth using concrete posts, concrete ballast, or other suitable foundation design techniques appropriate to the topography and site conditions. Some or all of the panels may employ trackers to track the sun during the day. No water will be used in the production of electricity. Water will periodically be used for cleaning the photovoltaic panels during routine maintenance, administrative and sanitation uses at the site (e.g., water in a small office on site), and fugitive dust control.

As lead agency, the BIA will have authority over decisions regarding the EIS and BIA's approval of the solar energy ground lease and associated agreements. These decisions will be documented in a Record of Decision (ROD). BLM will have authority over approval of the off-reservation right-of-way, documented in its ROD. Cooperating agencies, including BLM, will provide expertise and data for their resources of interest and will aid in the development of alternatives and mitigation measures that will minimize or prevent significant adverse impacts.

Significant issues to be covered during the scoping process may include, but would not be limited to: air quality, geology and soils, surface and groundwater resources, biological resources, threatened and endangered species, cultural resources, socioeconomic conditions, land use, aesthetics, environmental justice, and Indian trust resources.

Directions for Submitting Public Comments

Please include your name, return address, and the caption “EIS, K Road and Moapa Band of Paiute Indians Solar Facility” on the first page of any written comments you submit. You may also submit comments at the public scoping meetings.

Public Availability of Comments

Comments, including names and addresses of respondents, will be available for public review at the BIA address shown in the ADDRESSES section of this notice, during regular business hours, Monday through Friday, except holidays. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority

This notice is published in accordance with sections 1503.1 of the Council on Environmental Quality Regulations (40 CFR parts 1500 through 1508) and Sec. 46.305 of the Department of Interior Regulations (43 CFR Part 46), implementing the procedural requirements of NEPA, as amended (42 U.S.C. 4321 *et seq.*), and is in the exercise of

authority delegated to the Assistant Secretary – Indian Affairs, by part 209 of the Departmental Manual.

Dated:

Larry Echo Hawk
Assistant Secretary – Indian Affairs

APPENDIX 5

[4310-W7-P]

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Draft Environmental Impact Statement for the Proposed Spokane Tribe of Indians West Plains Casino and Mixed Use Project, City of Airway Heights, Spokane County, Washington.

AGENCY: Bureau of Indian Affairs, Interior

ACTION: Notice of Availability

SUMMARY: This notice advises the public that the Bureau of Indian Affairs (BIA) as lead agency, with the Spokane Tribe of Indians, National Indian Gaming Commission (NIGC), Washington State Department of Transportation (WSDOT), the City of Airway Heights (City), Spokane County, the Federal Aviation Administration (FAA) and the U.S. Department of the Air Force (Air Force) serving as cooperating agencies, intends to file a Draft Environmental Impact Statement (DEIS) with the U.S. Environmental Protection Agency (EPA) for the Spokane Tribe of Indians West Plains Casino and Mixed Use Project, City of Airway Heights, Spokane County, Washington. This notice announces that the DEIS is now available for public review and the date, time and location of a public hearing to receive comments on the DEIS.

DATES: Written comments on the DEIS must arrive by [INSERT 45 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. The public hearing will be held on March 7, 2012, starting at 6:00 PM and will run until the last public comment is received.

ADDRESSES: You may mail or hand deliver written comments to Mr. Stanley Speaks, Northwest Regional Director, Bureau of Indian Affairs, Northwest Region, 911 Northeast 11th Avenue, Portland, Oregon 97232.

The public hearing will be held at the Sunset Elementary School Gymnasium, 12824 West 12th Avenue, Airway Heights, Washington 99001.

FOR FURTHER INFORMATION CONTACT: Dr. B.J. Howerton, Bureau of Indian Affairs, Northwest Region, 911 Northeast 11th Avenue, Portland, Oregon 97232; fax (503) 231-2275; phone (503) 231-6749.

SUPPLEMENTARY INFORMATION: Public review of the DEIS is part of the administrative process for the evaluation of tribal applications seeking a two-part determination from the Secretary of the Interior pursuant to Section 20 of the Indian Gaming Regulatory Act (IGRA) (25 U.S.C. § 2719(b)(1)(B)). Pursuant to Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations (40 C.F.R. 1506.10), the publication of this Notice of Availability in the Federal Register initiates a 45 day public comment period.

Background:

The Spokane Tribe of Indians (Tribe) has requested that the Secretary of the Interior issue a two-part determination under Section 20 of the IGRA for Class III gaming on 145 acres held in federal trust for the Tribe near the City of Airway Heights, Washington. The 145-acre project is located immediately west of the city limits of Airway Heights in the unincorporated West Plains area of Spokane County, Washington.

The Proposed Project consists of the following components: (1) issuance of a Two-Part Determination by the Secretary of the Interior; and (2) development of a casino-resort facility, parking structure, site retail, commercial building, tribal cultural center, and police/fire station

within the project site. At full build-out, the proposed casino-resort facility would have approximately 98,442 square-feet of gaming floor and a 300-room hotel.

The following alternatives are considered in the DEIS: (1) Proposed Casino and Mixed-Use Development; (2) Reduced Casino and Mixed-Use Development; (3) Non-Gaming Mixed-Use Development; and (4) No Action/No Development. Environmental issues addressed in the DEIS include geology and soils, water resources, air quality, biological resources, cultural and paleontological resources, socioeconomic conditions (including environmental justice), transportation and circulation, land use, public services, noise, hazardous materials, aesthetics, cumulative effects, and indirect and growth inducing effects.

The BIA serves as the Lead Agency for compliance with NEPA. The BIA held a public scoping meeting for the project on September 16, 2009 in the City of Airway Heights, Washington.

Directions for Submitting Comments:

Please include your name, return address, and the caption: “DEIS Comments, Spokane Tribe of Indians West Plains Development Project,” on the first page of your written comments.

Locations where the DEIS is Available for Review:

The DEIS will be available for review at the Airway Heights Branch of the Spokane County Library District located at 1213 South Lundstrom St. Airway Heights, Washington 99001 and the Spokane Public Library located at 906 West Main Street, Spokane, Washington 99201. The DEIS is also available online at: <http://www.westplainseis.com>.

To obtain a compact disk copy of the DEIS, please provide your name and address in writing or by voicemail to Dr. B.J. Howerton, Environmental Protection Specialist, Bureau of Indian Affairs, Northwest Regional Office. Contact information is listed below in the FOR FURTHER

INFORMATION CONTACT section of this notice. Individual paper copies of the DEIS will be provided upon payment of applicable printing expenses by the requestor for the number of copies requested.

Public Comment Availability:

Comments, including names and addresses of respondents, will be available for public review at the BIA mailing address shown in the ADDRESSES section of this notice, during regular business hours, 8:00a.m. to 4:30 p.m., Monday through Friday, except holidays. Before including your address, telephone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment- including your personal identifying information-may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

AUTHORITY: This notice is published pursuant to Sec. 1503.1 of the Council of Environmental Quality Regulations (40 CFR parts 1500 through 1508) and Sec. 46.305 of the Department of Interior Regulations (43 CFR part 46), implementing the procedural requirements of the NEPA of 1969, as amended (42 U.S.C. 4371, et seq.), and is in the exercise of authority delegated to the Assistant Secretary - Indian Affairs by 209 DM 8.

Dated:

Larry Echo Hawk
Assistant Secretary – Indian Affairs

APPENDIX 6

[4310-W7-P]

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Final Environmental Impact Statement for the Proposed KRoad Moapa Solar Generation Facility, Clark County, Nevada

AGENCY: Bureau of Indian Affairs, Interior

ACTION: Notice of Availability

SUMMARY: This notice advises the public that the Bureau of Indian Affairs (BIA) as the lead Federal agency, with the Bureau of Land Management (BLM), Environmental Protection Agency (EPA), United States Army Corps of Engineers (USACE) and the Moapa Band of Paiute Indians (Tribe) as Cooperating Agencies, has prepared a Final Environmental Impact Statement (FEIS) for the proposed KRoad Moapa Solar Generation Facility on the Moapa River Indian Reservation (Reservation) in Clark County, Nevada. This notice also announces the FEIS is now available on a public website and in hard copy at the addresses below.

DATES: The Record of Decision (ROD) on the proposed action will be issued no sooner than 30 days after the release of the FEIS.

ADDRESSES: You may request a hard copy by writing or contacting Ms. Amy Heuslein, Regional Environmental Protection Officer, BIA Western Regional Office Branch of Environmental Quality Services, 2600 North Central Avenue, 4th Floor Mail Room, Phoenix, Arizona 85004-3008; telephone (602) 379-6750; fax (602) 379-3833; e-mail: amy.heuslein@bia.gov. The DEIS may be found on the following website:

<http://projects2.pirnie.com/MoapaSolar/>. Hard copies of the document will be available at the BIA Western Regional Office, 2600 North Central Avenue, 12th Floor, Suite 210, Phoenix,

Arizona; the BIA Southern Paiute Agency, 180 North 200 East, Suite 111, St. George, Utah; and BLM Southern Nevada District Office, 4701 N. Torrey Pines Drive, Las Vegas, Nevada 89130.

FOR FURTHER INFORMATION CONTACT: Amy Heuslein or Garry Cantley, BIA Western Regional Office, Branch of Environmental Quality Services, 2600 North Central Avenue, Phoenix, Arizona 85004-3008, telephone number (602) 379-6750.

SUPPLEMENTARY INFORMATION: KRoad Moapa Solar LLC (KRoad) is proposing to construct a 350 megawatt (MW) solar generation facility and associated infrastructure on the Tribe's reservation; develop a 12 kV transmission line and water line; and obtain two rights-of-way (ROWs) grants for an up to 500 kV transmission line and access road on BLM land and within a BLM-administered utility corridor. The Proposed Project would provide land lease income, sustainable renewable resources, new jobs, and other benefits for the Tribe by using solar resources from reservation lands where exposure to levels of high solar radiation exists. The Proposed Project would also assist utilities in meeting their renewable energy goals, by providing electricity generated from solar resources from tribal lands that may be efficiently connected to existing transmission lines in a manner that minimizes adverse site impacts.

The BIA's purpose and need for the proposed Federal action is to respond to the proposed solar energy ground lease and other agreements entered into by the Tribe with KRoad, and the approval of ROWs for KRoad to construct, operate, and maintain an up to 350 MW solar photovoltaic electricity generating facility on the reservation. The BLM's purpose and need for the proposed Federal action also would be to respond to KRoad's application for an up to 500 kV transmission line and access road ROWs within an existing utility corridor, of which 5 miles are located on the reservation and 0.5 miles is located on BLM land just south of the reservation boundary, pursuant to the Federal Land Policy and Management Act and BLM's ROWs

regulations. The BIA and BLM will adopt the EIS to make decisions on the land lease and ROW application under their jurisdiction while the EPA and USACE may adopt the document to make decisions under their authorities. The Tribe may also use the EIS to make decisions under their Tribal Environmental Policy Ordinance and the U.S. Fish and Wildlife Service may use the EIS to support its decision under the Endangered Species Act.

Authority: This notice is published pursuant to 40 CFR 1506.10(a) of the Council of Environmental Quality Regulations (40 CFR 1500 et seq.) and 43 CFR 46.305 of the Department of Interior Regulations (43 CFR Part 46), the procedural requirements of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4371 et seq.), and is in accordance with the exercise of authority delegated to the Assistant Secretary – Indian Affairs by 209 DM 8.

Dated: March 9, 2012

Larry Echo Hawk
Assistant Secretary – Indian Affairs

APPENDIX 7

(4310-W7-P)

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Draft Environmental Impact Statement for the Proposed Pueblo of Jemez 70.277-acre Fee-to-Trust Transfer and Casino Project, Doña Ana County, New Mexico

AGENCY: Bureau of Indian Affairs, Interior

ACTION: Notice of Availability; Correction

SUMMARY: The Bureau of Indian Affairs (BIA) published a document in the Federal Register of April 8, 2011, advising the public that the Bureau of Indian Affairs (BIA), as lead agency, in cooperation with the Pueblo of Jemez, intends to file a Draft Environmental Impact Statement (DEIS) with the U.S. Environmental Protection Agency (EPA) for the proposed approval of a 70.277 acre fee-to-trust transfer and casino project to be located within Doña Ana County, New Mexico. The document contained an error in the public comment deadline.

DATES: Written comments on the DEIS must arrive by June 1, 2011.

FOR FURTHER INFORMATION CONTACT: Priscilla Wade (505) 563-3417.

SUPPLEMENTARY INFORMATION:

Corrections

In the Federal Register of April 8, 2011, in FR Doc. 2011-8035, on page 19783, in the second column, in the DATES section, change “May 23, 2011” to “June 1, 2011.”

Dated: May 6, 2011

Donald Laverdure
Principal Deputy Assistant Secretary - Indian Affairs

APPENDIX 8

[4310-W7-P]

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Environmental Impact Statement for the Proposed Mississippi Band of Choctaw Casino, Jackson County, Mississippi.

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice of Cancellation.

SUMMARY: This notice announces that the Bureau of Indian Affairs (BIA) intends to cancel all work on the environmental impact statement (EIS) for the proposed Mississippi Band of Choctaw Casino, Jackson County Mississippi.

FOR FURTHER INFORMATION CONTACT: Kurt G. Chandler, Regional Environmental Scientist, telephone (615) 564-6832.

SUPPLEMENTARY INFORMATION: The BIA is canceling work on this EIS because the Mississippi Band of Choctaw Indians have decided not to pursue Indian gaming on the property that is the subject of the EIS at this time. The notice of intent to prepare the EIS, which included a description of the proposed action, was published in the Federal Register on October 3, 2006 (71 FR 58427). On October 18, 2006, a public scoping meeting was held in Ocean Springs, Jackson County, Mississippi. The Draft EIS had not yet been published.

Dated:

Larry Echo Hawk
Assistant Secretary – Indian Affairs

APPENDIX 9

Record of Decision

Truckee River Water Quality Settlement
Agreement – Federal Water Rights
Acquisition Program

U.S. Department of the Interior
Bureau of Indian Affairs
November 2002

[Cover sheet optional.]

BUREAU OF INDIAN AFFAIRS
Western Regional Office

- AGENCY: Bureau of Indian Affairs, Western Regional Office
- ACTION: Record of Decision for the Truckee River Water Quality Settlement Agreement – Federal Water Rights Acquisition Program in Washoe, Storey, Lyon, and Churchill Counties, Nevada.
- SUMMARY: The Truckee River Water Quality Settlement Agreement – Federal Water Rights Acquisition Program was originally proposed by the Bureau of Indian Affairs (BIA) in a Draft Environmental Impact Statement (EIS) issued for public review on October 5, 2001. The Final EIS, issued October 11, 2002, analyzed the potential effects of implementing various strategies for acquiring \$12 million worth of Truckee River water rights. With the issuance of this Record of Decision (ROD), BIA announces that Alternative 2, an option allowing acquisition of water rights from willing sellers in the Truckee Meadows, Truckee River corridor, and the Truckee Division of the Newlands Project, is the action to be implemented. The BIA decision is based on its review of the Draft EIS, the Final EIS, and comments received from the public, federal agencies, state agencies, local governmental entities, and potentially affected Tribes.

FOR FURTHER INFORMATION CONTACT: *[Only one contact is required. Others are optional.]*

Mr. (Name)
Bureau of Indian Affairs
Western Nevada Agency
1677 Hot Springs Road
Carson City, NV 89706
(775) 887-3500 Phone
(775) 887-3531 Fax

Ms. (Name)
Bureau of Indian Affairs
Western Regional Office
P.O. Box 10
Phoenix, AZ 85001
(602) 379-6750 Phone
(602) 379-3833 Fax

Introduction

On October 10, 1996, the U.S. Department of Justice, Environmental Protection Agency (EPA), and Department of the Interior (DOI) joined Nevada Division of Environmental Protection (NDEP), Washoe County, City of Reno, City of Sparks, and the Pyramid Lake Paiute Tribe (Tribe) in signing the Truckee River Water Quality Settlement Agreement (WQSA). This agreement resulted in dismissal of litigation brought by the Tribe against Reno, Sparks, the State of Nevada, and the United States over approval and operation of the Reno-Sparks wastewater treatment facility, now called Truckee Meadows Wastewater Reclamation Facility. WQSA does not establish water quality goals or identify water quality standards to be met; rather, it establishes a joint program to improve water quality by increasing flows in the Truckee River through the purchase and dedication of Truckee River water rights for instream flow. According to terms of the agreement, the United States is obligated to acquire \$12 million worth of Truckee River water rights and negotiate storage agreements for WQSA water in federally owned and operated reservoirs in the Truckee River Basin. The agreement also provides for the use of treatment plant effluent in place of river water for certain purposes. This ROD documents the decision and rationale for selecting an acquisition strategy to comply with the terms of WQSA.

Bureau of Indian Affairs (BIA), Bureau of Reclamation (BOR), and Fish and Wildlife Service (FWS), all bureaus within DOI, will be responsible for implementing the federal commitments identified in WQSA. BIA has received appropriated funds for the federal acquisition program, and, accordingly, was the lead agency in preparing the EIS.

Public scoping meetings to gather information to be used to prepare the EIS were held in September, 1995 and March 1997. A Notice of Intent to prepare an EIS was published in the Federal Register (Volume 62, Number 50, pages 12245-12246) on March 14, 1997. A Draft EIS was issued for public review on October 5, 2001. In addition to comments received at public hearings, written comments on the Draft EIS were received from 18 parties; responses to those comments were included in a chapter of the Final EIS and relevant information in the Draft EIS was revised as appropriate to address those comments. The Final EIS was issued on October 11, 2002. Comments on the Final EIS were received timely from the United States Environmental Protection Agency and Nevada State Clearinghouse (representing Nevada Office of Historic Preservation and Division of Water Resources). Copies of those comments are included in an appendix to this document and responses to those comments are included herein; no text in the Final EIS has been revised in response to those comments.

Description of Alternatives

Alternative 1 – No Action Alternative

The No Action Alternative analyzed in the EIS represents a continuation of existing water management operation for the Truckee River and water use trends for the next 10 years. It differs from the action alternatives by assuming no new efforts would be initiated to increase Truckee River flow during months that are characterized by low flow (primarily June through September). The No Action Alternative represents annual water management in the Truckee River basin expected to occur if WQSA were not implemented. No Action assumes urbanization would continue with a corresponding increase in demand for M&I water in the study area.

Alternative 2 – Acquire Truckee River Water Rights (Proposed Action and Preferred Alternative)

Alternative 2, the Proposed Action and Preferred Alternative, evaluated an acquisition strategy that would enable the acquisition of water rights from willing sellers with properties located in the Reno-Sparks

metropolitan area (known locally as Truckee Meadows), Truckee River corridor from Vista to Wadsworth, and the Truckee Division of the Newlands Project. Alternative 2 assumed that a majority of the federally acquired water rights would come from the Truckee Division due to the substantially lower cost per acre-foot in the Division compared to other locations in the study area. Some water rights, however, are expected to be acquired from both the Truckee Meadows and Truckee River corridor. Although the actual location of acquisitions would most likely be guided by cost and opportunity, Alternative 2 estimated approximately 8,500 acre-feet of water rights would be acquired with federal funds and analyzed the following acquisition distribution: 6,300 acre-feet from the Truckee Division; approximately 750 acre-feet from the Vista to Wadsworth segment of the Truckee River corridor; and approximately 1,450 acre-feet from the Truckee Meadows. While this acquisition distribution is realistic and appropriate for the analysis, it is one of many variations that could occur, and was not intended to predict or direct the number of water rights that would be acquired from each geographic section of the study area.

Water rights acquired pursuant to WQSA would be transferred in accordance with applicable State law and procedures from the then-current purpose (most likely irrigated agriculture) and place of use to that of water quality and instream flow for use in the lower Truckee River and Pyramid Lake. Because there is very little surface water return flow to the Truckee River from water diverted to serve Truckee Division water rights (i.e., all water is considered to be consumed), water rights acquired from the Truckee Division would be transferred to storage or to the lower Truckee River and Pyramid Lake at the full duty of 4.5 acre-feet/acre/year. Water rights acquired from properties along the Truckee River corridor and in Truckee Meadows are not completely consumed and thus would be transferred at the consumptive use rate. As noted by the Nevada Division of Water Resources in comments on the FEIS, the amount allowed to be transferred and the consumptive use factor are decisions for the Nevada State Engineer.

Water associated with the exercise of water rights acquired by DOI pursuant to WQSA would be stored, when possible, in Truckee River reservoirs owned and managed by BOR, primarily Stampede and Prosser Creek Reservoirs. DOI has agreed that WQSA water associated with the exercise of water rights acquired jointly by Reno, Sparks, and Washoe County would also be stored in these federal reservoirs. Storage of water was included as a component of Alternative 2.

The decision to divert WQSA water to storage in the federal reservoirs would depend in large part on hydrologic conditions. Diversion to storage would be accomplished in two ways:

1. Exchanging a quantity of Stampede or Prosser Creek Reservoir project water which would be scheduled for release for the benefit of Pyramid Lake fishes for an equal quantity of water in the lower river associated with the exercise of WQSA water rights – the project water in storage is reclassified as Water Quality Credit Water and WQSA water in the river then becomes project water and flows to Pyramid Lake.
2. Storing (as Water Quality Credit Water) a portion of the water in excess of Floriston rates and not needed to serve other Orr Ditch Decree water rights which would otherwise pass through either of the federal reservoirs and flow to Pyramid Lake.

When WQSA water could not be diverted to storage as Water Quality Credit Water, it would remain in the river and flow undiverted to Pyramid Lake.

Water associated with water rights acquired through the WQSA program would be managed by the Joint Program Parties, defined as the parties acquiring water rights under WQSA and the Pyramid Lake Paiute Tribe. DOI, the Tribe, and the Truckee Meadows communities would provide a release schedule, in

accordance with the cooperative management measures, to the Federal Water Master (or the Truckee River Administrator if TROA is implemented) according to the following priority order, to:

1. Meet water quality standards in the river from Vista to Pyramid Lake;
2. Improve water quality in the river from Vista to Pyramid Lake when sufficient water is not available to meet water quality standards;
3. Maintain aquatic and riparian habitat in the river downstream from Derby Dam; and,
4. Promote aesthetic and recreational purposes through the Reno/Sparks area, continuing to Pyramid Lake.

Because the possible real-time permutations for water management are virtually limitless (depending on a number of hydrologic, meteorologic, and socioeconomic variables) and to provide objective criteria for comparison among alternatives, the EIS analysis assumed that water would be released during June through September to supplement existing flow to achieve, in every year possible, a flow of 275 cfs at the Sparks gage and 135 cfs at the Nixon gage during those months. These flow targets are designed to address WQSA flow enhancement goals, and assist in achieving water quality standards for the Truckee River in Nevada.

Alternative 3 – Acquire Truckee Division Water Rights

Alternative 3 proposes an acquisition strategy different from Alternative 2 and focuses on acquiring all active and transferable Truckee River water rights in the Truckee Division of the Newlands Project. Due to the lower estimated cost of Truckee Division water rights, \$12 million would not be fully expended currently if acquisitions were limited exclusively to the Truckee Division. Thus, Alternative 3 also includes acquisition of some rights from properties located in the Truckee River corridor, but no Truckee Meadows water rights would be acquired.

Alternative 3 differs from Alternatives 2 and 4 only in the location of water rights acquisitions and the volume of water rights anticipated to be acquired. Alternative 3 represents the strategy that would acquire the largest quantity of water rights with the available \$12 million, and could result in the acquisition of approximately 13,350 acre-feet. Water that accrues from implementation of Alternative 3 would be managed in the same manner as described for Alternative 2. It would be stored in federal reservoirs according to applicable storage agreements and procedures, and released to augment flows in June through September using the release schedule developed cooperatively by the Joint Program Parties. As discussed for Alternative 2, the schedule would be provided to the Federal Water Master for implementation, and the priorities for release would be identical to those described for Alternative 2. Also, as was the case for Alternative 2, DOI would negotiate reasonable terms and conditions with Reno, Sparks, and Washoe County to allow for storage of water which accrues from the water rights acquired by the local governments to satisfy their WQSA obligations.

Alternative 4 – Acquire Truckee Meadows Water Rights

Under Alternative 4, Truckee River water rights would only be acquired from the Truckee Meadows, an area in the basin from the California-Nevada state line downstream to Vista. No water rights would be acquired from the Truckee Division of the Newlands Project or the Truckee River corridor if this alternative were implemented. Approximately 3,600 acre-feet of water rights would be acquired with implementation of this alternative.

Alternative 4 differs from Alternatives 2 and 3 only in terms of the location of water rights acquisitions and the volume of water rights anticipated to be acquired. Water that accrues from implementation of Alternative 4 would be managed in the same manner as water in Alternative 2. It would be stored in federal reservoirs according to relevant storage agreements and procedures, and released to augment flows from June through

September. The release schedule would be developed cooperatively by the Joint Program Parties and provided to the Federal Water Master for implementation. The priorities for release would be identical to those described for Alternative 2. As was the case for Alternatives 2 and 3, DOI would negotiate reasonable terms and conditions with Reno, Sparks, and Washoe County to allow for storage of water which accrues from the water rights acquired by the local governments to satisfy their WQSA obligations.

Issues Evaluated

A number of issues were raised during the scoping process and public review of the draft EIS. Each of the alternatives considered in the FEIS was evaluated relative to these and other issues. The most substantive issues were:

- Water resources, including ground water quality and quantity, groundwater recharge, and surface water quality and quantity;
- Air quality, specifically the potential for an increase in the level of inhalable particulates (PM₁₀);
- Wetlands, particularly those wetlands dependent on seepage or irrigation drainage in the Truckee Division of the Newlands Project;
- Endangered and threatened fish species of Pyramid Lake;
- Agricultural activities in the Truckee Division of the Newlands Project and the impacts of reduced agricultural activity;
- Water rights and the value of water rights transactions in the community and possible changes to the local tax base;
- Population growth in the area, along with subdivision of agricultural lands to residential lots; and,
- Potential cumulative effects of a variety of known proposals, including rehabilitation of the lower Truckee River, implementation of the Truckee River Operating Agreement (TROA), and acquisition of water rights by Fernley, Reno, Sparks, and Washoe County.

Comments on the Final EIS addressed planned urban growth, land use, protection of historic properties, local water supplies, and administrative procedures for transfer of water rights.

When compared to No Action, unavoidable adverse impacts attributed to implementing WQSA are expected to be minor and localized, and potentially negligible, or be mitigated through specific agreement as identified in the "Implementation" section below.

Air Quality -- Implementation of the proposed action is likely to result in some short-term additional sources of fugitive dust depending on changes in the amount of actively irrigated land, primarily in the Truckee Division of the Newlands Project, amount of vegetative cover, and rate of transition from irrigated to native desert vegetation, but would not result in violations of existing air quality standards (PM₁₀) or affect attainment status of the region. Appropriate measures to minimize the generation of blowing dust would depend on the size and location of the affected parcels; review of the Naval Air Station Fallon (NASF) dust and debris control program could assist in identifying effective dust control measures.

Water Supply -- Reservoir storage and releases are not anticipated to be adversely affected; changes would be within the range of historic volumes. (As noted in a Nevada Division of Water Resources comment on the Final EIS, the Nevada Lake Tahoe basin water demand is satisfied primarily by pumping of surface water, not groundwater as stated in the EIS.) The acquisition and transfer of water rights from parcels in the Truckee Division is likely to result in a decrease in groundwater recharge of the local, shallow aquifer. No mitigating measures are identified to address this issue because there are no attendant water rights for Truckee Canal

seepage water. Property owners located near the Truckee Canal are not likely to be affected to the same degree as those with wells located more distant as the canal would continue to seep as long as water is diverted to Lahontan Reservoir; those more distant from the canal may be required to deepen their wells if recharge diminishes and the distance to groundwater increases.

Water Quality -- Truckee River flows are anticipated to be enhanced during the summer months when flows have historically been lowest. Additional flow in the river would allow greater dilution of pollutants and moderate summer water temperatures, improving water quality, particularly downstream from Vista.

Vegetation -- As irrigated acres are acquired and water rights transferred, the volume of water moving through the irrigation conveyance system and applied to agricultural fields would be reduced, leaving less water available to these wetlands from canal seepage and drain water. The intermittent wetlands are not expected to disappear as long as the Truckee Canal remains in use and effluent from the local wastewater treatment facility continues to be discharged to secondary wetlands. FWS and other agencies are implementing a water rights acquisition program to benefit Lahontan Valley wetlands.

Cultural Resources -- Cultural resources in the reservoirs likely have already been damaged by historic operations and drought and flood, and so any WQSA impacts to these resources are anticipated to be minor and localized. BIA has engaged in consultation with the Nevada State Historic Preservation Office, as well as Bureau of Reclamation, Advisory Council on Historic Preservation, and Pyramid Lake Paiute Tribe, regarding the federal water rights acquisition program pursuant to WQSA. Consultation has focused on the possible change in the historic landscape of the farming communities that may occur as a result of purchase of water rights and subsequent conversion of farmland to other uses. Because WQSA precludes the federal government from retaining land acquired through the water rights acquisition program, the consultation is considering the effect of transferring historic properties out of federal ownership and control. The consulting parties are developing a programmatic agreement that will address identification and evaluation of historic properties and procedures to avoid or reduce any adverse effects to satisfy Section 106 consultation requirements.

Socio-economics -- Acquisition of water rights for WQSA would result in the conversion of farmland to other uses, including developed parcels and desert habitat. Overall, socio-economic impacts anticipated under any of the action alternatives would likely be overshadowed by impacts attributed to extant and projected growth and urbanization in the study area. Acquisition and transfer of water rights for water quality purposes would not promote population growth and the dispersed locations of any lands likely to be acquired would not promote urbanization. As noted above, the purpose of WQSA is to acquire water rights in order to improve water quality; land acquisition would occur only to the extent necessary to facilitate acquisition of water rights and is not the focus of the proposed action. The involvement of local governments in the planning and implementation phases of the water rights acquisition program as well as in the role of Joint Program Parties for the adaptive management of water associated with the water rights would ensure that maximum benefits to lower Truckee River water quality would accrue from WQSA.

Cumulative – Analysis of cumulative projects identified the following potential effects:

- Air Quality -- The additional dust that could result from the WQSA program along with that from other cumulative projects is not expected to result in violations of the PM₁₀ air quality standard. Measures to minimize generation of fugitive dust from affected parcels would not eliminate blowing dust in the region.
- Water Resources -- WQSA would enhance surface water supply for the Truckee River and Pyramid Lake slightly by increasing the volume of water stored in Truckee River reservoirs.

Once released, this stored water would supplement Truckee River flows and increase inflow to Pyramid Lake. Reductions in Newlands Project demand could increase lower Truckee River flow, depending on hydrologic conditions in the Truckee and Carson River basins. Overall, groundwater levels would likely decline throughout the Truckee Division in the Cumulative Case, and domestic wells would need to be deepened in order to continue to serve as a water source for affected residences. Alternatively, groundwater wells could be abandoned if a municipal water supply system were available to residents of the Truckee Division. Combining the potential effects of WQSA with those of other reasonably foreseeable projects would result in improved water quality in the Truckee River, either directly (i.e. increased flow) or indirectly (elimination of septic tank contamination of ground water). Urban growth would likely require additional wastewater treatment facilities and increase point source discharges, potentially increasing the quantity of nutrients in the Truckee River. Increased growth could also cause increased water quality impacts through erosion and runoff attributed to new developments.

- **Vegetation** -- A number of reasonably foreseeable projects are expected to have positive effects on vegetation within the Truckee River floodplain by enhancing seasonal flow or reducing flow variability. Enhanced or stabilized river flows would benefit riparian vegetation and encourage expansion of the riparian plant community. Wetlands located within the floodplain would also benefit from enhanced or stabilized river flows; secondary wetlands in the Truckee Division could be diminished in area and quality to the extent that drain water or subsurface flows are diminished by reduction of application of irrigation water. Several projects will result in the replacement of agricultural crops throughout Truckee Meadows and the Truckee Division by drought-tolerant species, possibly noxious weed species that are able to colonize disturbed soils more quickly than native desert species, or by ornamental vegetation commonly found in an urban setting.
- **Fish and Wildlife** -- A number of projects could provide additional benefits to reservoir and stream fish populations, particularly in the upper Truckee River basin, by allowing additional WQSA and other categories of credit water to be stored in Truckee River reservoirs, providing opportunities for credit water to be exchanged among reservoirs, and identifying minimum release and storage targets for fish and wildlife resources. Recovery of cui-ui and LCT and enhancement of local fish populations would be facilitated variously by habitat improvement and fish passage programs. Projects related to demographic change (i.e., urban growth) are likely to create conditions in the basin that are inimical to fish, such as deterioration of water quality from point and nonpoint sources, increase in storm runoff, and expanded utilization for recreation. The potential cumulative impacts to wildlife are very similar to those anticipated for vegetation because wildlife diversity and abundance are dependent on availability of suitable habitat. There appears to be a number of opportunities to enhance wildlife habitat through expansion of wetland and riparian communities in the Truckee River floodplain.
- **Endangered, Threatened, and Sensitive Species** -- Recovery efforts for cui-ui and LCT would benefit from habitat improvement and fish passage programs. In particular, implementation of flow regimes to promote the lower river cottonwood forest would improve habitat for associated wildlife species. Projects related to demographic change (urban growth) are likely to increase the threats to endangered, threatened and special status species associated with aquatic and riparian habitats.
- **Socioeconomic Resources** -- It is unlikely that any identified cumulative action would

individually or collectively contribute directly to population increases or demographic shifts in the study area beyond that already anticipated. Projected land use patterns will continue to change as the population in the study area shifts from a rural landscape to a more urban pattern with residential developments, parks and open space, and commercial and industrial complexes. As agricultural properties are sold and acquired by the various entities, such lands may be kept as open space, or converted to residential, commercial, or industrial properties, conditional on each community's or individual county's master plan dictates. As agricultural lands are displaced, there would be a societal shift from an agrarian community, and open space and farmland preservation values would be affected.

- Cultural Resources -- Cultural resources in the reservoirs likely have already been damaged by historic operations and drought and flood. With WQSA impacts to these resources anticipated to be minor and localized, adding the impacts of other cumulative projects would not increase the severity of impacts.
- Indian Trust Assets -- Trust assets associated with the Pyramid Lake Indian Reservation -- generally water supply, water quality, fish, and endangered, threatened, and sensitive species -- would be affected in a manner similar to that described above for those resources. Trust assets of the Reno-Sparks Indian Colony or Fallon Paiute Shoshone Indian Reservation would not be materially affected by cumulative projects.

Environmentally Preferred Alternative

A comparison of alternatives indicated that Alternative 3 – Acquisition of Truckee Division Water Rights would best enhance and protect the natural environment and natural resources. If implemented, the acquisition strategy considered by Alternative 3 would accumulate more water rights than any other alternative, provide more water to enhance Truckee River flows and thus, provide the greatest benefit to the lower Truckee River environment. Over the long run, Alternative 3 would do more to enhance the ecological health and integrity of the lower Truckee River by assisting in the stabilization of river flows, particularly during the period June through September. Consequently, Alternative 3 has been identified as the environmentally preferred alternative.

Decision

Based on a thorough review of the alternatives, their potential environmental impacts, and comments received from the public, the Pyramid Lake Tribe, interest groups, and federal, state, local agencies, it is my intention to adopt and implement the acquisition strategy proposed in Alternative 2 – Acquisition of Truckee River Water Rights to fulfill the federal obligations identified in WQSA. Water rights will only be acquired from willing sellers; adopting Alternative 2 allows the federal acquisition process the flexibility to secure water rights throughout the study area. Also, Alternative 2 is anticipated to acquire a sufficient volume of water rights to enhance Truckee River flow and achieve the primary goal of WQSA.

Alternative 2 is preferable to the No Action Alternative because No Action would acquire no water rights and do nothing to enhance flow in the Truckee River during low flow months. The federal obligations identified in WQSA would not be met, thereby nullifying the agreement. Such inaction would lead to a renewal of litigation and a significant level of distrust directed at the federal government by the Pyramid Lake Paiute Tribe, the State of Nevada, and the local governments. Further, without the enhanced flow anticipated by WQSA, water quality of the Truckee River would be diminished in the summer months as there would be little flow available to dilute effluent from TMWRF or various non-point pollution sources, such as agricultural runoff.

Although Alternative 2 would acquire fewer water rights than Alternative 3, it is preferable to Alternative 3 because it allows the necessary flexibility to acquire available water rights anywhere in the study area. In comparison, the acquisition strategy proposed by Alternative 3 narrowly focuses on acquiring water rights from the Truckee Division. By focusing primarily on the Truckee Division, Alternative 3 is at risk for not achieving WQSA goals due to the character of the water rights market in the Division. Compared to Truckee Meadows and the Truckee River corridor, the majority of water-righted properties in the Truckee Division are smaller than 10 acres. As was noted in the EIS, Alternative 3 is anticipated to acquire approximately 2,800 acres. Given the small average size of individual parcels, the acquisition program would require a large number of transactions and it is possible a large percentage of water right owners would elect not to sell. The strategy proposed by Alternative 3 offers no option for seeking water rights at locations outside of Truckee Division.

The strategy proposed by Alternative 4 is similar to Alternative 3 insofar that location for acquiring water rights is restricted – in this case to water rights in Truckee Meadows. A noteworthy difference is that even though Alternative 4 focuses on acquisition of Truckee Meadows water rights, it is more likely to expend \$12 million than is Alternative 3. This is not due to a greater availability of water rights in the Truckee Meadows but to the substantially higher cost of water rights in Truckee Meadows. Truckee Meadows water rights are generally senior to those of the Truckee Division and thus considered more valuable. Truckee Meadows water rights are estimated to be approximately three times the cost of Truckee Division water rights. The acquisition strategy proposed by Alternative 4 would acquire the fewest water rights of any of the action alternatives and would result in the smallest change to Truckee River flow.

While a number of local issues were described in public comments, no significant impacts requiring mitigation were identified in the Final EIS or the endangered species consultation process.

[Section on Mitigation Measures may be inserted here if applicable.]

Implementation

BIA administers the funds appropriated by Congress to support federal acquisition of Truckee River water rights through a contract with the Pyramid Lake Paiute Tribe. The Tribe has entered into an agreement with Great Basin Land and Water (a land and water rights contractor) to acquire water rights. Ultimate responsibility for implementing the federal obligations of WQSA rests with BIA. This responsibility will require BIA to work closely with the Pyramid Lake Paiute Tribe and its contractor until the federal acquisition funds are fully expended.

BIA will participate as part of the DOI team with the other Joint Program Parties in monitoring water quality in the lower Truckee River and developing cooperative adaptive management measures to accomplish the purpose of WQSA. DOI, the Tribe, and the Truckee Meadows communities will identify a flow management strategy including a release schedule for dedicated stored WQSA water to meet water quality standards, improve Truckee River water quality, benefit resident fish populations, enhance riverine habitat, and promote aesthetic and recreational purposes in priority order, depending on water availability.

Based on the provisions of section 7 of the Endangered Species Act, potential effects to listed species would be re-evaluated if:

- The proposed action is changed such that it could affect listed species in a manner or to an extent not considered in the EIS;
- New biological information becomes available concerning listed species and is potentially affected by the proposed action; or,

- A new species is listed or critical habitat is designated that could be affected by the proposed action.

Lands acquired in the Truckee River corridor through the federal WQSA program and identified to be resold will first be offered for sale to local governments and certain non-government organizations to incorporate into ongoing efforts to restore and enhance flood control features and riparian habitat of the corridor, consistent with Smart Growth planning principles for the middle and lower river area as recommended by EPA. Any lands not so utilized and lands in the Truckee Division will be offered for sale to private or commercial interests. Because no water rights would be associated with such lands, potential urban development would require acquisition and transfer of additional water rights, and local governments would address planning and zoning for those areas. To prevent potential revenue loss to the Irrigation District, DOI will continue to pay O&M fees on acquired Truckee Division water rights until a lump sum payment or other mutually acceptable arrangement is negotiated to terminate future O&M assessments.

The Farmland Policy Protection Act (FPPA) directs federal agencies to consider project alternatives or mitigation to minimize such conversion. While the EIS determined that there is no alternative to minimize the conversion of farmland that would occur with WQSA because most, if not all, water rights available to WQSA are coincident with agricultural lands, BIA will comply with applicable requirements of FPPA as the WQSA water rights acquisition program proceeds. In those instances where acquired properties are re-sold to private interests, local ordinances could require control of blowing sand and dust. BIA will comply with applicable local dust and sand control ordinances during implementation of the WQSA program, as well as with applicable local ordinances pertaining to control of noxious weeds as long as acquired properties are retained by the program. The process to control noxious weeds would depend on the area involved, condition of local vegetation, and effectiveness of measures available.

BIA will comply with applicable federal, tribal, state, and local regulations, including the National Historic Preservation Act, to ensure that cultural resources are conserved and potential adverse impacts are minimized. In response to comments on the Final EIS by and BIA discussions with the Nevada State Historic Preservation Officer, the actions that may be necessary to protect these sites will be determined based upon conditions identified in a programmatic agreement among BIA, Bureau of Reclamation, Pyramid Lake Paiute Tribe, Advisory Council on Historic Preservation, and the Nevada State Historic Preservation Officer.

This decision may be appealed to the Interior Board of Indian Appeals (IBIA) at 801 N. Quincy Street, #300, Arlington, Virginia, 22203, in accordance with the regulations set forth at 43 CFR Parts 4.310-4.340. The notice of appeal to IBIA must be signed and mailed within thirty days of the date of this decision is received. The notice of appeal should clearly identify the decision being appealed and a copy of the decision should be attached to the notice of appeal. Copies of the notice of appeal must be sent to the Assistant Secretary for Indian Affairs, MS 4140-MIB, U.S. Department of the Interior, 1849 C Street, N.W., Washington, D.C., 20240, as well as to my office and all other interested parties known to the person appealing the decision. The notice of appeal to the IBIA must also certify that the appealing party sent copies to each of these parties. The IBIA will notify an appealing party of further appeal procedures. If no appeal is timely filed, this decision will become final for the Department of the Interior.

By my signature, I indicate my decision to implement Alternative 2 – Acquisition of Truckee River Water Rights, the Preferred Alternative and Proposed Action identified in the Truckee River Water Quality Settlement Agreement – Federal Water Rights Acquisition Program Final EIS.

(Name), Regional Director
Western Regional Office
Bureau of Indian Affairs

APPENDIX 10

SCOPING PACKAGE

**TEKOI BALEFULL PROJECT
SKULL VALLEY INDIAN RESERVATION, UTAH
ENVIRONMENTAL IMPACT STATEMENT**

Prepared for:

**Bureau of Indian Affairs
Western Regional Office
Phoenix, Arizona**

On Behalf of:

**Skull Valley Band of Goshute Indians
Skull Valley, Utah**

Prepared by:

**488 Environmental
PO Box 2731
Gallup, NM 87305**

November 2003

Table of Contents

Section 1. Scoping Summary

Section 2. Notice of Intent

Section 3. Public Information Meeting Materials

Section 4. Public Information Meeting Transcripts

Section 5. Comment Forms Received

Section 6. Written Comments Received

Section 1

Scoping Summary

Contents

- 1.1 Introduction
- 1.2 Notice of intent
- 1.3 Public Information Meetings
- 1.4 Other Comments

Table 1. Summary of Comments Received Verbally During Scoping Meetings

Table 2. Detail of Comment Forms Received

Table 3. Summary of Scoping Comments Received in Letter Form

Section 1

Scoping Summary for the Proposed Skull Valley Goshute Tekoi Balefill Landfill Project

1.1 Introduction

The Council on Environmental Quality Regulations at 40 CFR 1501.7 requires an early and open process to determine the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process is termed “scoping.” The scoping process is used to learn the concerns of individuals, groups, and agencies about a proposed project. Scoping is an integral part of the National Environmental Policy Act (NEPA) review process because it allows interested parties an opportunity to participate in developing a list of issues that will be discussed in an Environmental Impact Statement (EIS). As stated in the Bureau of Indian Affairs NEPA handbook, 30 BIAM Supplement 1, paragraph 6.3B, the preparation of an EIS begins with the scoping process. Paragraph 6.3B further states that the required public notice for the scoping process be included in the Notice of Intent to prepare an EIS.

1.2 Notice of Intent

A Notice of Intent (NOI) to prepare an EIS was published in the Federal Register on October 7, 2003 with a 30-day comment period. Public notices were also published in the Tooele Transcript Bulletin on October 9, 2003, and the Salt Lake Tribune on October 13, 2003. During the scoping period, comments on the project and EIS could be sent to the Bureau of Indian Affairs (BIA) or could be submitted during the public informational meetings that were held during the scoping period.

In addition to publishing the NOI, letters were sent out on October 9, 2003, to a mailing list of federal, state and local entities.

Copies of the NOI, the mailing list and the affidavits for the newspaper publishing are included in Section 2.

1.3 Public Information Meetings

Public information meetings were held Tuesday October 21, 2003 at the Utah State Extension Library, 151 North Main Street in Tooele, Utah and Wednesday October 22, 2003 at the Little America hotel, 500 South Main Street, Salt Lake City, Utah. The meetings were announced in the notice published in the federal register, newspapers and mailing list. Notices were posted at the reservation and are included in Section 3. The meetings were held from 6:30 p.m. to 8:30 p.m. The purpose of the meetings was to solicit public comments, views and suggestions to be addressed in the EIS. Meetings were held in a “classroom format” style with a short formal presentation to provide the public with ample project information and a maximum opportunity to voice their concerns or ideas by oral comments during the meeting.

Attendees were asked to sign in and four (4) informational handouts were provided. The handouts provided information about the proposed balefill (landfill) project, the Tribe and the BIA. Copies of the sign-in sheets and handouts are included in Section 3. Three (3) display boards were utilized to present project details and process to the public and solicit input. During formal presentation, these display boards were used as visual aids. The display boards, copies of which are provided in Section 3, included the following information:

- Map Showing General Vicinity of the Reservation and Proposed Project Area
- Photo of an Existing Balefill
- Map of the Proposed Project Area

The formal presentation began at 6:30 p.m. Ms. Amy L. Heuslein, BIA Western Regional Environmental Protection Officer, acted as moderator, advised attendees of the court reporter, and explained that the purpose of the meeting was to accept comments and concerns, which the EIS would analyze for the public. She introduced all of the project representatives, outlined the structure of the meetings, described the opportunities for public input and explained the role of the BIA in the EIS process.

Each formal presentation consisted of representatives of the Tribe, BIA, Reese Chambers Systems Consultants and 488 Environmental. A brief description of the role of each representative was explained during the presentation and is provided below:

- Skull Valley Band of Goshute Indians – Tribal background and objectives.
- BIA (Western Regional Office, Phoenix, Arizona) – Compliance with NEPA and describe role of the Unitah and Ouray Agency as the liaison between Tribe and BIA.
- Reese - Chambers System Consultants – Provide Project Informational Summary
- 488 Environmental – Contractor to the Skull Valley Tribe to prepare the EIS and review NEPA procedures and project timelines.

At both public informational meetings, a certified court reporter was available for participants to provide comments orally. A summary of these comments is provided in Table 1 and the transcripts are provided in Section 4.

A comment form was available at the sign-in table. Those comment forms could be completed and either handed in during the public informational meetings or mailed to the appropriate recipients anytime during the scoping period. The comments received on comment forms are included in typed form in Table 2 and in copy form in Section 5.

1.4 Other Comments

In response to the notices mailed out to the mailing list, three written comments were received during the scoping period. These comments are summarized in Table 3 and copies are included in Section 6.

Table 1. Summary of Comments Received Verbally During Scoping Meetings

Date	Originator	Summary of Scoping Comment
October 21, 2003, Tooele, Utah	Larry "Red" Bear Skull Valley Resident Gene White County Commissioner, Tooele County	<ol style="list-style-type: none"> 1. Wanted to know from where waste was being shipped. 2. Wanted to know if waste was going to be baled on site. 3. Wanted to know how many bales per flatbed and how many flatbed loads per day. 4. Wanted to know if road could handle that much weight from that many trucks. 5. Had same concerns as Mr. Bear.
October 22, 2003, Salt Lake City, Utah	NO VERBAL COMMENTS RECEIVED	BIA received a call on September 25, 2003, to add the following person to our mailing list: Leilani Hao PO Box 24333 Federal Way, Washington 98093 (253) 838-538

Table 2. Detail of Comment Forms Received

Date	Originator	Comments
October 21, 2003	None	None
October 22, 2003	None	None

Table 3. Summary of Scoping Comments Received in Letter Form

Date	Originator	Summary of Scoping Comments
October 30, 2003	State of Utah Department of Environmental Quality 288 North 1446 West Salt Lake City, UT 84114-4880	1. Wish to be added to “interested party” list and receive all notices related to the project.
November 5, 2003	Private Fuel Storage 7677 East Barry Avenue Englewood, CO 80111	2. Affirm that Private Fuel Storage is an “interested party” and wish to receive all notices related to project. 3. Issues listed in Notice of Intent are important issues and should be addressed.
November 7, 2003	US Environmental Protection Agency 999 18 th Street- Suite 300 Denver, CO 80202-2466	5. Want EIS to discuss how the Balefill will be regulated and overseen during siting, design, construction, operation, closure and post-closure. 6. State who will provide regulatory oversight form the Balefill, including permitting, inspections and enforcement. 7. Want to know who will conduct technical review of Balefill design. 8. Want to know who will monitor Balefill operations and maintenance. 9. What is planned if operational problems occur such as leachate discharge or lack of daily balefill cover. 10. EIS should discuss typical components of the Tribal Solid Waste Regulatory Program. 11. EIS should include enough information to determine if the facility is likely to meet the requirements of 40 CFR 258. 12. EIS should state if materials from other states/municipalities can be disposed of in the Balefill. 13. EIS should state if unbaled and/or unsorted waste can be disposed of in balefill. 14. EIS should state any contractual or environmental review required before

		<p>balefill can be sold or transferred.</p> <ol style="list-style-type: none">15. EIS should state procedure for a temporary or permanent shutdown if customer base becomes insufficient.16. EIS should state how the facility will guarantee financial assurance or bonding for reclamation, closure and post-closure.17. The cumulative impacts section should cover the many solid and hazardous waste and military activities in Tooele County.18. For water resources, the EIS should address hydrogeologic conditions, depth to groundwater, current and potential uses of groundwater, location of springs, impacts to alluvial areas, the amount of groundwater to be used by the project during construction and operation.19. EIS should include summaries of operating and closure plans and an analysis of visual impacts.20. EIS should address methane generation, its potential impacts and actions to be taken to mitigate the potential impacts.21. EIS should state difficulties in reclaiming desert areas and plans for the balefill.22. EIS should include discussion on birds as wildlife recourses and nuisance factors especially realed to leachate evaporation.23. Flight paths using Dugway Proving Grounds and the Air Force test facility should be investigated.
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Section 2
Notice of Intent

Department of the Interior, Bureau of Indian Affairs, Published Notice of Intent October 7, 2003, in the Federal Register, Volume 68, Number 194

Scoping Comment Solicitation Letter
Mailing List

Affidavit and Proof of Publication in the Tooele Transcript Bulletin, October 9, 2003

Affidavit and Proof of Publication in the Salt lake Tribune, October 13, 2003

Section 3
Public Information Meeting Materials

Notice of Public Meeting Posting for October 21 and 22, 2003 Meetings

Sign-in Sheets from October 21, 2003, Meeting

Sign-in Sheets form October 22, 2003, Meeting

Bureau of Indian Affairs Handout

BIA Mission Statement, Vision and Guiding Principals Handout

488 Environmental Handout

General Meeting Handout

- Agenda
- Tekoi Balefill Project Description
- Skull Valley Band of Goshite Indians Background
- CR Group Background
- Tekoi Balefill Contact List
- Comment Form
- Map of Skull Vazlley Area
- Photo of Balefill in Operation
- Map of Proposed Site

Display Boards

Section 4
Public Information Meeting Transcripts

Reporter's Transcript from October 21, 2003 Public Hearing

Reporter's Transcript from October 22, 2003 Public Hearing

Section 5
Comment Forms Received

No Comment Forms Received

Section 6
Written Comments Received

APPENDIX 11

DISCLOSURE (Disclaimer) STATEMENT

DISCLOSURE

Pursuant to the requirements of 40 CFR Part 1506.5, the Consultant declares under oath that it has no interest, financial or otherwise, in the outcome of this project.

Name	Date
Title	
Company	
Company Location (City & State)	

APPENDIX 12

National Environmental Policy Act

The National Environmental Policy Act of 1969, as amended

(Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, §§ 4(b), Sept. 13, 1982)

An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Environmental Policy Act of 1969."

Purpose

Sec. 2 [42 USC §§ 4321]. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

CONGRESSIONAL DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

Sec. 101 [42 USC §§ 4331].

(a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consist with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may --

- (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

- (2) assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- (3) attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
- (4) preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
- (5) achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
- (6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

(c) The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

Sec. 102 [42 USC §§ 4332]. The Congress authorizes and directs that, to the fullest extent possible: (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall --

- (A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment;
- (B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations;
- (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --
 - (i) the environmental impact of the proposed action,
 - (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
 - (iii) alternatives to the proposed action,
 - (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
 - (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement

and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

(D) Any detailed statement required under subparagraph ©) after January 1, 1970, for any major Federal action funded under a program of grants to States shall not be deemed to be legally insufficient solely by reason of having been prepared by a State agency or official, if:

- (i) the State agency or official has statewide jurisdiction and has the responsibility for such action,
- (ii) the responsible Federal official furnishes guidance and participates in such preparation,
- (iii) the responsible Federal official independently evaluates such statement prior to its approval and adoption, and
- (iv) after January 1, 1976, the responsible Federal official provides early notification to, and solicits the views of, any other State or any Federal land management entity of any action or any alternative thereto which may have significant impacts upon such State or affected Federal land management entity and, if there is any disagreement on such impacts, prepares a written assessment of such impacts and views for incorporation into such detailed statement.

The procedures in this subparagraph shall not relieve the Federal official of his responsibilities for the scope, objectivity, and content of the entire statement or of any other responsibility under this Act; and further, this subparagraph does not affect the legal sufficiency of statements prepared by State agencies with less than statewide jurisdiction.

(E) study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(F) recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(G) make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(H) initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(I) assist the Council on Environmental Quality established by title II of this Act.

Sec. 103 [42 USC §§ 4333]. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the

purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

Sec. 104 [42 USC §§ 4334]. Nothing in section 102 [42 USC §§ 4332] or 103 [42 USC §§ 4333] shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Sec. 105 [42 USC §§ 4335]. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

Sec. 201 [42 USC §§ 4341]. The President shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban and rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

Sec. 202 [42 USC §§ 4342]. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, aesthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

Sec. 203 [42 USC §§ 4343].

(a) The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

(b) Notwithstanding section 1342 of Title 31, the Council may accept and employ voluntary and uncompensated services in furtherance of the purposes of the Council.

Sec. 204 [42 USC §§ 4344]. It shall be the duty and function of the Council --

(1) to assist and advise the President in the preparation of the Environmental Quality Report required by section 201 [42 USC §§ 4341] of this title;

(2) to gather timely and authoritative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) to review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) to report at least once each year to the President on the state and condition of the environment; and

(8) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

Sec. 205 [42 USC §§ 4345]. In exercising its powers, functions, and duties under this Act, the Council shall --

(1) consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order No. 11472, dated May 29, 1969, and with such representatives of

science, industry, agriculture, labor, conservation organizations, State and local governments and other groups, as it deems advisable; and

(2) utilize, to the fullest extent possible, the services, facilities and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

Sec. 206 [42 USC §§ 4346]. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates [5 USC §§ 5313]. The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates [5 USC §§ 5315].

Sec. 207 [42 USC §§ 4346a]. The Council may accept reimbursements from any private nonprofit organization or from any department, agency, or instrumentality of the Federal Government, any State, or local government, for the reasonable travel expenses incurred by an officer or employee of the Council in connection with his attendance at any conference, seminar, or similar meeting conducted for the benefit of the Council.

Sec. 208 [42 USC §§ 4346b]. The Council may make expenditures in support of its international activities, including expenditures for: (1) international travel; (2) activities in implementation of international agreements; and (3) the support of international exchange programs in the United States and in foreign countries.

Sec. 209 [42 USC §§ 4347]. There are authorized to be appropriated to carry out the provisions of this chapter not to exceed \$300,000 for fiscal year 1970, \$700,000 for fiscal year 1971, and \$1,000,000 for each fiscal year thereafter.

THE ENVIRONMENTAL QUALITY IMPROVEMENT ACT, as amended (Pub. L. No. 91-224, Title II, April 3, 1970; Pub. L. No. 97-258, September 13, 1982; and Pub. L. No. 98-581, October 30, 1984.

42 USC §§ 4372.

(a) There is established in the Executive Office of the President an office to be known as the Office of Environmental Quality (hereafter in this chapter referred to as the "Office"). The Chairman of the Council on Environmental Quality established by Public Law 91-190 shall be the Director of the Office. There shall be in the Office a Deputy Director who shall be appointed by the President, by and with the advice and consent of the Senate.

(b) The compensation of the Deputy Director shall be fixed by the President at a rate not in excess of the annual rate of compensation payable to the Deputy Director of the Office of Management and Budget.

(c) The Director is authorized to employ such officers and employees (including experts and consultants) as may be necessary to enable the Office to carry out its functions ;under this chapter and Public Law 91-190, except that he may employ no more than ten specialists and other experts without regard to the provisions of Title 5, governing appointments in the competitive service, and pay such specialists and experts without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates, but no such specialist or expert shall be paid at a rate in excess of the maximum rate for GS-18 of the General Schedule under section 5332 of Title 5.

(d) In carrying out his functions the Director shall assist and advise the President on policies and programs of the Federal Government affecting environmental quality by --

- (1) providing the professional and administrative staff and support for the Council on Environmental Quality established by Public Law 91- 190;
- (2) assisting the Federal agencies and departments in appraising the effectiveness of existing and proposed facilities, programs, policies, and activities of the Federal Government, and those specific major projects designated by the President which do not require individual project authorization by Congress, which affect environmental quality;
- (3) reviewing the adequacy of existing systems for monitoring and predicting environmental changes in order to achieve effective coverage and efficient use of research facilities and other resources;
- (4) promoting the advancement of scientific knowledge of the effects of actions and technology on the environment and encouraging the development of the means to prevent or reduce adverse effects that endanger the health and well-being of man;
- (5) assisting in coordinating among the Federal departments and agencies those programs and activities which affect, protect, and improve environmental quality;
- (6) assisting the Federal departments and agencies in the development and interrelationship of environmental quality criteria and standards established throughout the Federal Government;

(7) collecting, collating, analyzing, and interpreting data and information on environmental quality, ecological research, and evaluation.

(e) The Director is authorized to contract with public or private agencies, institutions, and organizations and with individuals without regard to section 3324(a) and (b) of Title 31 and section 5 of Title 41 in carrying out his functions.

42 USC §§ 4373. Each Environmental Quality Report required by Public Law 91-190 shall, upon transmittal to Congress, be referred to each standing committee having jurisdiction over any part of the subject matter of the Report.

42 USC §§ 4374. There are hereby authorized to be appropriated for the operations of the Office of Environmental Quality and the Council on Environmental Quality not to exceed the following sums for the following fiscal years which sums are in addition to those contained in Public Law 91-190:

- (a) \$2,126,000 for the fiscal year ending September 30, 1979.
- (b) \$3,000,000 for the fiscal years ending September 30, 1980, and September 30, 1981.
- (c) \$44,000 for the fiscal years ending September 30, 1982, 1983, and 1984.
- (d) \$480,000 for each of the fiscal years ending September 30, 1985 and 1986.

42 USC §§ 4375.

(a) There is established an Office of Environmental Quality Management Fund (hereinafter referred to as the "Fund") to receive advance payments from other agencies or accounts that may be used solely to finance --

- (1) study contracts that are jointly sponsored by the Office and one or more other Federal agencies; and
- (2) Federal interagency environmental projects (including task forces) in which the Office participates.

(b) Any study contract or project that is to be financed under subsection (a) of this section may be initiated only with the approval of the Director.

(c) The Director shall promulgate regulations setting forth policies and procedures for operation of the Fund.

APPENDIX 13

Council on Environmental Quality

REGULATIONS For Implementing The Procedural Provisions Of The NATIONAL ENVIRONMENTAL POLICY ACT

PART 1500 – PURPOSE, POLICY, AND MANDATE

Sec.

- 1500.1 Purpose.
- 1500.2 Policy.
- 1500.3 Mandate.
- 1500.4 Reducing paperwork.
- 1500.5 Reducing delay.
- 1500.6 Agency authority.

PART 1501 – NEPA AND AGENCY PLANNING

Sec.

- 1501.1 Purpose.
- 1501.2 Apply NEPA early in the process.
- 1501.3 When to prepare an environmental assessment.
- 1501.4 Whether to prepare an environmental impact statement.
- 1501.5 Lead agencies.
- 1501.6 Cooperating agencies.
- 1501.7 Scoping.
- 1501.8 Time limits.

PART 1502 – ENVIRONMENTAL IMPACT STATEMENT

Sec.

- 1502.1 Purpose.
- 1502.2 Implementation.
- 1502.3 Statutory requirements for statements.
- 1502.4 Major Federal actions requiring the preparation of environmental impact statements.
- 1502.5 Timing.
- 1502.6 Interdisciplinary preparation.
- 1502.7 Page limits.
- 1502.8 Writing.
- 1502.9 Draft, final, and supplemental statements.
- 1502.10 Recommended format.
- 1502.11 Cover sheet.
- 1502.12 Summary.
- 1502.13 Purpose and need.
- 1502.14 Alternatives including the proposed action.
- 1502.15 Affected environment.
- 1502.16 Environmental consequences.
- 1502.17 List of preparers.
- 1502.18 Appendix.
- 1502.19 Circulation of the environmental impact statement.
- 1502.20 Tiering.
- 1502.21 Incorporation by reference.
- 1502.22 Incomplete or unavailable information.
- 1502.23 Cost-benefit analysis.
- 1502.24 Methodology and scientific accuracy.
- 1502.25 Environmental review and consultation requirements.

PART 1503 – COMMENTING

Sec.

- 1503.1 Inviting comments.
- 1503.2 Duty to comment.
- 1503.3 Specificity of comments.
- 1503.4 Response to comments.

PART 1504 – PREDECISION REFERRALS TO THE COUNCIL OF PROPOSED FEDERAL ACTIONS DETERMINED TO BE ENVIRONMENTALLY UNSATISFACTORY

Sec.

- 1504.1 Purpose.
- 1504.2 Criteria for referral.
- 1504.3 Procedure for referrals and response.

PART 1505 – NEPA AND AGENCY DECISIONMAKING

Sec.

- 1505.1 Agency decisionmaking procedures.
- 1505.2 Record of decision in cases requiring environmental impact statements.
- 1505.3 Implementing the decision.

PART 1506 – OTHER REQUIREMENTS OF NEPA

Sec.

- 1506.1 Limitations on actions during NEPA process.
- 1506.2 Elimination of duplication with State and local procedures.
- 1506.3 Adoption.
- 1506.4 Combining documents.
- 1506.5 Agency responsibility.
- 1506.6 Public involvement.
- 1506.7 Further guidance.
- 1506.8 Proposals for legislation.
- 1506.9 Filing requirements.
- 1506.10 Timing of agency action.
- 1506.11 Emergencies.
- 1506.12 Effective date.

PART 1507 – AGENCY COMPLIANCE

Sec.

- 1507.1 Compliance.
- 1507.2 Agency capability to comply.
- 1507.3 Agency procedures.

PART 1508 – TERMINOLOGY AND INDEX

Sec.

- 1508.1 Terminology.
- 1508.2 Act.
- 1508.3 Affecting.
- 1508.4 Categorical exclusion.
- 1508.5 Cooperating agency.
- 1508.6 Council.
- 1508.7 Cumulative impact.
- 1508.8 Effects.
- 1508.9 Environmental assessment.
- 1508.10 Environmental document.
- 1508.11 Environmental impact statement.
- 1508.12 Federal agency.
- 1508.13 Finding of no significant impact.
- 1508.14 Human environment.
- 1508.15 Jurisdiction by law.
- 1508.16 Lead agency.
- 1508.17 Legislation.
- 1508.18 Major Federal action.
- 1508.19 Matter.
- 1508.20 Mitigation.
- 1508.21 NEPA process.
- 1508.22 Notice of intent.
- 1508.23 Proposal.
- 1508.24 Referring agency.
- 1508.25 Scope.
- 1508.26 Special expertise.
- 1508.27 Significantly.
- 1508.28 Tiering.

PART 1500 – PURPOSE, POLICY, AND MANDATE

- Sec. 1500.1 Purpose.
- 1500.2 Policy.
- 1500.3 Mandate.
- 1500.4 Reducing paperwork.
- 1500.5 Reducing delay.
- 1500.6 Agency authority.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609) and E.O. 11514, Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 55990, Nov. 28, 1978, unless otherwise noted.

Sec. 1500.1 Purpose.

(a) The National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment. It establishes policy, sets goals (section 101), and provides means (section 102) for carrying out the policy. Section 102(2) contains "action-forcing" provisions to make sure that federal agencies act according to the letter and spirit of the Act. The regulations that follow implement section 102(2). Their purpose is to tell federal agencies what they must do to comply with the procedures and achieve the goals of the Act. The President, the federal agencies, and the courts share responsibility for enforcing the Act so as to achieve the substantive requirements of section 101.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.

(c) Ultimately, of course, it is not better documents but better decisions that count. NEPA's purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. These regulations provide the direction to achieve this purpose.

Sec. 1500.2 Policy.

Federal agencies shall to the fullest extent possible:

- (a) Interpret and administer the policies, regulations, and public laws of the United States in accordance with the policies set forth in the Act and in these regulations.
- (b) Implement procedures to make the NEPA process more useful to decisionmakers and the public; to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and alternatives. Environmental impact statements shall be concise, clear, and to the point, and shall be supported by evidence that agencies have made the necessary environmental analyses.
- (c) Integrate the requirements of NEPA with other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively.
- (d) Encourage and facilitate public involvement in decisions which affect the quality of the human environment.
- (e) Use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.
- (f) Use all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.

Sec. 1500.3 Mandate.

Parts 1500 through 1508 of this title provide regulations applicable to and binding on all Federal agencies for implementing the procedural provisions of the National Environmental Policy Act of 1969, as amended (Pub. L. 91-190, 42 U.S.C. 4321 et seq.) (NEPA or the Act) except where compliance would be inconsistent with other statutory requirements. These regulations are issued pursuant to NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.) section 309 of the Clean Air Act, as amended (42 U.S.C. 7609) and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977). These regulations, unlike the predecessor guidelines, are not confined to sec. 102(2)(C) (environmental impact statements). The regulations apply to the whole of section 102(2). The provisions of the Act and of these regulations must be read together as a whole in order to comply with the spirit and letter of the law. It is the Council's intention that judicial review of agency compliance with these regulations not occur before an agency has filed the final environmental impact statement, or has made a final finding of no significant impact (when such a finding will result in action affecting the environment), or takes action that will result in irreparable injury. Furthermore, it is the Council's intention that any trivial violation of these regulations not give rise to any independent cause of action.

Sec. 1500.4 Reducing paperwork.

Agencies shall reduce excessive paperwork by:

- (a) Reducing the length of environmental impact statements (Sec. 1502.2(c)), by means such as setting appropriate page limits (Secs. 1501.7(b)(1) and 1502.7).
- (b) Preparing analytic rather than encyclopedic environmental impact statements (Sec. 1502.2(a)).
- (c) Discussing only briefly issues other than significant ones (Sec. 1502.2(b)).
- (d) Writing environmental impact statements in plain language (Sec. 1502.8).
- (e) Following a clear format for environmental impact statements (Sec. 1502.10).
- (f) Emphasizing the portions of the environmental impact statement that are useful to decisionmakers and the public (Secs. 1502.14 and 1502.15) and reducing emphasis on background material (Sec. 1502.16).
- (g) Using the scoping process, not only to identify significant environmental issues deserving of study, but also to de-emphasize insignificant issues, narrowing the scope of the environmental impact statement process accordingly (Sec. 1501.7).
- (h) Summarizing the environmental impact statement (Sec. 1502.12) and circulating the summary instead of the entire environmental impact statement if the latter is unusually long (Sec. 1502.19).
- (i) Using program, policy, or plan environmental impact statements and tiering from statements of broad scope to those of narrower scope, to eliminate repetitive discussions of the same issues (Secs. 1502.4 and 1502.20).
- (j) Incorporating by reference (Sec. 1502.21).
- (k) Integrating NEPA requirements with other environmental review and consultation requirements (Sec. 1502.25).
- (l) Requiring comments to be as specific as possible (Sec. 1503.3).
- (m) Attaching and circulating only changes to the draft environmental impact statement, rather than rewriting and circulating the entire statement when changes are minor (Sec. 1503.4(c)).
- (n) Eliminating duplication with State and local procedures, by providing for joint preparation (Sec. 1506.2), and with other Federal procedures, by providing that an agency may adopt appropriate environmental documents prepared by another agency (Sec. 1506.3).
- (o) Combining environmental documents with other documents (Sec. 1506.4).
- (p) Using categorical exclusions to define categories of actions which do not individually or cumulatively have a significant effect on the human environment and which are therefore exempt from requirements to prepare an environmental impact statement (Sec. 1508.4).

(q) Using a finding of no significant impact when an action not otherwise excluded will not have a significant effect on the human environment and is therefore exempt from requirements to prepare an environmental impact statement (Sec. 1508.13).

[43 FR 55990, Nov. 29, 1978; 44 FR 873, Jan. 3, 1979]

Sec. 1500.5 Reducing delay.

Agencies shall reduce delay by:

- (a) Integrating the NEPA process into early planning (Sec. 1501.2).
- (b) Emphasizing interagency cooperation before the environmental impact statement is prepared, rather than submission of adversary comments on a completed document (Sec. 1501.6).
- (c) Insuring the swift and fair resolution of lead agency disputes (Sec. 1501.5).
- (d) Using the scoping process for an early identification of what are and what are not the real issues (Sec. 1501.7).
- (e) Establishing appropriate time limits for the environmental impact statement process (Secs. 1501.7(b)(2) and 1501.8).
- (f) Preparing environmental impact statements early in the process (Sec. 1502.5).
- (g) Integrating NEPA requirements with other environmental review and consultation requirements (Sec. 1502.25).
- (h) Eliminating duplication with State and local procedures by providing for joint preparation (Sec. 1506.2) and with other Federal procedures by providing that an agency may adopt appropriate environmental documents prepared by another agency (Sec. 1506.3).
- (i) Combining environmental documents with other documents (Sec. 1506.4).
- (j) Using accelerated procedures for proposals for legislation (Sec. 1506.8).
- (k) Using categorical exclusions to define categories of actions which do not individually or cumulatively have a significant effect on the human environment (Sec. 1508.4) and which are therefore exempt from requirements to prepare an environmental impact statement.
- (l) Using a finding of no significant impact when an action not otherwise excluded will not have a significant effect on the human environment (Sec. 1508.13) and is therefore exempt from requirements to prepare an environmental impact statement.

Sec. 1500.6 Agency authority.

Each agency shall interpret the provisions of the Act as a supplement to its existing authority and as a mandate to view traditional policies and missions in the light of the Act's national environmental objectives. Agencies shall review their policies, procedures, and regulations accordingly and revise them as necessary to insure full compliance with the purposes and provisions of the Act. The phrase "to the fullest extent possible" in section 102 means that each agency of the Federal Government shall comply with that section unless existing law applicable to the agency's operations expressly prohibits or makes compliance impossible.

PART 1501 – NEPA AND AGENCY PLANNING

- Sec. 1501.1 Purpose.
- 1501.2 Apply NEPA early in the process.
- 1501.3 When to prepare an environmental assessment.
- 1501.4 Whether to prepare an environmental impact statement.
- 1501.5 Lead agencies.
- 1501.6 Cooperating agencies.
- 1501.7 Scoping.
- 1501.8 Time limits.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609, and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 55992, Nov. 29, 1978, unless otherwise noted.

Sec. 1501.1 Purpose.

The purposes of this part include:

- (a) Integrating the NEPA process into early planning to insure appropriate consideration of NEPA's policies and to eliminate delay.
- (b) Emphasizing cooperative consultation among agencies before the environmental impact statement is prepared rather than submission of adversary comments on a completed document.
- (c) Providing for the swift and fair resolution of lead agency disputes.
- (d) Identifying at an early stage the significant environmental issues deserving of study and de-emphasizing insignificant issues, narrowing the scope of the environmental impact statement accordingly.
- (e) Providing a mechanism for putting appropriate time limits on the environmental impact statement process.

Sec. 1501.2 Apply NEPA early in the process.

Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. Each agency shall:

- (a) Comply with the mandate of section 102(2)(A) to "utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment," as specified by Sec. 1507.2.
- (b) Identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses. Environmental documents and appropriate analyses shall be circulated and reviewed at the same time as other planning documents.
- (c) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources as provided by section 102(2)(E) of the Act.
- (d) Provide for cases where actions are planned by private applicants or other non-Federal entities before Federal involvement so that:
 - (1) Policies or designated staff are available to advise potential applicants of studies or other information foreseeably required for later Federal action.
 - (2) The Federal agency consults early with appropriate State and local agencies and Indian tribes and with interested private persons and organizations when its own involvement is reasonably foreseeable.
 - (3) The Federal agency commences its NEPA process at the earliest possible time.

Sec. 1501.3 When to prepare an environmental assessment.

- (a) Agencies shall prepare an environmental assessment (Sec. 1508.9) when necessary under the procedures adopted by individual agencies to supplement these regulations as described in Sec. 1507.3. An assessment is not necessary if the agency has decided to prepare an environmental impact statement.
- (b) Agencies may prepare an environmental assessment on any action at any time in order to assist agency planning and decisionmaking.

Sec. 1501.4 Whether to prepare an environmental impact statement.

In determining whether to prepare an environmental impact statement the Federal agency shall:

- (a) Determine under its procedures supplementing these regulations (described in Sec. 1507.3) whether the proposal is one which:

- (1) Normally requires an environmental impact statement, or
- (2) Normally does not require either an environmental impact statement or an environmental assessment (categorical exclusion).

(b) If the proposed action is not covered by paragraph (a) of this section, prepare an environmental assessment (Sec. 1508.9). The agency shall involve environmental agencies, applicants, and the public, to the extent practicable, in preparing assessments required by Sec. 1508.9(a)(1).

(c) Based on the environmental assessment make its determination whether to prepare an environmental impact statement.

(d) Commence the scoping process (Sec. 1501.7), if the agency will prepare an environmental impact statement.

(e) Prepare a finding of no significant impact (Sec. 1508.13), if the agency determines on the basis of the environmental assessment not to prepare a statement.

- (1) The agency shall make the finding of no significant impact available to the affected public as specified in Sec. 1506.6.
- (2) In certain limited circumstances, which the agency may cover in its procedures under Sec. 1507.3, the agency shall make the finding of no significant impact available for public review (including State and area wide clearinghouses) for 30 days before the agency makes its final determination whether to prepare an environmental impact statement and before the action may begin. The circumstances are:
 - (i) The proposed action is, or is closely similar to, one which normally requires the preparation of an environmental impact statement under the procedures adopted by the agency pursuant to Sec. 1507.3, or
 - (ii) The nature of the proposed action is one without precedent.

Sec. 1501.5 Lead agencies.

(a) A lead agency shall supervise the preparation of an environmental impact statement if more than one Federal agency either:

- (1) Proposes or is involved in the same action; or
- (2) Is involved in a group of actions directly related to each other because of their functional interdependence or geographical proximity.

(b) Federal, State, or local agencies, including at least one Federal agency, may act as joint lead agencies to prepare an environmental impact statement (Sec. 1506.2).

(c) If an action falls within the provisions of paragraph (a) of this section the potential lead agencies shall determine by letter or memorandum which agency shall be the lead agency and which shall be cooperating agencies. The agencies shall resolve the lead agency question so as not to cause delay. If there is disagreement among the agencies, the following factors (which are listed in order of descending importance) shall determine lead agency designation:

- (1) Magnitude of agency's involvement.
- (2) Project approval/disapproval authority.
- (3) Expertise concerning the action's environmental effects.
- (4) Duration of agency's involvement.
- (5) Sequence of agency's involvement.

(d) Any Federal agency, or any State or local agency or private person substantially affected by the absence of lead agency designation, may make a written request to the potential lead agencies that a lead agency be designated.

(e) If Federal agencies are unable to agree on which agency will be the lead agency or if the procedure described in paragraph (c) of this section has not resulted within 45 days in a lead agency designation, any of the agencies or persons concerned may file a request with the Council asking it to

determine which Federal agency shall be the lead agency. A copy of the request shall be transmitted to each potential lead agency. The request shall consist of:

- (1) A precise description of the nature and extent of the proposed action.
- (2) A detailed statement of why each potential lead agency should or should not be the lead agency under the criteria specified in paragraph (c) of this section.

(f) A response may be filed by any potential lead agency concerned within 20 days after a request is filed with the Council. The Council shall determine as soon as possible but not later than 20 days after receiving the request and all responses to it which Federal agency shall be the lead agency and which other Federal agencies shall be cooperating agencies.

[43 FR 55992, Nov. 29, 1978; 44 FR 873, Jan. 3, 1979]

Sec. 1501.6 Cooperating agencies.

The purpose of this section is to emphasize agency cooperation early in the NEPA process. Upon request of the lead agency, any other Federal agency which has jurisdiction by law shall be a cooperating agency. In addition any other Federal agency which has special expertise with respect to any environmental issue, which should be addressed in the statement may be a cooperating agency upon request of the lead agency. An agency may request the lead agency to designate it a cooperating agency.

(a) The lead agency shall:

- (1) Request the participation of each cooperating agency in the NEPA process at the earliest possible time.
- (2) Use the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise, to the maximum extent possible consistent with its responsibility as lead agency.
- (3) Meet with a cooperating agency at the latter's request.

(b) Each cooperating agency shall:

- (1) Participate in the NEPA process at the earliest possible time.
- (2) Participate in the scoping process (described below in Sec. 1501.7).
- (3) Assume on request of the lead agency responsibility for developing information and preparing environmental analyses including portions of the environmental impact statement concerning which the cooperating agency has special expertise.
- (4) Make available staff support at the lead agency's request to enhance the latter's interdisciplinary capability.
- (5) Normally use its own funds. The lead agency shall, to the extent available funds permit, fund those major activities or analyses it requests from cooperating agencies. Potential lead agencies shall include such funding requirements in their budget requests.

(c) A cooperating agency may in response to a lead agency's request for assistance in preparing the environmental impact statement (described in paragraph (b)(3), (4), or (5) of this section) reply that other program commitments preclude any involvement or the degree of involvement requested in the action that is the subject of the environmental impact statement. A copy of this reply shall be submitted to the Council.

Sec. 1501.7 Scoping.

There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping. As soon as practicable after its decision to prepare an environmental impact statement and before the scoping process the lead agency shall publish a notice of intent (Sec. 1508.22) in the Federal Register except as provided in Sec. 1507.3(e).

- (a) As part of the scoping process the lead agency shall:
- (1) Invite the participation of affected Federal, State, and local agencies, any affected Indian tribe, the proponent of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds), unless there is a limited exception under Sec. 1507.3(c). An agency may give notice in accordance with Sec. 1506.6.
 - (2) Determine the scope (Sec. 1508.25) and the significant issues to be analyzed in depth in the environmental impact statement.
 - (3) Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
 - (4) Allocate assignments for preparation of the environmental impact statement among the lead and cooperating agencies, with the lead agency retaining responsibility for the statement.
 - (5) Indicate any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the impact statement under consideration.
 - (6) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the environmental impact statement as provided in Sec. 1502.25.
 - (7) Indicate the relationship between the timing of the preparation of environmental analyses and the agency's tentative planning and decisionmaking schedule.
- (b) As part of the scoping process the lead agency may:
- (1) Set page limits on environmental documents (Sec. 1502.7).
 - (2) Set time limits (Sec. 1501.8).
 - (3) Adopt procedures under Sec. 1507.3 to combine its environmental assessment process with its scoping process.
 - (4) Hold an early scoping meeting or meetings which may be integrated with any other early planning meeting the agency has. Such a scoping meeting will often be appropriate when the impacts of a particular action are confined to specific sites.
- (c) An agency shall revise the determinations made under paragraphs (a) and (b) of this section if substantial changes are made later in the proposed action, or if significant new circumstances or information arise which bear on the proposal or its impacts.

Sec. 1501.8 Time limits.

Although the Council has decided that prescribed universal time limits for the entire NEPA process are too inflexible, Federal agencies are encouraged to set time limits appropriate to individual actions (consistent with the time intervals required by Sec. 1506.10). When multiple agencies are involved the reference to agency below means lead agency.

- (a) The agency shall set time limits if an applicant for the proposed action requests them: *Provided*, That the limits are consistent with the purposes of NEPA and other essential considerations of national policy.
- (b) The agency may:
- (1) Consider the following factors in determining time limits:
 - (i) Potential for environmental harm.
 - (ii) Size of the proposed action.
 - (iii) State of the art of analytic techniques.

- (iv) Degree of public need for the proposed action, including the consequences of delay.
 - (v) Number of persons and agencies affected.
 - (vi) Degree to which relevant information is known and if not known the time required for obtaining it.
 - (vii) Degree to which the action is controversial.
 - (viii) Other time limits imposed on the agency by law, regulations, or executive order.
- (2) Set overall time limits or limits for each constituent part of the NEPA process, which may include:
- (i) Decision on whether to prepare an environmental impact statement (if not already decided).
 - (ii) Determination of the scope of the environmental impact statement.
 - (iii) Preparation of the draft environmental impact statement.
 - (iv) Review of any comments on the draft environmental impact statement from the public and agencies.
 - (v) Preparation of the final environmental impact statement.
 - (vi) Review of any comments on the final environmental impact statement.
 - (vii) Decision on the action based in part on the environmental impact statement.
- (3) Designate a person (such as the project manager or a person in the agency's office with NEPA responsibilities) to expedite the NEPA process.
- (c) State or local agencies or members of the public may request a Federal Agency to set time limits.

PART 1502 – ENVIRONMENTAL IMPACT STATEMENT

- Sec. 1502.1 Purpose.
- 1502.2 Implementation.
- 1502.3 Statutory requirements for statements.
- 1502.4 Major Federal actions requiring the preparation of environmental impact statements.
- 1502.5 Timing.
- 1502.6 Interdisciplinary preparation.
- 1502.7 Page limits.
- 1502.8 Writing.
- 1502.9 Draft, final, and supplemental statements.
- 1502.10 Recommended format.
- 1502.11 Cover sheet.
- 1502.12 Summary.
- 1502.13 Purpose and need.
- 1502.14 Alternatives including the proposed action.
- 1502.15 Affected environment.
- 1502.16 Environmental consequences.
- 1502.17 List of preparers.
- 1502.18 Appendix.
- 1502.19 Circulation of the environmental impact statement.
- 1502.20 Tiering.
- 1502.21 Incorporation by reference.
- 1502.22 Incomplete or unavailable information.
- 1502.23 Cost-benefit analysis.
- 1502.24 Methodology and scientific accuracy.
- 1502.25 Environmental review and consultation requirements.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 55994, Nov. 29, 1978, unless otherwise noted.

Sec. 1502.1 Purpose.

The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

Sec. 1502.2 Implementation.

To achieve the purposes set forth in Sec. 1502.1 agencies shall prepare environmental impact statements in the following manner:

- (a) Environmental impact statements shall be analytic rather than encyclopedic.
- (b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.
- (c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations. Length should vary first with potential environmental problems and then with project size.
- (d) Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.
- (e) The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.
- (f) Agencies shall not commit resources prejudicing selection of alternatives before making a final decision (Sec. 1506.1).
- (g) Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

Sec. 1502.3 Statutory requirements for statements.

As required by sec. 102(2)(C) of NEPA environmental impact statements (Sec. 1508.11) are to be included in every recommendation or report.

- On proposals (Sec. 1508.23).
- For legislation and (Sec. 1508.17).
- Other major Federal actions (Sec. 1508.18).
- Significantly (Sec. 1508.27).
- Affecting (Secs. 1508.3, 1508.8).
- The quality of the human environment (Sec. 1508.14).

Sec. 1502.4 Major Federal actions requiring the preparation of environmental impact statements.

- (a) Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined. Agencies shall use the criteria for scope (Sec. 1508.25) to determine which proposal(s) shall be the subject of a particular statement. Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement.

(b) Environmental impact statements may be prepared, and are sometimes required, for broad Federal actions such as the adoption of new agency programs or regulations (Sec. 1508.18). Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decisionmaking.

(c) When preparing statements on broad actions (including proposals by more than one agency), agencies may find it useful to evaluate the proposal(s) in one of the following ways:

- (1) Geographically, including actions occurring in the same general location, such as body of water, region, or metropolitan area.
- (2) Generically, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.
- (3) By stage of technological development including federal or federally assisted research, development or demonstration programs for new technologies which, if applied, could significantly affect the quality of the human environment. Statements shall be prepared on such programs and shall be available before the program has reached a stage of investment or commitment to implementation likely to determine subsequent development or restrict later alternatives.

(d) Agencies shall as appropriate employ scoping (Sec. 1501.7), tiering (Sec. 1502.20), and other methods listed in Secs. 1500.4 and 1500.5 to relate broad and narrow actions and to avoid duplication and delay.

Sec. 1502.5 Timing.

An agency shall commence preparation of an environmental impact statement as close as possible to the time the agency is developing or is presented with a proposal (Sec. 1508.23) so that preparation can be completed in time for the final statement to be included in any recommendation or report on the proposal. The statement shall be prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made (Secs. 1500.2(c), 1501.2, and 1502.2). For instance:

(a) For projects directly undertaken by Federal agencies the environmental impact statement shall be prepared at the feasibility analysis (go-no go) stage and may be supplemented at a later stage if necessary.

(b) For applications to the agency appropriate environmental assessments or statements shall be commenced no later than immediately after the application is received. Federal agencies are encouraged to begin preparation of such assessments or statements earlier, preferably jointly with applicable State or local agencies.

(c) For adjudication, the final environmental impact statement shall normally precede the final staff recommendation and that portion of the public hearing related to the impact study. In appropriate circumstances the statement may follow preliminary hearings designed to gather information for use in the statements.

(d) For informal rulemaking the draft environmental impact statement shall normally accompany the proposed rule.

Sec. 1502.6 Interdisciplinary preparation.

Environmental impact statements shall be prepared using an inter-disciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts (section 102(2)(A) of the Act). The disciplines of the preparers shall be appropriate to the scope and issues identified in the scoping process (Sec. 1501.7).

Sec. 1502.7 Page limits.

The text of final environmental impact statements (e.g., paragraphs (d) through (g) of Sec. 1502.10) shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages.

Sec. 1502.8 Writing.

Environmental impact statements shall be written in plain language and may use appropriate graphics so that decisionmakers and the public can readily understand them. Agencies should employ writers of clear prose or editors to write, review, or edit statements, which will be based upon the analysis and supporting data from the natural and social sciences and the environmental design arts.

Sec. 1502.9 Draft, final, and supplemental statements.

Except for proposals for legislation as provided in Sec. 1506.8 environmental impact statements shall be prepared in two stages and may be supplemented.

(a) Draft environmental impact statements shall be prepared in accordance with the scope decided upon in the scoping process. The lead agency shall work with the cooperating agencies and shall obtain comments as required in Part 1503 of this chapter. The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion. The agency shall make every effort to disclose and discuss at appropriate points in the draft statement all major points of view on the environmental impacts of the alternatives including the proposed action.

(b) Final environmental impact statements shall respond to comments as required in Part 1503 of this chapter. The agency shall discuss at appropriate points in the final statement any responsible opposing view which was not adequately discussed in the draft statement and shall indicate the agency's response to the issues raised.

(c) Agencies:

- (1) Shall prepare supplements to either draft or final environmental impact statements if:
 - (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
 - (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.
- (2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.
- (3) Shall adopt procedures for introducing a supplement into its formal administrative record, if such a record exists.
- (4) Shall prepare, circulate, and file a supplement to a statement in the same fashion (exclusive of scoping) as a draft and final statement unless alternative procedures are approved by the Council.

Sec. 1502.10 Recommended format.

Agencies shall use a format for environmental impact statements which will encourage good analysis and clear presentation of the alternatives including the proposed action. The following standard format for environmental impact statements should be followed unless the agency determines that there is a compelling reason to do otherwise:

- (a) Cover sheet.
- (b) Summary.
- (c) Table of contents.
- (d) Purpose of and need for action.
- (e) Alternatives including proposed action (sections 102(2)(C)(iii) and 102(2)(E) of the Act).
- (f) Affected environment.
- (g) Environmental consequences (especially sections 102(2)(C)(i), (ii), (iv), and (v) of the Act).
- (h) List of preparers.
- (l) List of Agencies, Organizations, and persons to whom copies of the statement are sent.

- (j) Index.
- (k) Appendices (if any).

If a different format is used, it shall include paragraphs (a), (b), (c), (h), (l), and (j), of this section and shall include the substance of paragraphs (d), (e), (f), (g), and (k) of this section, as further described in Secs. 1502.11 through 1502.18, in any appropriate format.

Sec. 1502.11 Cover sheet.

The cover sheet shall not exceed one page. It shall include:

- (a) A list of the responsible agencies including the lead agency and any cooperating agencies.
- (b) The title of the proposed action that is the subject of the statement (and if appropriate the titles of related cooperating agency actions), together with the State(s) and county(ies) (or other jurisdiction if applicable) where the action is located.
- (c) The name, address, and telephone number of the person at the agency who can supply further information.
- (d) A designation of the statement as a draft, final, or draft or final supplement.
- (e) A one paragraph abstract of the statement.
- (f) The date by which comments must be received (computed in cooperation with EPA under Sec. 1506.10).

The information required by this section may be entered on Standard Form 424 (in items 4, 6, 7, 10, and 18).

Sec. 1502.12 Summary.

Each environmental impact statement shall contain a summary which adequately and accurately summarizes the statement. The summary shall stress the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the choice among alternatives). The summary will normally not exceed 15 pages.

Sec. 1502.13 Purpose and need.

The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.

Sec. 1502.14 Alternatives including the proposed action.

This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of no action.
- (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

Sec. 1502.15 Affected environment.

The environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an environmental impact statement.

Sec. 1502.16 Environmental consequences.

This section forms the scientific and analytic basis for the comparisons under Sec. 1502.14. It shall consolidate the discussions of those elements required by sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA which are within the scope of the statement and as much of section 102(2)(C)(iii) as is necessary to support the comparisons. The discussion will include the environmental impacts of the alternatives including the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented. This section should not duplicate discussions in Sec. 1502.14. It shall include discussions of:

- (a) Direct effects and their significance (Sec. 1508.8).
- (b) Indirect effects and their significance (Sec. 1508.8).
- (c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned. (See Sec. 1506.2(d).)
- (d) The environmental effects of alternatives including the proposed action. The comparisons under Sec. 1502.14 will be based on this discussion.
- (e) Energy requirements and conservation potential of various alternatives and mitigation measures.
- (f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.
- (g) Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures.
- (h) Means to mitigate adverse environmental impacts (if not fully covered under Sec. 1502.14(f)).

[43 FR 55994, Nov. 29, 1978; 44 FR 873, Jan. 3, 1979]

Sec. 1502.17 List of preparers.

The environmental impact statement shall list the names, together with their qualifications (expertise, experience, professional disciplines), of the persons who were primarily responsible for preparing the environmental impact statement or significant background papers, including basic components of the statement (Secs. 1502.6 and 1502.8). Where possible the persons who are responsible for a particular analysis, including analyses in background papers, shall be identified. Normally the list will not exceed two pages.

Sec. 1502.18 Appendix.

If an agency prepares an appendix to an environmental impact statement the appendix shall:

- (a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference (Sec. 1502.21)).
- (b) Normally consist of material which substantiates any analysis fundamental to the impact statement.
- (c) Normally be analytic and relevant to the decision to be made.
- (d) Be circulated with the environmental impact statement or be readily available on request.

Sec. 1502.19 Circulation of the environmental impact statement.

Agencies shall circulate the entire draft and final environmental impact statements except for certain appendices as provided in Sec. 1502.18(d) and unchanged statements as provided in Sec. 1503.4(c). However, if the statement is unusually long, the agency may circulate the summary instead, except that the entire statement shall be furnished to:

- (a) Any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved and any appropriate Federal, State or local agency authorized to develop and enforce environmental standards.
- (b) The applicant, if any.
- (c) Any person, organization, or agency requesting the entire environmental impact statement.
- (d) In the case of a final environmental impact statement any person, organization, or agency which submitted substantive comments on the draft.

If the agency circulates the summary and thereafter receives a timely request for the entire statement and for additional time to comment, the time for that requestor only shall be extended by at least 15 days beyond the minimum period.

Sec. 1502.20 Tiering.

Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (Sec. 1508.28). Whenever a broad environmental impact statement has been prepared (such as a program or policy statement) and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action) the subsequent statement or environmental assessment need only summarize the issues discussed in the broader statement and incorporate discussions from the broader statement by reference and shall concentrate on the issues specific to the subsequent action. The subsequent document shall state where the earlier document is available. Tiering may also be appropriate for different stages of actions. (Section 1508.28).

Sec. 1502.21 Incorporation by reference.

Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference.

Sec. 1502.22 Incomplete or unavailable information.

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

- (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.
- (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:
 - (1) A statement that such information is incomplete or unavailable;
 - (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
 - (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and

- (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

(c) The amended regulation will be applicable to all environmental impact statements for which a Notice of Intent (40 CFR 1508.22) is published in the Federal Register on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation.

[51 FR 15625, Apr. 25, 1986]

Sec. 1502.23 Cost-benefit analysis.

If a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences. To assess the adequacy of compliance with section 102(2)(B) of the Act the statement shall, when a cost-benefit analysis is prepared, discuss the relationship between that analysis and any analyses of unquantified environmental impacts, values, and amenities. For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations. In any event, an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.

Sec. 1502.24 Methodology and scientific accuracy.

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.

Sec. 1502.25 Environmental review and consultation requirements.

(a) To the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and other environmental review laws and executive orders.

(b) The draft environmental impact statement shall list all Federal permits, licenses, and other entitlements which must be obtained in implementing the proposal. If it is uncertain whether a Federal permit, license, or other entitlement is necessary, the draft environmental impact statement shall so indicate.

PART 1503 – COMMENTING

- Sec. 1503.1 Inviting comments.
1503.2 Duty to comment.
1503.3 Specificity of comments.
1503.4 Response to comments.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 55997, Nov. 29, 1978, unless otherwise noted.

Sec. 1503.1 Inviting comments.

(a) After preparing a draft environmental impact statement and before preparing a final environmental impact statement the agency shall:

- (1) Obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved or which is authorized to develop and enforce environmental standards.
- (2) Request the comments of:
 - (i) Appropriate State and local agencies which are authorized to develop and enforce environmental standards;
 - (ii) Indian tribes, when the effects may be on a reservation; and
 - (iii) Any agency which has requested that it receive statements on actions of the kind proposed.

Office of Management and Budget Circular A-95 (Revised), through its system of clearinghouses, provides a means of securing the views of State and local environmental agencies. The clearinghouses may be used, by mutual agreement of the lead agency and the clearinghouse, for securing State and local reviews of the draft environmental impact statements.

- (3) Request comments from the applicant, if any.
- (4) Request comments from the public, affirmatively soliciting comments from those persons or organizations who may be interested or affected.

(b) An agency may request comments on a final environmental impact statement before the decision is finally made. In any case other agencies or persons may make comments before the final decision unless a different time is provided under Sec. 1506.10.

Sec. 1503.2 Duty to comment.

Federal agencies with jurisdiction by law or special expertise with respect to any environmental impact involved and agencies which are authorized to develop and enforce environmental standards shall comment on statements within their jurisdiction, expertise, or authority. Agencies shall comment within the time period specified for comment in Sec. 1506.10. A Federal agency may reply that it has no comment. If a cooperating agency is satisfied that its views are adequately reflected in the environmental impact statement, it should reply that it has no comment.

Sec. 1503.3 Specificity of comments.

(a) Comments on an environmental impact statement or on a proposed action shall be as specific as possible and may address either the adequacy of the statement or the merits of the alternatives discussed or both.

(b) When a commenting agency criticizes a lead agency's predictive methodology, the commenting agency should describe the alternative methodology which it prefers and why.

(c) A cooperating agency shall specify in its comments whether it needs additional information to fulfill other applicable environmental reviews or consultation requirements and what information it needs. In particular, it shall specify any additional information it needs to comment adequately on the draft statement's analysis of significant site-specific effects associated with the granting or approving by that cooperating agency of necessary Federal permits, licenses, or entitlements.

(d) When a cooperating agency with jurisdiction by law objects to or expresses reservations about the proposal on grounds of environmental impacts, the agency expressing the objection or reservation shall specify the mitigation measures it considers necessary to allow the agency to grant or approve applicable permit, license, or related requirements or concurrences.

Sec. 1503.4 Response to comments.

(a) An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement. Possible responses are to:

- (1) Modify alternatives including the proposed action.
- (2) Develop and evaluate alternatives not previously given serious consideration by the agency.
- (3) Supplement, improve, or modify its analyses.
- (4) Make factual corrections.
- (5) Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.

(b) All substantive comments received on the draft statement (or summaries thereof where the response has been exceptionally voluminous), should be attached to the final statement whether or not the comment is thought to merit individual discussion by the agency in the text of the statement.

(c) If changes in response to comments are minor and are confined to the responses described in paragraphs (a)(4) and (5) of this section, agencies may write them on errata sheets and attach them to the statement instead of rewriting the draft statement. In such cases only the comments, the responses, and the changes and not the final statement need be circulated (Sec. 1502.19). The entire document with a new cover sheet shall be filed as the final statement (Sec. 1506.9).

PART 1504 – PREDECISION REFERRALS TO THE COUNCIL OF PROPOSED FEDERAL ACTIONS DETERMINED TO BE ENVIRONMENTALLY UNSATISFACTORY

- Sec. 1504.1 Purpose.
 1504.2 Criteria for referral.
 1504.3 Procedure for referrals and response.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 55998, Nov. 29, 1978, unless otherwise noted.

Sec. 1504.1 Purpose.

(a) This part establishes procedures for referring to the Council Federal interagency disagreements concerning proposed major Federal actions that might cause unsatisfactory environmental effects. It provides means for early resolution of such disagreements.

(b) Under section 309 of the Clean Air Act (42 U.S.C. 7609), the Administrator of the Environmental Protection Agency is directed to review and comment publicly on the environmental impacts of Federal activities, including actions for which environmental impact statements are prepared. If after this review the Administrator determines that the matter is "unsatisfactory from the standpoint of public health or welfare or environmental quality," section 309 directs that the matter be referred to the Council (hereafter "environmental referrals").

(c) Under section 102(2)(C) of the Act other Federal agencies may make similar reviews of environmental impact statements, including judgments on the acceptability of anticipated environmental impacts. These reviews must be made available to the President, the Council and the public.

Sec. 1504.2 Criteria for referral.

Environmental referrals should be made to the Council only after concerted, timely (as early as possible in the process), but unsuccessful attempts to resolve differences with the lead agency. In determining what environmental objections to the matter are appropriate to refer to the Council, an agency should weigh potential adverse environmental impacts, considering:

- (a) Possible violation of national environmental standards or policies.
- (b) Severity.
- (c) Geographical scope.

- (d) Duration.
- (e) Importance as precedents.
- (f) Availability of environmentally preferable alternatives.

Sec. 1504.3 Procedure for referrals and response.

- (a) A Federal agency making the referral to the Council shall:
 - (1) Advise the lead agency at the earliest possible time that it intends to refer a matter to the Council unless a satisfactory agreement is reached.
 - (2) Include such advice in the referring agency's comments on the draft environmental impact statement, except when the statement does not contain adequate information to permit an assessment of the matter's environmental acceptability.
 - (3) Identify any essential information that is lacking and request that it be made available at the earliest possible time.
 - (4) Send copies of such advice to the Council.
- (b) The referring agency shall deliver its referral to the Council not later than twenty-five (25) days after the final environmental impact statement has been made available to the Environmental Protection Agency, commenting agencies, and the public. Except when an extension of this period has been granted by the lead agency, the Council will not accept a referral after that date.
- (c) The referral shall consist of:
 - (1) A copy of the letter signed by the head of the referring agency and delivered to the lead agency informing the lead agency of the referral and the reasons for it, and requesting that no action be taken to implement the matter until the Council acts upon the referral. The letter shall include a copy of the statement referred to in (c)(2) of this section.
 - (2) A statement supported by factual evidence leading to the conclusion that the matter is unsatisfactory from the standpoint of public health or welfare or environmental quality. The statement shall:
 - (i) Identify any material facts in controversy and incorporate (by reference if appropriate) agreed upon facts,
 - (ii) Identify any existing environmental requirements or policies which would be violated by the matter,
 - (iii) Present the reasons why the referring agency believes the matter is environmentally unsatisfactory,
 - (iv) Contain a finding by the agency whether the issue raised is of national importance because of the threat to national environmental resources or policies or for some other reason,
 - (v) Review the steps taken by the referring agency to bring its concerns to the attention of the lead agency at the earliest possible time, and
 - (vi) Give the referring agency's recommendations as to what mitigation alternative, further study, or other course of action (including abandonment of the matter) are necessary to remedy the situation.
- (d) Not later than twenty-five (25) days after the referral to the Council the lead agency may deliver a response to the Council, and the referring agency. If the lead agency requests more time and gives assurance that the matter will not go forward in the interim, the Council may grant an extension. The response shall:
 - (1) Address fully the issues raised in the referral.
 - (2) Be supported by evidence.
 - (3) Give the lead agency's response to the referring agency's recommendations.

e) Interested persons (including the applicant) may deliver their views in writing to the Council. Views in support of the referral should be delivered not later than the referral. Views in support of the response shall be delivered not later than the response.

f) Not later than twenty-five (25) days after receipt of both the referral and any response or upon being informed that there will be no response (unless the lead agency agrees to a longer time), the Council may take one or more of the following actions:

- (1) Conclude that the process of referral and response has successfully resolved the problem.
- (2) Initiate discussions with the agencies with the objective of mediation with referring and lead agencies.
- (3) Hold public meetings or hearings to obtain additional views and information.
- (4) Determine that the issue is not one of national importance and request the referring and lead agencies to pursue their decision process.
- (5) Determine that the issue should be further negotiated by the referring and lead agencies and is not appropriate for Council consideration until one or more heads of agencies report to the Council that the agencies' disagreements are irreconcilable.
- (6) Publish its findings and recommendations (including where appropriate a finding that the submitted evidence does not support the position of an agency).
- (7) When appropriate, submit the referral and the response together with the Council's recommendation to the President for action.

(g) The Council shall take no longer than 60 days to complete the actions specified in paragraph (f)(2), (3), or (5) of this section.

(h) When the referral involves an action required by statute to be determined on the record after opportunity for agency hearing, the referral shall be conducted in a manner consistent with 5 U.S.C. 557(d) (Administrative Procedure Act).

[43 FR 55998, Nov. 29, 1978; 44 FR 873, Jan. 3, 1979]

PART 1505 – NEPA AND AGENCY DECISIONMAKING

- Sec. 1505.1 Agency decisionmaking procedures.
1505.2 Record of decision in cases requiring environmental impact statements.
1505.3 Implementing the decision.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 55999, Nov. 29, 1978, unless otherwise noted.

Sec. 1505.1 Agency decisionmaking procedures.

Agencies shall adopt procedures (Sec. 1507.3) to ensure that decisions are made in accordance with the policies and purposes of the Act. Such procedures shall include but not be limited to:

- (a) Implementing procedures under section 102(2) to achieve the requirements of sections 101 and 102(1).
- (b) Designating the major decision points for the agency's principal programs likely to have a significant effect on the human environment and assuring that the NEPA process corresponds with them.
- (c) Requiring that relevant environmental documents, comments, and responses be part of the record in formal rulemaking or adjudicatory proceedings.

(d) Requiring that relevant environmental documents, comments, and responses accompany the proposal through existing agency review processes so that agency officials use the statement in making decisions.

(e) Requiring that the alternatives considered by the decisionmaker are encompassed by the range of alternatives discussed in the relevant environmental documents and that the decisionmaker consider the alternatives described in the environmental impact statement. If another decision document accompanies the relevant environmental documents to the decisionmaker, agencies are encouraged to make available to the public before the decision is made any part of that document that relates to the comparison of alternatives.

Sec. 1505.2 Record of decision in cases requiring environmental impact statements.

At the time of its decision (Sec. 1506.10) or, if appropriate, its recommendation to Congress, each agency shall prepare a concise public record of decision. The record, which may be integrated into any other record prepared by the agency, including that required by OMB Circular A-95 (Revised), part I, sections 6(c) and (d), and Part II, section 5(b)(4), shall:

(a) State what the decision was.

(b) Identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable. An agency may discuss preferences among alternatives based on relevant factors including economic and technical considerations and agency statutory missions. An agency shall identify and discuss all such factors including any essential considerations of national policy which were balanced by the agency in making its decision and state how those considerations entered into its decision.

(c) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.

Sec. 1505.3 Implementing the decision.

Agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation (Sec. 1505.2(c)) and other conditions established in the environmental impact statement or during its review and committed as part of the decision shall be implemented by the lead agency or other appropriate consenting agency. The lead agency shall:

(a) Include appropriate conditions in grants, permits or other approvals.

(b) Condition funding of actions on mitigation.

(c) Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures which they have proposed and which were adopted by the agency making the decision.

(d) Upon request, make available to the public the results of relevant monitoring.

PART 1506 – OTHER REQUIREMENTS OF NEPA

- Sec. 1506.1 Limitations on actions during NEPA process.
- 1506.2 Elimination of duplication with State and local procedures.
- 1506.3 Adoption.
- 1506.4 Combining documents.
- 1506.5 Agency responsibility.
- 1506.6 Public involvement.
- 1506.7 Further guidance.
- 1506.8 Proposals for legislation.
- 1506.9 Filing requirements.
- 1506.10 Timing of agency action.
- 1506.11 Emergencies.
- 1506.12 Effective date

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 56000, Nov. 29, 1978, unless otherwise noted.

Sec. 1506.1 Limitations on actions during NEPA process.

(a) Until an agency issues a record of decision as provided in Sec. 1505.2 (except as provided in paragraph (c) of this section), no action concerning the proposal shall be taken which would:

- (1) Have an adverse environmental impact; or
- (2) Limit the choice of reasonable alternatives.

(b) If any agency is considering an application from a non-Federal entity, and is aware that the applicant is about to take an action within the agency's jurisdiction that would meet either of the criteria in paragraph (a) of this section, then the agency shall promptly notify the applicant that the agency will take appropriate action to insure that the objectives and procedures of NEPA are achieved.

(c) While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies shall not undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action:

- (1) Is justified independently of the program;
- (2) Is itself accompanied by an adequate environmental impact statement; and
- (3) Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives.

(d) This section does not preclude development by applicants of plans or designs or performance of other work necessary to support an application for Federal, State or local permits or assistance. Nothing in this section shall preclude Rural Electrification Administration approval of minimal expenditures not affecting the environment (e.g. long leadtime equipment and purchase options) made by non-governmental entities seeking loan guarantees from the Administration.

Sec. 1506.2 Elimination of duplication with State and local procedures.

(a) Agencies authorized by law to cooperate with State agencies of statewide jurisdiction pursuant to section 102(2)(D) of the Act may do so.

(b) Agencies shall cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and State and local requirements, unless the agencies are specifically barred from doing so by some other law. Except for cases covered by paragraph (a) of this section, such cooperation shall to the fullest extent possible include:

- (1) Joint planning processes.
- (2) Joint environmental research and studies.
- (3) Joint public hearings (except where otherwise provided by statute).
- (4) Joint environmental assessments.

(c) Agencies shall cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and comparable State and local requirements, unless the agencies are specifically barred from doing so by some other law. Except for cases covered by paragraph (a) of this section, such cooperation shall to the fullest extent possible include joint environmental impact statements. In such cases one or more Federal agencies and one or more State or local agencies shall be joint lead agencies. Where State laws or local ordinances have environmental impact statement requirements in addition to but not in conflict with those in NEPA, Federal agencies shall cooperate in fulfilling these requirements as well as those of Federal laws so that one document will comply with all applicable laws.

(d) To better integrate environmental impact statements into State or local planning processes, statements shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law.

Sec. 1506.3 Adoption.

(a) An agency may adopt a Federal draft or final environmental impact statement or portion thereof provided that the statement or portion thereof meets the standards for an adequate statement under these regulations.

(b) If the actions covered by the original environmental impact statement and the proposed action are substantially the same, the agency adopting another agency's statement is not required to recirculate it except as a final statement. Otherwise the adopting agency shall treat the statement as a draft and recirculate it (except as provided in paragraph (c) of this section).

(c) A cooperating agency may adopt without recirculating the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied.

(d) When an agency adopts a statement which is not final within the agency that prepared it, or when the action it assesses is the subject of a referral under Part 1504, or when the statement's adequacy is the subject of a judicial action which is not final, the agency shall so specify.

Sec. 1506.4 Combining documents.

Any environmental document in compliance with NEPA may be combined with any other agency document to reduce duplication and paperwork.

Sec. 1506.5 Agency responsibility.

(a) *Information.* If an agency requires an applicant to submit environmental information for possible use by the agency in preparing an environmental impact statement, then the agency should assist the applicant by outlining the types of information required. The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. If the agency chooses to use the information submitted by the applicant in the environmental impact statement, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers (Sec. 1502.17). It is the intent of this paragraph that acceptable work not be redone, but that it be verified by the agency.

(b) *Environmental assessments.* If an agency permits an applicant to prepare an environmental assessment, the agency, besides fulfilling the requirements of paragraph (a) of this section, shall make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment.

(c) *Environmental impact statements.* Except as provided in Secs. 1506.2 and 1506.3 any environmental impact statement prepared pursuant to the requirements of NEPA shall be prepared directly by or by a contractor selected by the lead agency or where appropriate under Sec. 1501.6(b), a cooperating agency. It is the intent of these regulations that the contractor be chosen solely by the lead agency, or by the lead agency in cooperation with cooperating agencies, or where appropriate by a cooperating agency to avoid any conflict of interest. Contractors shall execute a disclosure statement prepared by the lead agency, or where appropriate the cooperating agency, specifying that they have no financial or other interest in the outcome of the project. If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval and take responsibility for its scope and contents. Nothing in this section is intended to prohibit any agency from requesting any person to submit information to it or to prohibit any person from submitting information to any agency.

Sec. 1506.6 Public involvement.

Agencies shall:

- (a) Make diligent efforts to involve the public in preparing and implementing their NEPA procedures.
- (b) Provide public notice of NEPA-related hearings, public meetings, and the availability of environmental documents so as to inform those persons and agencies who may be interested or affected.
 - (1) In all cases the agency shall mail notice to those who have requested it on an individual action.
 - (2) In the case of an action with effects of national concern notice shall include publication in the Federal Register and notice by mail to national organizations reasonably expected to be interested in the matter and may include listing in the 102 Monitor. An agency engaged in rulemaking may provide notice by mail to national organizations who have requested that notice regularly be provided. Agencies shall maintain a list of such organizations.
 - (3) In the case of an action with effects primarily of local concern the notice may include:
 - (i) Notice to State and area wide clearinghouses pursuant to OMB Circular A- 95 (Revised)
 - (ii) Notice to Indian tribes when effects may occur on reservations.
 - (iii) Following the affected State's public notice procedures for comparable actions.
 - (iv) Publication in local newspapers (in papers of general circulation rather than legal papers).
 - (v) Notice through other local media.
 - (vi) Notice to potentially interested community organizations including small business associations.
 - (vii) Publication in newsletters that may be expected to reach potentially interested persons.
 - (viii) Direct mailing to owners and occupants of nearby or affected property.
 - (ix) Posting of notice on and off site in the area where the action is to be located.
- (c) Hold or sponsor public hearings or public meetings whenever appropriate or in accordance with statutory requirements applicable to the agency. Criteria shall include whether there is:
 - (1) Substantial environmental controversy concerning the proposed action or substantial interest in holding the hearing.
 - (2) A request for a hearing by another agency with jurisdiction over the action supported by reasons why a hearing will be helpful. If a draft environmental impact statement is to be considered at a public hearing, the agency should make the statement available to the public at least 15 days in advance (unless the purpose of the hearing is to provide information for the draft environmental impact statement).
- (d) Solicit appropriate information from the public.
- (e) Explain in its procedures where interested persons can get information or status reports on environmental impact statements and other elements of the NEPA process.
- (f) Make environmental impact statements, the comments received, and any underlying documents available to the public pursuant to the provisions of the Freedom of Information Act (5 U.S.C. 552), without regard to the exclusion for interagency memoranda where such memoranda transmit comments of Federal agencies on the environmental impact of the proposed action. Materials to be made available to the public shall be provided to the public without charge to the extent practicable, or at a fee which is not more than the actual costs of reproducing copies required to be sent to other Federal agencies, including the Council.

Sec. 1506.7 Further guidance.

The Council may provide further guidance concerning NEPA and its procedures including:

- (a) A handbook which the Council may supplement from time to time, which shall in plain language provide guidance and instructions concerning the application of NEPA and these regulations.
- (b) Publication of the Council's Memoranda to Heads of Agencies.
- (c) In conjunction with the Environmental Protection Agency and the publication of the 102 Monitor, notice of:
 - (1) Research activities;
 - (2) Meetings and conferences related to NEPA; and
 - (3) Successful and innovative procedures used by agencies to implement NEPA.

Sec. 1506.8 Proposals for legislation.

(a) The NEPA process for proposals for legislation (Sec. 1508.17) significantly affecting the quality of the human environment shall be integrated with the legislative process of the Congress. A legislative environmental impact statement is the detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress. A legislative environmental impact statement shall be considered part of the formal transmittal of a legislative proposal to Congress; however, it may be transmitted to Congress up to 30 days later in order to allow time for completion of an accurate statement which can serve as the basis for public and Congressional debate. The statement must be available in time for Congressional hearings and deliberations.

(b) Preparation of a legislative environmental impact statement shall conform to the requirements of these regulations except as follows:

- (1) There need not be a scoping process.
- (2) The legislative statement shall be prepared in the same manner as a draft statement, but shall be considered the "detailed statement" required by statute; *Provided*, That when any of the following conditions exist both the draft and final environmental impact statement on the legislative proposal shall be prepared and circulated as provided by Secs. 1503.1 and 1506.10.
 - (i) A Congressional Committee with jurisdiction over the proposal has a rule requiring both draft and final environmental impact statements.
 - (ii) The proposal results from a study process required by statute (such as those required by the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) and the Wilderness Act (16 U.S.C. 1131 et seq.)).
 - (iii) Legislative approval is sought for Federal or federally assisted construction or other projects which the agency recommends be located at specific geographic locations. For proposals requiring an environmental impact statement for the acquisition of space by the General Services Administration, a draft statement shall accompany the Prospectus or the 11(b) Report of Building Project Surveys to the Congress, and a final statement shall be completed before site acquisition.
 - (iv) The agency decides to prepare draft and final statements.

(c) Comments on the legislative statement shall be given to the lead agency which shall forward them along with its own responses to the Congressional committees with jurisdiction.

Sec. 1506.9 Filing requirements.

Environmental impact statements together with comments and responses shall be filed with the Environmental Protection Agency, attention Office of Federal Activities (A-104), 401 M Street SW., Washington, DC 20460. Statements shall be filed with EPA no earlier than they are also transmitted to

commenting agencies and made available to the public. EPA shall deliver one copy of each statement to the Council, which shall satisfy the requirement of availability to the President. EPA may issue guidelines to agencies to implement its responsibilities under this section and Sec. 1506.10.

Sec. 1506.10 Timing of agency action.

(a) The Environmental Protection Agency shall publish a notice in the Federal Register each week of the environmental impact statements filed during the preceding week. The minimum time periods set forth in this section shall be calculated from the date of publication of this notice.

(b) No decision on the proposed action shall be made or recorded under Sec. 1505.2 by a Federal agency until the later of the following dates:

- (1) Ninety (90) days after publication of the notice described above in paragraph (a) of this section for a draft environmental impact statement.
- (2) Thirty (30) days after publication of the notice described above in paragraph (a) of this section for a final environmental impact statement.

An exception to the rules on timing may be made in the case of an agency decision which is subject to a formal internal appeal. Some agencies have a formally established appeal process which allows other agencies or the public to take appeals on a decision and make their views known, after publication of the final environmental impact statement. In such cases, where a real opportunity exists to alter the decision, the decision may be made and recorded at the same time the environmental impact statement is published. This means that the period for appeal of the decision and the 30-day period prescribed in paragraph (b)(2) of this section may run concurrently. In such cases the environmental impact statement shall explain the timing and the public's right of appeal. An agency engaged in rulemaking under the Administrative Procedure Act or other statute for the purpose of protecting the public health or safety, may waive the time period in paragraph (b)(2) of this section and publish a decision on the final rule simultaneously with publication of the notice of the availability of the final environmental impact statement as described in paragraph (a) of this section.

(c) If the final environmental impact statement is filed within ninety (90) days after a draft environmental impact statement is filed with the Environmental Protection Agency, the minimum thirty (30) day period and the minimum ninety (90) day period may run concurrently. However, subject to paragraph (d) of this section agencies shall allow not less than 45 days for comments on draft statements.

(d) The lead agency may extend prescribed periods. The Environmental Protection Agency may upon a showing by the lead agency of compelling reasons of national policy reduce the prescribed periods and may upon a showing by any other Federal agency of compelling reasons of national policy also extend prescribed periods, but only after consultation with the lead agency. (Also see Sec. 1507.3(d).) Failure to file timely comments shall not be a sufficient reason for extending a period. If the lead agency does not concur with the extension of time, EPA may not extend it for more than 30 days. When the Environmental Protection Agency reduces or extends any period of time it shall notify the Council.

[43 FR 56000, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979]

Sec. 1506.11 Emergencies.

Where emergency circumstances make it necessary to take an action with significant environmental impact without observing the provisions of these regulations, the Federal agency taking the action should consult with the Council about alternative arrangements. Agencies and the Council will limit such arrangements to actions necessary to control the immediate impacts of the emergency. Other actions remain subject to NEPA review.

Sec. 1506.12 Effective date.

The effective date of these regulations is July 30, 1979, except that for agencies that administer programs that qualify under section 102(2)(D) of the Act or under section 104(h) of the Housing and Community Development Act of 1974 an additional four months shall be allowed for the State or local agencies to adopt their implementing procedures.

(a) These regulations shall apply to the fullest extent practicable to ongoing activities and environmental documents begun before the effective date. These regulations do not apply to an environmental impact statement or supplement if the draft statement was filed before the effective date of these regulations. No completed environmental documents need be redone by reasons of these regulations. Until these regulations are applicable, the Council's guidelines published in the Federal Register of August 1, 1973, shall continue to be applicable. In cases where these regulations are applicable the guidelines are superseded. However, nothing shall prevent an agency from proceeding under these regulations at an earlier time.

(b) NEPA shall continue to be applicable to actions begun before January 1, 1970, to the fullest extent possible.

PART 1507– AGENCY COMPLIANCE

- Sec. 1507.1 Compliance.
1507.2 Agency capability to comply.
1507.3 Agency procedures.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 56002, Nov. 29, 1978, unless otherwise noted.

Sec. 1507.1 Compliance.

All agencies of the Federal Government shall comply with these regulations. It is the intent of these regulations to allow each agency flexibility in adapting its implementing procedures authorized by Sec. 1507.3 to the requirements of other applicable laws.

Sec. 1507.2 Agency capability to comply.

Each agency shall be capable (in terms of personnel and other resources) of complying with the requirements enumerated below. Such compliance may include use of other's resources, but the using agency shall itself have sufficient capability to evaluate what others do for it. Agencies shall:

- (a) Fulfill the requirements of section 102(2)(A) of the Act to utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on the human environment. Agencies shall designate a person to be responsible for overall review of agency NEPA compliance.
- (b) Identify methods and procedures required by section 102(2)(B) to insure that presently unquantified environmental amenities and values may be given appropriate consideration.
- (c) Prepare adequate environmental impact statements pursuant to section 102(2)(C) and comment on statements in the areas where the agency has jurisdiction by law or special expertise or is authorized to develop and enforce environmental standards.
- (d) Study, develop, and describe alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. This requirement of section 102(2)(E) extends to all such proposals, not just the more limited scope of section 102(2)(C)(iii) where the discussion of alternatives is confined to impact statements.
- (e) Comply with the requirements of section 102(2)(H) that the agency initiate and utilize ecological information in the planning and development of resource-oriented projects.
- (f) Fulfill the requirements of sections 102(2)(F), 102(2)(G), and 102(2)(I), of the Act and of Executive Order 11514, Protection and Enhancement of Environmental Quality, Sec. 2.

Sec. 1507.3 Agency procedures.

- (a) Not later than eight months after publication of these regulations as finally adopted in the Federal Register, or five months after the establishment of an agency, whichever shall come later, each agency

shall as necessary adopt procedures to supplement these regulations. When the agency is a department, major subunits are encouraged (with the consent of the department) to adopt their own procedures. Such procedures shall not paraphrase these regulations. They shall confine themselves to implementing procedures. Each agency shall consult with the Council while developing its procedures and before publishing them in the Federal Register for comment. Agencies with similar programs should consult with each other and the Council to coordinate their procedures, especially for programs requesting similar information from applicants. The procedures shall be adopted only after an opportunity for public review and after review by the Council for conformity with the Act and these regulations. The Council shall complete its review within 30 days. Once in effect they shall be filed with the Council and made readily available to the public. Agencies are encouraged to publish explanatory guidance for these regulations and their own procedures. Agencies shall continue to review their policies and procedures and in consultation with the Council to revise them as necessary to ensure full compliance with the purposes and provisions of the Act.

(b) Agency procedures shall comply with these regulations except where compliance would be inconsistent with statutory requirements and shall include:

- (1) Those procedures required by Secs. 1501.2(d), 1502.9(c)(3), 1505.1, 1506.6(e), and 1508.4.
- (2) Specific criteria for and identification of those typical classes of action:
 - (i) Which normally do require environmental impact statements.
 - (ii) Which normally do not require either an environmental impact statement or an environmental assessment (categorical exclusions (Sec. 1508.4)).
 - (iii) Which normally require environmental assessments but not necessarily environmental impact statements.

(c) Agency procedures may include specific criteria for providing limited exceptions to the provisions of these regulations for classified proposals. They are proposed actions which are specifically authorized under criteria established by an Executive Order or statute to be kept secret in the interest of national defense or foreign policy and are in fact properly classified pursuant to such Executive Order or statute. Environmental assessments and environmental impact statements which address classified proposals may be safeguarded and restricted from public dissemination in accordance with agencies' own regulations applicable to classified information. These documents may be organized so that classified portions can be included as annexes, in order that the unclassified portions can be made available to the public.

(d) Agency procedures may provide for periods of time other than those presented in Sec. 1506.10 when necessary to comply with other specific statutory requirements.

(e) Agency procedures may provide that where there is a lengthy period between the agency's decision to prepare an environmental impact statement and the time of actual preparation, the notice of intent required by Sec. 1501.7 may be published at a reasonable time in advance of preparation of the draft statement.

PART 1508 – TERMINOLOGY AND INDEX

Sec.	1508.1 Terminology.
	1508.2 Act.
	1508.3 Affecting.
	1508.4 Categorical exclusion.
	1508.5 Cooperating agency.
	1508.6 Council.
	1508.7 Cumulative impact.
	1508.8 Effects.
	1508.9 Environmental assessment.
	1508.10 Environmental document.
	1508.11 Environmental impact statement.
	1508.12 Federal agency.

- 1508.13 Finding of no significant impact.
- 1508.14 Human environment.
- 1508.15 Jurisdiction by law.
- 1508.16 Lead agency.
- 1508.17 Legislation.
- 1508.18 Major Federal action.
- 1508.19 Matter.
- 1508.20 Mitigation.
- 1508.21 NEPA process.
- 1508.22 Notice of intent.
- 1508.23 Proposal.
- 1508.24 Referring agency.
- 1508.25 Scope.
- 1508.26 Special expertise.
- 1508.27 Significantly.
- 1508.28 Tiering.

Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609), and E.O. 11514 (Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977).

Source: 43 FR 56003, Nov. 29, 1978, unless otherwise noted.

Sec. 1508.1 Terminology.

The terminology of this part shall be uniform throughout the Federal Government.

Sec. 1508.2 Act.

"Act" means the National Environmental Policy Act, as amended (42 U.S.C. 4321, et seq.) which is also referred to as "NEPA."

Sec. 1508.3 Affecting.

"Affecting" means will or may have an effect on.

Sec. 1508.4 Categorical exclusion.

"Categorical exclusion" means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (Sec. 1507.3) and for which, therefore, neither an environmental assessment nor an environmental impact statement is required. An agency may decide in its procedures or otherwise, to prepare environmental assessments for the reasons stated in Sec. 1508.9 even though it is not required to do so. Any procedures under this section shall provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.

Sec. 1508.5 Cooperating agency.

"Cooperating agency" means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major Federal action significantly affecting the quality of the human environment. The selection and responsibilities of a cooperating agency are described in Sec. 1501.6. A State or local agency of similar qualifications or, when the effects are on a reservation, an Indian Tribe, may by agreement with the lead agency become a cooperating agency.

Sec. 1508.6 Council.

"Council" means the Council on Environmental Quality established by Title II of the Act.

Sec. 1508.7 Cumulative impact.

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Sec. 1508.8 Effects.

"Effects" include:

- (a) Direct effects, which are caused by the action and occur at the same time and place.
- (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

Sec. 1508.9 Environmental assessment.

"Environmental assessment":

- (a) Means a concise public document for which a Federal agency is responsible that serves to:
 - (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
 - (2) Aid an agency's compliance with the Act when no environmental impact statement is necessary.
 - (3) Facilitate preparation of a statement when one is necessary.
- (b) Shall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

Sec. 1508.10 Environmental document.

"Environmental document" includes the documents specified in Sec. 1508.9 (environmental assessment), Sec. 1508.11 (environmental impact statement), Sec. 1508.13 (finding of no significant impact), and Sec. 1508.22 (notice of intent).

Sec. 1508.11 Environmental impact statement.

"Environmental impact statement" means a detailed written statement as required by section 102(2)(C) of the Act.

Sec. 1508.12 Federal agency.

"Federal agency" means all agencies of the Federal Government. It does not mean the Congress, the Judiciary, or the President, including the performance of staff functions for the President in his Executive Office. It also includes for purposes of these regulations States and units of general local government and Indian tribes assuming NEPA responsibilities under section 104(h) of the Housing and Community Development Act of 1974.

Sec. 1508.13 Finding of no significant impact.

"Finding of no significant impact" means a document by a Federal agency briefly presenting the reasons why an action, not otherwise excluded (Sec. 1508.4), will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared. It shall

include the environmental assessment or a summary of it and shall note any other environmental documents related to it (Sec. 1501.7(a)(5)). If the assessment is included, the finding need not repeat any of the discussion in the assessment but may incorporate it by reference.

Sec. 1508.14 Human environment.

"Human environment" shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of "effects" (Sec. 1508.8).) This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.

Sec. 1508.15 Jurisdiction by law.

"Jurisdiction by law" means agency authority to approve, veto, or finance all or part of the proposal.

Sec. 1508.16 Lead agency.

"Lead agency" means the agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement.

Sec. 1508.17 Legislation.

"Legislation" includes a bill or legislative proposal to Congress developed by or with the significant cooperation and support of a Federal agency, but does not include requests for appropriations. The test for significant cooperation is whether the proposal is in fact predominantly that of the agency rather than another source. Drafting does not by itself constitute significant cooperation. Proposals for legislation include requests for ratification of treaties. Only the agency which has primary responsibility for the subject matter involved will prepare a legislative environmental impact statement.

Sec. 1508.18 Major Federal action.

"Major Federal action" includes actions with effects that may be major and which are potentially subject to Federal control and responsibility. Major reinforces but does not have a meaning independent of significantly (Sec. 1508.27). Actions include the circumstance where the responsible officials fail to act and that failure to act is reviewable by courts or administrative tribunals under the Administrative Procedure Act or other applicable law as agency action.

- (a) Actions include new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies; new or revised agency rules, regulations, plans, policies, or procedures; and legislative proposals (Secs. 1506.8, 1508.17). Actions do not include funding assistance solely in the form of general revenue sharing funds, distributed under the State and Local Fiscal Assistance Act of 1972, 31 U.S.C. 1221 et seq., with no Federal agency control over the subsequent use of such funds. Actions do not include bringing judicial or administrative civil or criminal enforcement actions.
- (b) Federal actions tend to fall within one of the following categories:
 - (1) Adoption of official policy, such as rules, regulations, and interpretations adopted pursuant to the Administrative Procedure Act, 5 U.S.C. 551 et seq.; treaties and international conventions or agreements; formal documents establishing an agency's policies which will result in or substantially alter agency programs.
 - (2) Adoption of formal plans, such as official documents prepared or approved by federal agencies which guide or prescribe alternative uses of Federal resources, upon which future agency actions will be based.
 - (3) Adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive.
 - (4) Approval of specific projects, such as construction or management activities located in a defined geographic area. Projects include actions approved by permit or other regulatory decision as well as federal and federally assisted activities.

Sec. 1508.19 Matter.

"Matter" includes for purposes of Part 1504:

- (a) With respect to the Environmental Protection Agency, any proposed legislation, project, action or regulation as those terms are used in section 309(a) of the Clean Air Act (42 U.S.C. 7609).
- (b) With respect to all other agencies, any proposed major federal action to which section 102(2)(C) of NEPA applies.

Sec. 1508.20 Mitigation.

"Mitigation" includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

Sec. 1508.21 NEPA process.

"NEPA process" means all measures necessary for compliance with the requirements of section 2 and Title I of NEPA.

Sec. 1508.22 Notice of intent.

"Notice of intent" means a notice that an environmental impact statement will be prepared and considered. The notice shall briefly:

- (a) Describe the proposed action and possible alternatives.
- (b) Describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held.
- (c) State the name and address of a person within the agency who can answer questions about the proposed action and the environmental impact statement.

Sec. 1508.23 Proposal.

"Proposal" exists at that stage in the development of an action when an agency subject to the Act has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal and the effects can be meaningfully evaluated. Preparation of an environmental impact statement on a proposal should be timed (Sec. 1502.5) so that the final statement may be completed in time for the statement to be included in any recommendation or report on the proposal. A proposal may exist in fact as well as by agency declaration that one exists.

Sec. 1508.24 Referring agency.

"Referring agency" means the federal agency which has referred any matter to the Council after a determination that the matter is unsatisfactory from the standpoint of public health or welfare or environmental quality.

Sec. 1508.25 Scope.

Scope consists of the range of actions, alternatives, and impacts to be considered in an environmental impact statement. The scope of an individual statement may depend on its relationships to other statements (Secs. 1502.20 and 1508.28). To determine the scope of environmental impact statements, agencies shall consider 3 types of actions, 3 types of alternatives, and 3 types of impacts. They include:

- (a) Actions (other than unconnected single actions) which may be:
 - (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

- (i) Automatically trigger other actions which may require environmental impact statements
 - (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
 - (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.
 - (2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.
 - (3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.
- (b) Alternatives, which include:
- (1) No action alternative.
 - (2) Other reasonable courses of actions.
 - (2) Mitigation measures (not in the proposed action).
- (c) Impacts, which may be:
- (1) Direct.
 - (2) Indirect.
 - (3) Cumulative.

Sec. 1508.26 Special expertise.

"Special expertise" means statutory responsibility, agency mission, or related program experience.

Sec. 1508.27 Significantly.

"Significantly" as used in NEPA requires considerations of both context and intensity:

- (a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.
- (b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
 - (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
 - (2) The degree to which the proposed action affects public health or safety.
 - (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
 - (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
 - (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
 - (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

- (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
- (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
- (10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

[43 FR 56003, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979]

Sec. 1508.28 Tiering.

"Tiering" refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is:

- (a) From a program, plan, or policy environmental impact statement to a program, plan, or policy statement or analysis of lesser scope or to a site-specific statement or analysis.
- (b) From an environmental impact statement on a specific action at an early stage (such as need and site selection) to a supplement (which is preferred) or a subsequent statement or analysis at a later stage (such as environmental mitigation). Tiering in such cases is appropriate when it helps the lead agency to focus on the issues which are ripe for decision and exclude from consideration issues already decided or not yet ripe.

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APPENDIX 14



Federal Register

**Wednesday,
October 15, 2008**

Part IV

Department of the Interior

Office of the Secretary

**43 CFR Part 46
Implementation of the National
Environmental Policy Act (NEPA) of 1969;
Final Rule**

DEPARTMENT OF THE INTERIOR**Office of the Secretary****43 CFR Part 46**

RIN 1090-AA95

Implementation of the National Environmental Policy Act (NEPA) of 1969**AGENCY:** Office of the Secretary, Interior.**ACTION:** Final rule.

SUMMARY: The Department of the Interior (Department) is amending its regulations by adding a new part to codify its procedures for implementing the National Environmental Policy Act (NEPA), which are currently located in chapters 1–6 of Part 516 of the Departmental Manual (DM). This rule contains Departmental policies and procedures for compliance with NEPA, Executive Order (E.O.) 11514, E.O. 13352 and the Council on Environmental Quality's (CEQ) regulations (40 CFR Parts 1500–1508). Department officials will use this rule in conjunction with and supplementary to these authorities. The Department believes that codifying the procedures in regulations that are consistent with NEPA and the CEQ regulations will provide greater visibility to that which was previously contained in the DM and enhance cooperative conservation by highlighting opportunities for public engagement and input in the NEPA process.

The Department will continue to maintain Department's information and explanatory guidance pertaining to NEPA in the DM and Environmental Statement Memoranda (ESM) to assist bureaus in complying with NEPA. Bureau-specific NEPA procedures remain in 516 DM Chapters 8–15 and bureau guidance in explanatory and informational directives. Maintaining explanatory information in the Department's DM chapters and ESM, and bureau-specific explanatory and informational directives will facilitate timely responses to new ideas, new information, procedural interpretations, training needs, and editorial changes to assist field offices when implementing the NEPA process.

EFFECTIVE DATE: November 14, 2008.

FOR FURTHER INFORMATION CONTACT: Dr. Vijai N. Rai, Team Leader, Natural Resources Management, Office of Environmental Policy and Compliance, 1849 C Street, NW., Washington, DC 20240. Telephone: 202–208–6661. E-mail: vijai_rai@ios.doi.gov.

SUPPLEMENTARY INFORMATION: As a part of the conversion of the Department's

NEPA procedures from 516 DM to regulations, a number of key changes have been made. This rule:

- Clarifies which actions are subject to NEPA section 102(2) by locating all relevant CEQ guidance in one place, along with supplementary Department procedures.
- Establishes the Department's documentation requirements for urgently needed emergency responses. The Responsible Official (RO) must assess and minimize potential environmental damage to the extent consistent with protecting life, property, and important natural, cultural and historic resources and, after the emergency, document that an emergency existed and describe the responsive actions taken.

- Incorporates CEQ guidance that the effects of a past action relevant to a cumulative impacts analysis of a proposed action may in some cases be documented by describing the current state of the resource the RO expects will be affected.

- Clarifies that the Department has discretion to determine, on a case-by-case basis, how to involve the public in the preparation of EAs.

- Highlights that adaptive management strategies may be incorporated into alternatives, including the proposed action.

- Incorporates language from the statute and CEQ guidance that EAs need only analyze the proposed action and may proceed without consideration of additional alternatives when there are no unresolved conflicts concerning alternative uses of available resources.

This rule is organized under subparts A through E, covering the material currently in 516 DM Chapters 1 through 6. The Department is replacing these chapters with new 516 DM Chapters 1–3, which will include explanatory guidance on these regulations. These revised chapters will be available to the public before the effective date of this rule and will be found at <http://www.doi.gov/oepc>. The Department did not include 516 DM Chapter 7 in this rule because it provides internal administrative guidance specific to Department review of environmental documents and project proposals prepared by other Federal agencies. Chapters 8–15 of 516 DM continue to contain bureau-specific NEPA implementing procedures. In addition, other guidance pertaining to the Department's NEPA regulations and the bureaus' NEPA procedures will be contained in explanatory and informational directives. These explanatory and information directives will be contained either in the DM or

ESM (for Departmental guidance), bureau NEPA handbooks (for bureau-specific guidance), or both.

The CEQ was consulted on the proposed and final rule. CEQ issued a letter stating that CEQ has reviewed this rule and found it to be in conformity with NEPA and CEQ regulations (per 40 CFR 1507.3 and NEPA section 102(2)(B)).

Comments on the Proposal

This rule was published as a proposed rule in the **Federal Register** (73 FR 126) on January 2, 2008, and there was a 60-day comment period that closed on March 3, 2008. The Department received 100 comments. These comments were in the form of letters, e-mails, and faxes. Of the 100 comments received 50 were substantive; the remaining comments were all variations of a single form letter addressing one or more of three issues, which have been addressed below. The Department very much appreciates the response of the public, which has assisted the Department in improving the clarity of this final rule.

In addition to changes made to the final rule in response to specific comments received, which are noted below, the Department has made minor revisions throughout in order to improve the clarity of the rule. In general, these latter revisions do not change the substance or meaning of any of the provisions proposed on January 2, 2008, except in one or two instances as noted. As contemplated in the preamble to the proposed rule, the Department has added a provision specifying the circumstances in which an Environmental Assessment (EA) may tier to an Environmental Impact Statement (EIS) and in which a bureau may reach a Finding of No Significant Impact (FONSI) or Finding of No New Significant Impact (FONNSI). Please see paragraph 46.140(c).

General Comments on the Proposed Rule

Comment: Several commenters questioned the rationale for moving the Department's NEPA procedures from the DM to regulations and requested further clarification of this rationale.

Response: The Department believes that codifying the procedures in regulation will provide greater visibility to that which was previously contained in the DM and highlight opportunities for public engagement and input in the NEPA process. The Department believes that this greater accessibility of the regulations, when published in the Code of Federal Regulations (CFR), will allow

the public to more easily participate in the NEPA process.

Comment: Some commenters stated that the Department should include the issue of global climate change in all environmental analysis documents. They stated that the Department has a legal obligation under NEPA to analyze the effects of global climate change as shaping the context within which proposed actions take place, as well as the impacts of proposed projects on climate change. Another group recommended that the Department include a mandate that an environmental analysis of climate change impacts be included in the NEPA analysis prepared for Resource Management Plans (RMPs). Several groups suggested that the Department should require planning documents for fossil fuel developments to consider various energy alternatives, including conservation and energy efficiency. They also recommended that the Department analyze greenhouse gas emissions in all decision documents related to energy development on public lands. Another commenter suggested that the Department compile information about landscape changes in response to climate change to use for programmatic NEPA documents.

Response: Climate change issues can arise in relation to the consideration of whether there are direct or indirect effects of the greenhouse gas emissions from a proposed action, the cumulative effect of greenhouse gas emissions, and the effect of climate change on the proposed action or alternatives. The extent to which agencies address the effects of climate change on the aspects of the environment affected by the proposed action depends on the specific effects of the proposed action, their nexus with climate change effects on the same aspects of the environment, and their implications for adaptation to the effects of climate change. Whether and to what extent greenhouse gas emissions and/or climate change effects warrant analysis is the type of determination that Responsible Officials make when determining the appropriate scope of the NEPA analysis. Extensive discussion regarding the role of the Department, as well as the Federal government as a whole, with respect to the effects of greenhouse gas emissions and/or global climate change is beyond the scope of this rule concerning environmental analysis generally. Consequently, the final rule does not contain explicit provisions addressing global climate change.

Comment: One commenter stated that the Department should include a provision that agencies must seek input

through the NEPA process from local, regional, State, and tribal health agencies when making decisions that may impact human health. Several groups recommend requiring a Health Impact Assessment (which is a tool used by the World Health Organization) when a project may impact human health.

Response: The Department appreciates this suggestion but does not believe inclusion of a specific requirement in this regard is appropriate in this rule. Individual bureaus of the Department have addressed and will continue to address possible impacts to human health in certain circumstances, such as with respect to subsistence issues in Alaska. Whether or not a Health Impact Assessment is the appropriate means to assess potential impacts on human health with regard to a particular proposal is the type of determination that Responsible Officials make for all manner of possible impacts when determining the appropriate scope of the NEPA analysis.

Responses to Comments on Individual Provisions, Including Analysis of Changes Made

The following paragraphs contain responses to comments made on individual provisions of the proposed rule and incorporate discussion of changes made to the rule as proposed in January 2008.

Subpart A: General Information

Section 46.10 Purpose of this Part. A new paragraph (c) has been added to clarify that, in accordance with CEQ regulations at 40 CFR 1500.3, trivial violations of these regulations are not intended to give rise to any independent cause of action.

Section 46.30 Definitions. This section supplements the terms found in the CEQ regulations and adds several new definitions. The terms affected are the following: Adaptive management; Bureau; Community-based training; Controversial; Environmental Statement Memoranda; Environmentally preferable alternative; No action alternative; Proposed action; Reasonably foreseeable future actions; and Responsible Official. A definition of consensus-based management has been placed in section 46.110. The definitions of no action alternative and proposed action have been moved to this section for the final rule from proposed section 46.420, as these terms may apply to both EAs and EISs. Comments and responses addressing these terms may be found below, in the discussion of section 46.420.

Comment: Several commenters expressed concern that the definition of “community” may be “misinterpreted in a variety of ways to mean local and county governments affected by a proposed action, or communities of individuals with a common interest in the project who do not necessarily live in the area directly affected by the project.” Several groups recommended that the Department include and review the definition(s) in Environmental Statement Memorandum No. ESM03–7.

Response: Because of the possibility of confusion noted by the commenter, the Department has included a provision at section 46.110 focusing on “consensus-based management” as incorporating the ideas reflected in the emphasis on community involvement in the NEPA process. In developing the provision addressing consensus-based management, the Department relied upon the existing ESM03–7.

Comment: Many commenters expressed concerns with the proposed definition of “controversial.” Some stated that the size or nature of a proposed action should not render the action controversial under NEPA. Several individuals are concerned that the proposed definition of “controversial” would render all proposed projects on public lands as being controversial and will protract NEPA analyses. One group applauded the Department for defining “controversial” in terms of disputes over the bio-physical effects of a project rather than merely opposition to a project.

Response: The language in the proposed rule reflects current case precedent on the meaning of “controversial” under NEPA and has been retained, but with modification to address the confusion regarding the reference to “size” and “nature” in the final rule. Courts have consistently specified that disagreement must be with respect to the character of the effects on the quality of the human environment in order to be considered to be “controversial” within the meaning of NEPA, rather than a mere matter of the unpopularity of a proposal. *See Como-Falcon Coalition, Inc. v. U.S. Dept. of Labor*, 609 F.2d 342 (8th Cir. 1978), *cert. denied*, 446 U.S. 936 (“Mere opposition to federal project does not make project controversial so as to require environmental impact statement.”)

Comment: Some commenters suggested that the definition of “environmentally preferable alternatives” does not make clear whether the requirement applies to Records of Decision (RODs) on projects

analyzed in an EIS or EA or only to those analyzed in an EIS. They recommended adding a sentence at the end of the definition clarifying that the requirement applies to EAs and EISs.

Response: CEQ regulations require the identification of at least one environmentally preferable alternative in a ROD, which is the decision document issued after completion of an EIS. (40 CFR 1505.2(b); *see also* Question 6b of CEQ's "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18026 (Mar. 23, 1981), as amended (hereinafter CEQ's "Forty Most Asked Questions"). The CEQ regulations do not identify the decision document issued after completion of an EA/FONSI, and bureaus do not issue RODs in this situation. Therefore, the Department has not changed the definition in response to this comment.

Comment: Several commenters expressed reservations about the definition of Preliminary Environmental Impact Statement (PEIS). They suggested that the role of the PEIS be clarified. One commenter wanted the Department to include provisions on how the scoping process and the PEIS will interact. Others wanted to know what level of detail should be included in a PEIS and whether use of a PEIS would introduce an additional requirement for public comment. One commenter strongly disagreed with the use of a PEIS, stating that the use of a PEIS could delay a DEIS or FEIS and could add additional expenses to private proponents that are funding NEPA projects. They recommended that the Department add a provision to the rule that would enforce time restrictions on the PEIS process.

Response: Because of the confusion and concern surrounding the PEIS, and upon further reflection, the Department has decided not to include this provision in the final rule. The definition in the proposed rule found at section 46.30 and description in sections 46.415 and 46.420 have been removed in the final rule. The Department continues to encourage collaboration with the public in an approach to alternative development and decision-making. The implementation of any such approach is determined by the RO. The PEIS was simply an optional tool and its removal from the final rule will not diminish this continuing Departmental emphasis on collaboration. The RO will still be free to involve and inform the public regarding each particular NEPA analysis in a manner that best meets the public and government needs.

Comment: One commenter stated that the Department should add "agency" to the definition of "Reasonably Foreseeable Future Actions" to ensure the agency covers all reasonably foreseeable actions that flow from proposed actions. Several commenters stated that the proposed definition of "Reasonably Foreseeable Future Actions" conflicts with the definition of "Reasonably Foreseeable Development Scenario" contained in the Instruction Memorandum 2004-089 issued by the BLM. Another commenter stated that the proposed definition of "Reasonably Foreseeable Future Actions" does not follow CEQ guidelines.

Response: The final rule defines "reasonably foreseeable future actions" to explain a term used in CEQ's definition for "cumulative impact" at 40 CFR 1508.7. The Department has attempted to strike a balance by eliminating speculation about activities that are not yet planned, but including those that are reasonably foreseeable and are expected to occur (for example, based on other development in the area when there has been some decision, funding, or development of a proposal (see 40 CFR 1508.23)). The Department does not believe that the definition of "reasonably foreseeable future actions" conflicts with the description of the Bureau of Land Management's analytical tool, the "reasonably foreseeable development scenario" or RFD. The RFD is a projection (scenario) of oil and gas exploration, development, production, and reclamation activity that may occur in a specific resource area during a specific period of time; as such, the analysis in the RFD can provide basic information about oil and gas activities that may inform the analysis of reasonably foreseeable future actions.

In order to clarify that reasonably foreseeable future actions include both "federal and non-federal" activities, we have added these terms in the definition in section 46.30. This is consistent with 40 CFR 1508.7. The Department has added language to clarify that the existing decisions, funding, or proposals are those that have been brought to the attention of the RO.

In its mention of the "Responsible Official of ordinary prudence" the definition also incorporates the reasonableness standard emphasized by the Supreme Court as "inherent in NEPA and its implementing regulations." In *Department of Transportation v. Public Citizen*, 541 U.S. 752, 770 (2004), the Court reaffirmed that this "rule of reason" is what ensures that agencies include in the analyses that they prepare

information useful in the decision-making process. In that case, the Court noted that the agency in question, the Federal Motor Carrier Safety Administration in the Department of Transportation, properly considered the incremental effects of its own safety rules in the context of the effects of the reasonably foreseeable possibility that the President might lift the moratorium on cross-border operations of Mexican motor carriers. *Id.* In those circumstances, the possibility that the President might act in one of several ways was neither an existing decision, matter of funding, or proposal, but was nevertheless a possibility that a person of ordinary prudence would consider when reaching a decision regarding the proposed action of promulgating the rule at issue in that case. Similarly, in some circumstances an RO of ordinary prudence would include analysis of actions that, while not yet proposed, funded, or the subject of a decision, nevertheless are likely or foreseeable enough to provide important information and context within which any significant incremental effects of the proposed action would be revealed.

Subpart B: Protection and Enhancement of Environmental Quality

The proposed rule did not include portions of 516 DM Chapter 1 that are merely explanatory in that they address internal Departmental processes. This information will be retained in the DM or will be issued as additional explanatory information by the Department's Office of Environmental Policy and Compliance in Environmental Statement Memoranda.

In this final rule, this subpart includes the following sections:

Section 46.100 Federal action subject to the procedural requirements of NEPA. This section provides clarification on when a proposed action is subject to the procedural requirements of NEPA. Paragraph 46.100(b)(4), "The proposed action is not exempt from the requirements of section 102(2) of NEPA," refers to those situations where, either a statute specifically provides that compliance with section 102(2) of NEPA is not required, or where, for instance, a bureau is required by law to take a specific action such that NEPA is not triggered. For example, Public Law 105-167 mandates the Bureau of Land Management (BLM) to exchange certain mineral interests. In this situation, section 102(2) of NEPA would not apply because the law removes BLM's decision making discretion. Also, this provision refers to situations where there is a clear and unavoidable conflict

between NEPA compliance and another statutory authority such that NEPA compliance is not required. For example, if the timing requirements of a more recent statutory authority makes NEPA compliance impossible, NEPA must give way to the more recent statute.

Similarly, the final rule clarifies that the proposed action is subject to the procedural requirements of NEPA and the CEQ regulations depending on “the extent to which bureaus exercise control and responsibility over the proposed action and whether Federal funding or approval will be provided to implement it” paragraph 46.100(a). The criteria for making this determination include, *inter alia*, “when the bureau has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal” paragraph 46.100(b)(1), and “the effects can be meaningfully evaluated” and “the proposed action would cause effects on the human environment” paragraph 46.100(b)(3).

The clarifications provided in this section have been made, in part, in order to ensure that the rule is consistent with the Supreme Court’s decision in *Department of Transportation v. Public Citizen*, 541 U.S. 752, 770 (2004). In *Public Citizen*, the Court explained that a “but for” causal relationship is insufficient to make an agency responsible for a particular effect under NEPA and the relevant regulations, but that there must be “a reasonably close causal relationship” between the environmental effect and the alleged cause and that this requirement was analogous to the “familiar doctrine of proximate cause from tort law.” 541 U.S. at 767. The Court reaffirmed that “courts must look to the underlying policies or legislative intent in order to draw a manageable line between those causal changes that may make an actor responsible for an effect and those that do not” and that inherent in NEPA and its implementing regulations is a “rule of reason.” *Id.*

Comment: Some commenters expressed concern regarding the procedural requirements of NEPA. One group stated that the Department’s procedural actions should be subject to NEPA requirements regardless of whether or not sufficient funds are available. This group stated that if a proposed action is even being considered by a RO, the procedural requirements of NEPA must apply. Another group suggested the Department add an additional subsection that offers guidance whether

an “action” is subject to NEPA compliance.

Response: The Department agrees that the procedural requirements of NEPA apply when a proposal consistent with 40 CFR 1508.23 has been developed. Mere consideration of a possible project however does not constitute a proposed action that can be analyzed under NEPA. Rather, under 40 CFR 1508.23, a proposal is ripe for analysis when an agency is “actively preparing to make a decision.”

When the proposed action involves funding, Federal control over the expenditure of the funds by the recipient is essential to determining what constitutes a “Federal” action that requires NEPA compliance. This is consistent with 40 CFR 1508.18(a). The issue of funding does not turn on the sufficiency, or lack thereof, of the funding, but on the degree of Federal control or influence over the use of the funds. The language in the final rule regarding whether a proposal is subject to NEPA compliance has been clarified by addressing the question of whether NEPA applies in paragraph 46.100(a), and when the NEPA analysis should be conducted in paragraph 46.100(b).

Comment: One individual urged the Department to not add additional obligations that are not currently required under NEPA, particularly with respect to the emphasis on public participation.

Response: This final rule adds no additional obligations not currently required under NEPA and the CEQ regulations. Section 46.100 is an effort to consolidate existing requirements in 40 CFR 1508.18, 40 CFR 1508.23, and 40 CFR 1508.25, among others. For instance in 40 CFR 1500.2(d) CEQ requires that Federal agencies “* * * encourage and facilitate public involvement in decisions which affect the quality of the human environment.” Consistent with this provision, paragraph 46.305(a) requires that a bureau must, to the extent practicable, provide for public notification and public involvement when an environmental assessment is being prepared. However, the methods for providing public notification and opportunities for public involvement are at the discretion of the RO. Individual bureaus will be able to provide in their explanatory and informational directives descriptions of ways of carrying out public notification and involvement appropriate to different kinds of proposed actions.

Comment: One commenter stated that the proposed rule as written suggests that a NEPA review would only occur to the extent the effects on the human

environment could be meaningfully evaluated and that the proposed provision at 46.100 seemed to “conflict with situations where there are ‘unknowns’ and the bureau cannot meaningfully evaluate the effects, but it nonetheless is necessary to move ahead with the proposal.” This commenter suggested that the Department clarify that NEPA review will proceed and will be based on the best available data.

Response: The Department agrees that NEPA analysis takes place when the effects of a proposed action can be meaningfully evaluated, as stated in the revised paragraph 46.100(b). Further, the Department appreciates the commenter highlighting the possibility of confusion resulting from the structure of 46.100 as proposed. As proposed, section 46.100 addressed both the questions of whether and when a proposed action is subject to the procedural requirements of NEPA, but without grouping the provisions addressing these two issues separately. In response to this comment, and upon further review, the Department has restructured section 46.100 to separate these two issues into paragraphs (a) and (b) for the sake of clarity. The revised paragraph 46.100(b) identifies when in its development the proposed Federal action the NEPA process should be applied and, if meaningful evaluation of effects cannot occur, then the proposal is not yet ripe for analysis under NEPA.

That being said, NEPA itself does not require the use of “best available data;” rather, CEQ regulations demand information of “high quality” and professional integrity. 40 CFR 1500.1, 1502.24. However, the Department’s obligations under other authorities, such as the Information Quality Act Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554), do require bureaus to use the best available data. While discussion of the Department’s obligations under the Information Quality Act is outside the scope of this rule, the Department concurs that meaningful evaluation must be carried out on the basis of whatever data is available. The Department does not believe that this is inconsistent with CEQ’s provision regarding those situations where information is incomplete or unavailable (40 CFR 1502.22). In fact, rather than stating that meaningful evaluation cannot take place when there are “unknowns” as the commenter appears to suggest, the CEQ regulations provide steps to take in order that meaningful evaluation can continue when information is lacking; therefore, the Department does not believe

revision of this rule is necessary to address this point.

Comment: Several individuals responded to our request for input regarding the use of FONSI based on tiered EAs where a FONSI would be, in effect, a finding of no significant impacts other than those already disclosed and analyzed in the EIS to which the EA is tiered. These individuals supported the concept.

Response: The Department appreciates the comment. The Department has added the provision as contemplated. See section 46.140, which provides for the use of tiered documents. See also the detailed response to comments on section 46.140, below. Under this final rule a FONSI or FONSI (Finding of No New Significant Impact) can be prepared based on an EA that is tiered to an EIS. This approach is consistent with CEQ regulations at 40 CFR 1508.28.

Comment: One group recommended the Department clarify that the National Park Service (NPS) should prepare an EA or EIS as part of its submission to the National Capital Planning Commission.

Response: This comment was specifically referring to situations where a particular type of proposed action may be subject to categorical exclusion (CX or CE) under the Department's NEPA procedures but not under the NEPA procedures of another Federal agency such as, in this case, the NEPA procedures of the National Capital Planning Commission (NCPC). While, as a general rule, each Federal agency is responsible for compliance with NEPA consistent with both CEQ's regulations and its own procedures for implementing NEPA, the particular issue raised concerns a very specific situation involving two Federal agencies acting under very specific and distinct authorities. Therefore, the Department declines to address this comment more specifically and does not believe a specific provision is necessary in general Departmental procedures.

Section 46.105 Using a contractor to prepare environmental documents. This section explains how bureaus may use a contractor to prepare any environmental document in accordance with the standards of 40 CFR 1506.5(c).

Comment: Some commenters wanted the Department to clarify requirements for working with a contractor. Some stated that strict requirements should be put into place for selection of a contractor to ensure the adequacy of documents, independent evaluation, and sound management practices. One individual stated that the Department

should adopt existing CEQ guidance on the use and selection of contractors.

Response: The Department complies with CEQ regulations and follows existing CEQ guidance on the selection and use of contractors. Each bureau is responsible for determining how its officials will work with contractors, subject to the CEQ regulations and guidance. In any event, the RO is responsible for, or is the approving official for, the adequacy of the environmental document. The Department does not believe any further clarification of the rule is necessary.

Comment: Another commenter applauded the Department for a "clear articulation of the use of contractors for NEPA document preparation."

Response: The Department appreciates the comment.

Section 46.110 Incorporating consensus-based management. This section provides a definition of consensus-based management and incorporates this approach as part of the Department's NEPA processes. Paragraph 46.110(e), requiring bureaus to develop directive to implement section 46.110 has been removed from the final rule as not appropriate for regulatory treatment.

Comment: Most commenters supported the Department's proposed rule on consensus-based management. However, many individuals expressed concerns regarding the breadth of the definition of consensus-based management. Because of the lack of concrete provisions within this section, many individuals suggested the NEPA process could become "unnecessarily time consuming and costly." Several individuals stated that the word "consensus" should be taken out of the proposed rule because "consensus" suggests interested parties will determine the preferred alternative. Other individuals suggested that the term "consensus" has the potential to create "unreasonable expectations in the public." One group suggested replacing "consensus" with "open and transparent community involvement and input." Another suggestion for the replacement of the word "consensus" was "collaboration." Several individuals stated that the proposal for consensus-based management should be withdrawn and that the Department should continue following the current CEQ regulations on collaboration. Individuals suggested that the Department clearly define what constitutes community.

Response: The Department has revised section 46.110, and added a definition for "consensus-based management" to this section. The

definition comes from the existing ESM03-7, and expresses existing Department policy. The definition of "consensus-based management" has been modified in order to render it in regulatory language. Many of the commenters seem to assume that in the absence of consensus the Department will not take action. This is not the case. While the RO is required to consider the consensus-based management alternative whenever practicable, at all times discretion remains with the RO regarding decisions, if any, to be made with respect to the proposed action. While the Department requires the use of consensus-based management, whenever practicable, we have added a provision that if the RO determines that the consensus-based alternative should not be the preferred alternative, an explanation of the rationale behind this decision is to be incorporated in the environmental document.

Comment: Some commenters stated that the technique of consensus-based management may be impossible to implement. One group was particularly concerned with the definition of "interested party." They believe it may be impossible for the Department to determine who the interested parties are and that the process of managing interested parties may be cumbersome and add expense and time onto NEPA projects. This group suggested that the Department develop a clear and concise definition of "interested parties."

Response: The Department acknowledges that consensus may not always be achievable or consistent with the Department's legal obligations or policy decisions. However, the Department requires the use of consensus-based management whenever practicable. CEQ regulations direct agencies to encourage and facilitate public involvement in the NEPA process. 40 CFR 1500.2(d), 40 CFR 1506.6. The Department agrees that use of the term "interested parties" may cause confusion. The Department has replaced the term "interested parties" with "those persons or organizations who may be interested or affected" which is used in the CEQ regulations. See for example 40 CFR 1503.1.

Comment: Several individuals stated that it is vital that the interests of the "regional community" be taken into account during the NEPA process. One commenter applauded the Department for including consensus-based management in the proposed rule and for taking additional steps to support the "cooperative conservation policy." One group believed this proposal would "provide an avenue for impacted local governments and citizens to become

involved in the agency review process, and have their interests acknowledged in a meaningful way, and achieve a win-win final decision.”

Response: The Department appreciates the comment and agrees that the interests of the regional and local community should be taken into account during the NEPA process.

Comment: Several commenters stated that the Department needs to add a provision to the rule that clearly spells out the role of the RO. This provision would include directives on selecting alternatives.

Response: The Department has defined “Responsible Official” under section 46.30. The Department has also specified in the definition that the RO is responsible for NEPA compliance (which includes the selection of alternatives). The particular identity of the RO for any given proposed action is determined by the relevant statute, regulation, DM, or specific delegation document that grants the authority for that particular action.

Comment: Some individuals also stated that a process should be included to assure the public that the community’s work is reflected in the evaluation of the proposed action and the final decision, even if the community alternative is not eventually selected as the agency’s preferred alternative. One group suggested that the Department define what constitutes “assurance” that participant work is considered in the decision-making process. Several groups stated that the community alternative must fully comply with NEPA, CEQ regulations, and all Department policies and procedures in order to be considered by the RO. Several groups refer to court cases stating that NEPA “does not require agencies to consider alternatives that are not feasible or practical.” Individuals would like the Department to explain what a community alternative consists of, how it will be evaluated, who is the relevant community, and how many community alternatives can be proposed for each project. They also expressed concern that the proposed rule suggests all alternatives submitted must be analyzed in detail.

Response: Section 46.110 provides for the evaluation of reasonable alternatives presented by persons, organizations or communities who may be interested or affected by a proposed action in the NEPA document even if the RO does not select that alternative for implementation. The final rule clarifies that, while all or a reasonable number of examples covering the full spectrum of reasonable alternatives may be considered, a consensus-based

management alternative (if there are any presented) may only be selected if it is fully consistent with the purpose of and need for the proposed action, as well as with NEPA generally, the CEQ regulations, and all applicable statutory and regulatory provisions, as well as Departmental and bureau written policies and guidance could be selected. It also provides that bureaus must be able to show that participants’ or community’s input is reflected in the evaluation of the proposed action and the final decision. Therefore, the Department believes that the final rule adequately addresses these comments.

Comment: Some individuals indicated that NEPA does not require consensus and stated the proposed rule goes against the direction of the CEQ regulations. Some commenters directed the Department to review CEQ’s “Collaboration in NEPA” handbook. Several groups recommended that the Department include and review the Environmental Statement Memorandum No. ESM03–7.

Response: The Department agrees neither NEPA nor the CEQ regulations require consensus. This new regulation requires the use of consensus-based management whenever practicable. Consensus-based management is not inconsistent with the intent of NEPA and the CEQ regulations. The Department has reviewed CEQ’s publication “Collaboration in NEPA—A Handbook for NEPA Practitioners” available at http://ceq.eh.doe.gov/nepa/nepapubs/Collaboration_in_NEPA_Oct2007.pdf. While consensus-based management, like collaboration, can be a useful tool, the Department recognizes that consensus-based management may not be appropriate in every case. The final rule does not set consensus-based management requirements, including timelines or documentation of when parties become involved in the process. Similar to collaborative processes, consensus-based management processes, like public involvement and scoping, will vary depending on the circumstances surrounding a particular proposed action. Some situations will require a lot of time and others will not. Regardless of the level or kind of public involvement that takes place, at all times the RO remains the decision maker.

Comment: One group suggested that the Department remove paragraph (b) because it is “duplicative, ambiguous, and unnecessary.” They believed this section simply restates the requirement in section 1502.14 of the CEQ regulations that requires agencies evaluate “all reasonable alternatives.”

They also expressed concern that community-based alternatives may be given preferential weight over the project proponent’s alternative.

Response: The Department does not agree that the section is unnecessary and duplicative or that it simply restates the requirement in section 1502.14 of the CEQ regulations. Although there are some common elements to 40 CFR 1502.14 and paragraph 46.110(b), this paragraph requires the use of consensus-based management in NEPA processes and decision-making whenever practicable. The RO is responsible for an analysis of the reasonable alternatives, and the NEPA process allows for the selection of an alternative based on the consideration of environmental effects, as well as the discretionary evaluation of the RO. The intent of this provision is that alternatives presented by those persons or organizations that may be interested or affected, including applicants, be given consideration.

Comment: One group wanted to see a mandate added to the proposed rule that requires the Department to work with tribal governments. One individual suggested that the word “considered” should be changed to “adopted,” “accepted,” or “implemented” to ensure consideration is given to an alternative proposed by a tribe.

Response: The Department has a government-to-government relationship with federally-recognized tribes and as such specifically provides for consultation, coordination and cooperation. We consider all alternatives, including those proposed by the tribes, as part of the NEPA process, but cannot adopt, accept, or implement any alternative before full evaluation of all reasonable alternatives. Therefore, the Department declines to adopt the group’s recommendation.

Section 46.113 Scope of the analysis. This section, as proposed, addressed the relationships between connected, cumulative, and similar actions and direct, indirect and cumulative impacts. This section has been removed from the final rule.

Comment: Some commenters stated that the proposed rule is not clear with respect to the issue of what projects need to be included in the scope of analysis. One individual suggested that the Department should include language in the proposed rule clarifying that the effects of connected, cumulative and similar actions must be included in the effects analysis as indirect or cumulative effects. These actions do not become part of the proposed action, and alternatives for these actions need not be considered in the analysis.

One individual suggests that the Department change the language to provide guidance that allows bureaus to determine which projects need to be included in a cumulative effects analysis. They recommend clearly defining “connected,” “cumulative,” “direct,” and “indirect.” If these changes are made, some believe this rule will provide uniformity, consistency, and predictability to the NEPA process.

Another individual suggested “should” be removed from this section. They expressed concern that the current wording implies that connected and cumulative action analysis is optional.

One commenter recommended that this section should be deleted in its entirety because it is inconsistent with CEQ regulations. They recommended that the Department revise the section to reflect the difference between the treatment of connected, cumulative, and similar actions and the treatment of the effects of such actions.

Response: In light of the confusion reflected in several of the comments, as well as upon further consideration, the Department has eliminated this provision from the final rule. Bureaus will continue to follow CEQ regulations regarding scope of analysis at 40 CFR 1508.25, as well as bureau specific directives.

Section 46.115 Consideration of past actions in the analysis of cumulative effects. This section incorporates CEQ guidance issued on June 24, 2005 that clarifies how past actions should be considered in a cumulative effects analysis. The Department has elected not to repeat the specific provisions of the CEQ guidance in the final rule. Responsible Officials are directed to refer to the applicable CEQ regulations and the June 24, 2005 CEQ guidance.

Comment: Several groups commended the Department for its efforts to bring clarity to the NEPA cumulative effects analysis.

Response: The Department appreciates the comments.

Comment: Several groups stated that CEQ regulations do not contain a “significant cause-and-effect” filter excluding projects from cumulative impact analysis because the project’s effects are minor. One group was concerned that the proposed rule contains measures that would “constrain the usefulness of agencies’ analyses of cumulative impacts,” and would violate CEQ regulations. This group suggested that the proposed rule would constrain the scope of actions whose effects should be considered in a cumulative impacts analysis.

Some individuals stated that the Department is proposing to curtail the consideration and evaluation of past actions when proposing future activities. They stated that the agencies and public should be informed of potential environmental consequences before decisions are made. Others suggested this section does not provide guidance to the RO on what past actions and proposed future actions should be included in the analysis. Groups stated that a Department field office has no inherent expertise in determining which actions are relevant to a cumulative impacts analysis and should therefore not be vested with such discretion. Several groups suggested that the entire section should be removed from the proposed rule, and that the Department should conduct environmental analyses pursuant to CEQ regulations. One individual stated “NEPA is intended to ensure that bureaus make sound decisions informed by the “cumulative and incremental environmental impacts” of the proposed projects and how those impacts will actually affect the environment.” Several groups stated that vague language for past actions to be included in cumulative impact analysis will result in more confusion and litigation.

Response: At section 46.115, this final rule incorporates guidance on the analysis of past actions from the June 24, 2005 CEQ Guidance on the *Consideration of Past Actions in Cumulative Effects Analysis*, which may be found at http://ceq.eh.doe.gov/nepa/regs/Guidance_on_CE.pdf. This section is consistent with existing CEQ regulations, which use the terms “effects” and “impacts” synonymously and define cumulative impact as “the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions” (40 CFR 1508.7).

The focus of the CEQ guidance incorporated in this final rule is on the consideration of useful and relevant information related to past actions when determining the cumulative effects of proposals and alternatives. Bureaus will conduct cumulative effects analyses necessary to inform decision-making and disclose environmental effects in compliance with NEPA. A “significant cause-and-effect” filter is specifically provided for in the CEQ guidance.

To clarify the Department’s commitment to follow CEQ guidance concerning consideration of past actions, the final rule at section 46.115 is revised to state, “When considering the effects of past actions as part of a cumulative effects analysis, the Responsible Official must analyze the

effects in accordance with 40 CFR 1508.7 and in accordance with relevant guidance issued by the Council on Environmental Quality, such as ‘The Council on Environmental Quality Guidance Memorandum on Consideration of Past Actions in Cumulative Effects Analysis’ dated June 24, 2005, or any superseding Council on Environmental Quality guidance.” The Department believes that by incorporating CEQ’s guidance we have included sufficient specificity in the rule; any other “how to” information may be provided through the Departmental chapters in the DM, environmental statement memoranda series, or bureau-specific explanatory and informational directives.

Comment: Groups expressed concern over the definition of “reasonably foreseeable future actions” and suggested this definition should be removed from the final proposal. They understood that the Department cannot conduct a “crystal ball” analysis but that actions should be considered in the analysis even if decisions and funding for specific future proposals does not exist.

Response: The Department agrees. In response, the Department has added specificity and provided guidance on what should be considered a reasonably foreseeable future action in order to ensure that speculative activities or actions are not incorporated into the analysis while actions that may inform the RO’s analysis of cumulative impacts for the proposed action are included, even if they are not yet funded, proposed, or the subject of a decision identified by the bureau. This approach is consistent with CEQ regulations.

Section 46.120 Using existing environmental analyses prepared pursuant to NEPA and the Council on Environmental Quality regulations. This section explains how to incorporate existing environmental analysis previously prepared pursuant to NEPA and the CEQ regulations into the analysis being prepared.

Comment: Several individuals agreed that using existing documentation will reduce lengthy analysis and duplication of work and applaud the Department for including this section in the proposed rule. However, commenters would like a provision added to the section to ensure the supporting documentation is provided to the public online and in the bureau’s office.

Response: The Department agrees that any information relied upon in a NEPA analysis should be publicly available, either independently or in connection with the specific proposed action at

issue, and has so stated in section 46.135.

Section 46.125 Incomplete or unavailable information. CEQ regulations at 40 CFR 1502.22 provide “When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking” and sets out steps that agencies must follow in these circumstances. This section clarifies that the overall costs of obtaining information referred to in 40 CFR 1502.22 are not limited to the estimated monetary cost of obtaining information unavailable at the time of the EIS, but can include other costs such as social costs that are more difficult to monetize. Specifically, the Department requested comments on whether to provide guidance on how to incorporate non-monetized social costs into its determination of whether the costs of incomplete or unavailable information are exorbitant. The Department also requested comments on what non-monetized social costs might be appropriate to include in this determination; e.g., social-economic and environmental (including biological) costs of delay in fire risk assessments for high risk fire-prone areas.

Comment: Many commenters expressed concern with the incomplete or unavailable information section. They stated that the rule does not provide guidance to bureaus on how to address “non-monetized social costs.” Some individuals stated that critical information is missing from this section, such as an exclusive list of non-monetized social costs. Several groups suggested the Department expand on CEQ regulation section 1502.22 which addresses agency procedure in the face of incomplete or unavailable information. Groups stated that the Department should “direct its bureaus to specifically evaluate the risks of proceeding without relevant information, including risks to sensitive resources.” Some suggested the Department provide their findings to the public so the public can provide meaningful comment and scrutiny. They stated that this approach would be more consistent with case law and with CEQ regulations. Groups stated that if the section remains “as is,” the Department has provided “the bureaus with an incentive to cease collecting information and providing it to the public.” One group stated that the proposed rule encourages agencies to find reasons not to obtain information

that they have already acknowledged is relevant to reasonably foreseeable significant impacts and that this message is contrary to NEPA and CEQ regulations. Several other commenters noted that the proposed rule provides clarity in assessing the monetary costs of gathering information and is consistent with CEQ regulations.

Response: The Department believes that section 46.125 provides guidance sufficient to implement 40 CFR 1502.22 in so far as CEQ’s regulation addresses this issue of costs. The Department has added some language in response to comments regarding what sorts of considerations constitute “non-monetized social costs.” However, the Department believes that other factors that may need to be weighed include the risk of undesirable outcomes in circumstances where information is insufficient or incomplete. Paragraph 1502.22(b) specifically provides for the steps the Department will take if the overall cost of obtaining the data is exorbitant or the means to obtain the data are not known.

Comment: One commenter suggested that the Department must “utiliz[e] public comment and the best available scientific information” and recommended including a provision to this effect in the final rule.

Response: There is no question that public involvement is an integral part of the NEPA process and can take a variety of forms, depending on the nature of the proposed action and the environmental document being prepared; therefore the final rule includes several provisions addressing public involvement. There is, however, some level of confusion regarding the data standard applicable to the type of information NEPA requires. The assertion is frequently made in court cases, as the commenter suggests here, that NEPA analyses must use the “best available science” to support their conclusions. In fact, the “best available science” standard comes from section 7 of the Endangered Species Act, specifically 16 U.S.C. 1536(a)(2), which requires that “each agency shall use the best scientific and commercial data available” when evaluating a proposed action’s impact on an endangered species. In addition, the “best available science” standard is used by the United States Department of Agriculture Forest Service’s regulations implementing the National Forest Management Act of 1976, 16 U.S.C. 1600 *et seq.* (see Final Rule and Record of Decision, National Forest System Land Management Planning Part III, 73 Fed. Reg. 21468 (Apr. 21, 2008) (to be codified at 36 CFR Part 219)). NEPA imposes a different standard: rather than

insisting on the best scientific information available, CEQ regulations demand information of “high quality” and professional integrity. 40 CFR 1500.1, 1502.24. Therefore, the Department declines to accept the commenter’s recommendation.

Section 46.130 Mitigation measures in analyses. This section has been clarified from the proposed rule. The revision clarifies how mitigation measures and environmental best management practices are to be incorporated into and analyzed as part of the proposed action and its alternatives.

Comment: Most individuals stated that the Department should address mitigation measures in the proposed rule. These individuals explained that, in order to provide interested parties an accurate portrayal of potential effects, it is necessary to include all mitigation measures in the impacts analysis. Several individuals indicate the language in the proposed rule is broad and unclear. Several groups opposed the proposed rule in its current form and suggested that the Department should revise and narrow the rule to “clarify that possible mitigation measures are discussed in NEPA documents in order to help inform an agency’s decision, but reflect the well-settled legal principle that the agency need not guarantee that particular mitigation measures be implemented or that such mitigation measures be successful.” One group suggested that the Department revise the proposed rule to clarify that NEPA does not require agencies to adopt particular mitigation measures or to guarantee the success of the mitigation plans. One group stated that avoiding significant environmental effects should be the primary goal in the development of any proposed action and mitigation should be a final course of action when all other attempts to avoid impacts have been exhausted.

Response: The Department agrees with the comments about the importance of mitigation; the provision addressing mitigation is carried forward into this final rule. The Department has, however, refined the language of the provision for clarity. The Department agrees that NEPA does not require bureaus to adopt particular mitigation measures and that it is not possible to guarantee the success of mitigation plans, but does not believe revision to the final rule reflecting this understanding is necessary.

Comment: One group argued that including mitigation measures in the effects analysis is crucial to demonstrate that potential effects can be mitigated through the use of stipulations,

conditions of approval, and best management practices. They did not believe it necessary to “strip” mitigation measures or best management practices from an applicant’s proposal just for the sake of analyzing the stripped down version.

Response: It was not the Department’s intent that applicants’ proposals be stripped of all best management practices or mitigation measures. The Department has included language to clarify this point. Independent of NEPA, any application must provide a proposal that includes any ameliorative design elements (for example, stipulations, conditions, or best management practices) required to make that proposal conform to legal requirements. In addition, the applicant’s proposal presented to the bureau for decision-making will include any voluntary ameliorative design element(s) that are part of the applicant’s proposal. Therefore, the analysis of the applicant’s proposal, as an alternative, includes, and does not strip out, these elements. Should the bureau wish to consider and/or require any additional mitigation measures other than the design elements included in the applicant’s proposal, the effects of such mitigation measures must also be analyzed. This analysis can be structured as a matter of consideration of alternatives to approving the applicant’s proposal or as separate mitigation measures to be imposed on any alternative selected for implementation.

Section 46.135 Incorporation of referenced documents into NEPA analysis. This section establishes procedures for incorporating referenced documents as provided for in the CEQ regulations at 40 CFR 1502.21.

No comments were received on this section, but clarifying changes have been made in this final rule.

Section 46.140 Using tiered documents. This section clarifies the use of tiering. As contemplated in the preamble to the rule, and in response to favorable comments, the Department has added a new subsection clarifying that an environmental assessment may be prepared, and a finding of no significant impact reached, for a proposed action with significant effects, whether direct, indirect, or cumulative, if the environmental assessment is tiered to a broader environmental impact statement which fully analyzed those significant effects. Tiering to the programmatic or broader-scope environmental impact statement would allow the preparation of an environmental assessment and a finding of no significant impact for the individual proposed action, so long as

any previously unanalyzed effects are not significant. The finding of no significant impact, in such circumstances, would be, in effect, a finding of no significant impact other than those already disclosed and analyzed in the environmental impact statement to which the environmental assessment is tiered. The finding of no significant impact in these circumstances may also be called a “finding of no new significant impact.” In addition, the provision requiring bureaus to review existing directives addressing tiering, and listing topics that must be included in such directives has been removed from the final rule as not appropriate for regulatory treatment. The numbering of the subsections has been adjusted accordingly.

Comment: One group supported using existing analyses to avoid duplication of effort and to minimize costs. However, they stated that the Department should clearly indicate that existing data does not need to be supplemented with new data if there is no evidence that the current conditions differ from the conditions in which the existing data was developed.

Response: The Department concurs with the comment, but believes that it has been addressed in paragraph 46.140(a). As contemplated in the preamble to the rule, and in response to favorable comments, the Department has added a new paragraph 46.140(c).

Section 46.145 Using adaptive management. This section incorporates adaptive management as part of the NEPA planning process.

Comment: Most commenters supported the concept of adaptive management. However, they stated that the Department has not clearly explained how adaptive management will be incorporated into the NEPA process. One individual believed adaptive management could be a useful tool in allowing “mid-course corrections” without requiring new or supplemental NEPA review. Several groups suggest that the Department clarify that adaptive management is only appropriate where risk of failure will not cause harm to sensitive resources. Also, they stated that a requirement for a sufficient inventory of current conditions of affected resources should be included in the adaptive management plan. A detailed monitoring plan should be developed with specific indicators that will serve to define the limits of acceptable change. They also requested a “fallback” plan, which would be implemented if adaptive management, monitoring, or funding is not available. Several commenters suggested the

Department include sufficient detail and commitments as to how impacts will be measured, avoided, and mitigated. They urged the Department to make this plan available for public comment. Another group suggested that the Department clearly delineate the scope, duration, and availability of funding for any planned monitoring programs before they are implemented. One individual suggested that the Department include additional detail that will clarify how and when it is appropriate to evaluate the effects of adaptive management in subsequent NEPA analysis. Another commenter suggests the Department develop a manual to demonstrate to managers circumstances where adaptive management has worked on-the-ground.

Many groups were concerned that adaptive management is a costly practice and will result in accruing additional costs for project proponents. One group was concerned that lack of information may be used to excuse and allow actions to proceed without sufficient protective measures in place. Some commenters expressed concern that it would be impossible to adequately analyze impacts of adaptive management “since those actions rely on future conditions that could be complicated and cumulative.” Modifications to requirements and conclusions in decision documents must be allowed to ensure appropriate adjustments to management actions, according to one group. One commenter was concerned that the Department may misuse adaptive management with regard to on-the-ground monitoring due to lack of funding. Another group suggested the project proponent should play a role in defining the adaptive management strategy and ensuring funding will be available. They also suggested the Department clarify that public involvement is welcome but adaptive management strategies and implementation are the full responsibility of the agency.

Groups questioned adaptive management’s consistency with current case law, NEPA, and CEQ regulations. Several commenters suggested that this section should be eliminated due to its inconsistencies with NEPA and CEQ. Due to lack of CEQ framework and no guidance for implementation, one group suggested that the Department should remove this section from the proposed rule.

Response: The Department has made minor wording changes to this section. Adaptive Management (AM) is an approach to management; however, it can be integrated with the NEPA process. The establishment of specific provisions with respect to the use of AM

is beyond the scope of this rule. The intent of this provision is only to clarify that the use of an AM approach is not inconsistent with NEPA. That is, proposed actions must be analyzed under NEPA. Each proposed action, including possible changes in management resulting from an AM approach, may be analyzed at the outset of the process, or these changes in management may be analyzed when actually implemented.

Section 46.150 Emergency responses. This section clarifies that ROs, in response to the immediate effects of emergencies, can take immediate actions necessary to mitigate harm to life, property, or important resources without complying with the procedural requirements of NEPA, the CEQ regulations, or this rule. Furthermore, ROs can take urgent actions to respond to the immediate effects of an emergency when there is not sufficient time to comply with the procedural requirements of NEPA, the CEQ regulations, or this rule by consulting with the Department (and CEQ in cases where the response action is expected to have significant environmental impacts) about alternative arrangements.

Comment: Some commenters expressed concern regarding the broad definitions provided in the emergency response section. They stated the section is “written too broadly and could potentially lead to the misuse of the provision that would allow a bureau to bypass the preparation of an environmental document.” One group objected to the lack of specificity in terms provided in this section, such as “emergency,” “emergency actions,” “immediate impact,” and “important resources,” leaves uncertainty as to how this provision may be implemented by the Department.

Response: There is no special meaning intended for the term “emergency” beyond its common usage as “an unforeseen combination of circumstances or the resulting state that calls for immediate action” (*Webster’s Third New International Dictionary Of The English Language* 1961 and *Merriam-Webster’s Collegiate Dictionary* (11th ed. 2004)); “a sudden, urgent, usually unexpected occurrence or occasion requiring immediate action” (*Random House Dictionary Of The English Language* (2ed. 1987)); “a state of things unexpectedly arising, and urgently demanding immediate action” (*The Oxford English Dictionary* 2ed. 1991) and “[a] situation that demands unusual or immediate action and that may allow people to circumvent usual procedures * * *” (*Black’s Law*

Dictionary 260, 562 (8th ed. 2004)). The proposed regulation, as revised in this final rule, recognizes that responsible officials can take immediate actions to control the immediate impacts of an emergency to mitigate harm to life, property, or important natural or cultural resources.

The final rule, at section 46.150, replaces “other important resources” with “important natural, cultural, or historic resources” to more clearly identify the type of resources impacted by the emergency. The Department has not defined an emergency because it is impossible to list all circumstances that constitute an emergency; it is up to the RO to decide what constitutes an emergency.

Only such actions required to address the “immediate impacts of the emergency that are urgently required to mitigate harm to life, property, or important natural, cultural, or historic resources” may be taken without regard to the procedural requirements of NEPA or the CEQ regulations. Thus, there are no NEPA documentation requirements for these types of situations and the final rule requires NEPA to apply to any and all subsequent proposed actions that address the underlying emergency (paragraphs 46.150 (c) and (d)). The provisions of section 46.150 codify the existing Department practice and CEQ guidance for emergency actions.

Comment: Another group suggested that the Department add a sentence that states “the RO shall document in writing the action taken, any mitigation, and how the action meets the requirements of this paragraph.” Several commenters stated that this section does not comply with Congress’ mandate to comply with NEPA and CEQ regulations. Several groups believed the proposed rule would allow a bureau to implement any action at any time and avoid the NEPA planning process. Others stated that the “important resources” clause should be removed from this section. Several commenters were concerned that the Department is implementing emergency response in order to preclude analysis of fire suppression activities.

Response: The Department agrees that the RO should document the determination of an emergency and have modified the final rule to require this. The Department will continue to act to protect lives, property, and important natural, cultural, or historic resources through means including the use of fire suppression. The Department notes that fire suppression alternatives are addressed in plans that are subject to NEPA analysis.

Section 46.155 Consultation, coordination, and cooperation with other agencies. This section describes the use of procedures to consult, coordinate, and cooperate with relevant State, local, and tribal governments, other bureaus, and Federal agencies concerning the environmental effects of Department plans, programs, and activities. The Department deleted the reference to organizations since this section will deal only with Federal, State, and tribal governmental entities. Material related to consensus-based management has been moved to section 46.110 in order to consolidate all provisions related to consensus-based management. Paragraph 46.155(b), directing bureaus to develop procedures to implement this section, has been deleted as not appropriate for regulatory treatment.

Comment: Many commenters supported this section and stated collaboration would benefit all interested parties.

Response: The Department appreciates the comments.

Comment: Some individuals pointed out that consensus is often unachievable and unnecessary. One group stated that the Department should put federal project reviews into a consensus building process to ensure that opinions and experience are captured in the NEPA process.

Response: Please see our response above to comments on section 46.110.

Comment: Many groups suggested the Department require bureaus to work with cooperating agencies, such as the U.S. Fish and Wildlife Service. One commenter indicated that the Department should ensure that enhanced involvement does not add unnecessary cost or burden to project proponents. They also stated that “memorializing cooperative conservation in regulations, rather than policy guidance, will result in unnecessary burdens and litigation.”

Response: The Department requires that the RO of the lead bureau consider any request by an eligible government entity to participate in a particular EIS as a cooperating agency. The Department recognizes that an emphasis on the use of cooperating agencies may result in additional steps in the NEPA process, but is likely to lead to improved cooperative conservation and enhanced decision making. Executive Order 13352 on Facilitation of Cooperative Conservation requires all federal agencies to implement cooperative conservation in their programs and activities. Cooperative conservation is consistent with the CEQ requirement that agencies should

encourage and facilitate public involvement in the NEPA process. See 40 CFR 1500.2(d), 1506.6.

Comment: Several tribes expressed concern that the proposed rule will negate the government-to-government consultation with tribes. The tribes believed that the Department should include a provision to ensure Indian tribes are given the opportunity to fully participate in the NEPA process and address concerns that are unique to each action.

Response: See our response above with respect to government-to-government consultation under section 46.110.

Section 46.160 Limitations on actions during the NEPA analysis process. This section incorporates guidance to aid in fulfilling the requirements of 40 CFR 1506.1.

Comment: Several individuals agreed with the proposed rule and believe there is legal authority to support this section. One individual suggested that the Department should address actions that can be taken while a “project” is underway, specifically “actions taken by a private project applicant that are outside the jurisdiction of the bureau are not an irreversible or irretrievable commitment of agency resources.” They suggested the Department add a provision to this section to clarify the Department’s commitment to projects. Although the direction is clear in the provision, one group stated bureau field offices are not adhering to this policy and that an additional provision should be added to this section regarding the use of existing NEPA documents for major federal actions. Another group wanted the Department to add an additional sentence clarifying that a particular action must be justified independently of the program and will not prejudice the ultimate decision of the proposed program.

Response: The Department appreciates the support expressed for this provision. The Department believes that this provision is clear and consistent with 40 CFR 1506.1 and does not believe any additional statement to this effect need be added to the final rule. The requested addition is not required because the provision here at section 46.160 only addresses situations where the major Federal action is within the scope of and analyzed in an existing NEPA document supporting the current plan or program. With respect to current practice within the Department, as explained in the preamble to the proposed rule, see 73 FR 126 (Jan. 2, 2008), the Department believes that one of the benefits of establishing this final rule is greater transparency in the NEPA

process. Such transparency is likely to improve consistency of implementation across the Department, as well.

Section 46.165 Ensuring public involvement. This section has been removed from the final rule. CEQ regulations include requirements for public involvement in the preparation of an EIS. Section 46.305 of this final rule addresses public involvement in the EA process. The requirement in paragraph 46.305(a), that the bureau must, to the extent practicable, provide for public notification and public involvement when an EA is being prepared, includes an element of timeliness. The RO has the discretion to choose method(s) of public notification and public involvement that ensure that, if practicable, the public receives timely information on the proposed action.

Comment: One commenter stated that this provision does not provide clarity in the role of public participation. They suggested the Department add additional language to explain the timing, processes and opportunities this provision will provide.

Response: CEQ regulations implementing NEPA direct agencies to encourage and facilitate public involvement in the NEPA process “to the fullest extent possible.” 40 CFR 1500.2(d); see also 40 CFR 1506.6. Bureaus conduct a wide variety of actions under various conditions and circumstances. Therefore, the Department has determined that the best approach is for individual bureaus to provide direction as to how ROs should exercise their discretion in ensuring that this involvement takes place in a manner practicable in the particular circumstances of each proposed action, but that it is not appropriate to provide specifics as to how this should occur in this final rule. The Department has provided some information regarding public involvement in ESM 03–4 and may address this topic in future ESMs.

Section 46.170 Environmental effects abroad of major Federal actions. This section describes procedures the bureaus must follow in implementing EO 12114, which “represents the United States government’s exclusive and complete determination of the procedural and other actions to be taken by Federal agencies to further the purpose of the National Environmental Policy Act, with respect to the environment outside the United States, its territories and possessions.”

No comments were received on this provision.

Subpart C: Initiating the NEPA Process

In the conversion from 516 DM 2 to 43 CFR Part 46, Subpart C, we have restructured the Department’s requirements for initiating the NEPA process. We have put into regulations the essential parts of the NEPA process that are unique to the Department and which require further clarification of the CEQ regulations. This rule clarifies the requirements for applying NEPA early, using categorical exclusions (CEs), designating lead agencies, determining eligible cooperating agencies, implementing the Department’s scoping process, and adhering to time limits for the NEPA process.

Section 46.200 Applying NEPA early. This section emphasizes early consultation and coordination with Federal, State, local, and tribal entities and with those persons or organizations who may be interested or affected whenever practical and feasible. A new paragraph 46.200(e) has been added to clarify that bureaus must inform applicants as soon as practicable of any responsibility they will bear for funding environmental analyses associated with their proposals. Any cost estimates provided to applicants are not binding upon the bureau. This provision had already been included with respect to the preparation of EISs, but should also have been included with respect to EAs. Therefore, the provision has been moved from 46.400 (EISs) to 46.200.

Comment: Some commenters supported this section of the proposed rule as it is currently written.

Response: The Department appreciates the comments.

Comment: Some commenters stated that the proposed rule is not clear with respect to how community-based training will be conducted and what the content of the training will include. These commenters suggested the proposed rule should provide a detailed discussion of the purpose of such training, as well as when it is warranted.

Response: The Department has determined that this topic is most appropriately addressed in the environmental statement memoranda. Community-based training, including the content of the training, is included in ESM03–7 and, if appropriate, will be expanded in future ESMs or bureau-specific explanatory and informational directives. No change to the proposed rule has been made.

Comment: Some commenters also recommended that the proposed rule should clarify that it does not expand the amount of information required for applications under the relevant substantive statute.

Response: The final rule does not expand the amount of information required beyond what is required by NEPA and CEQ regulations, which may be more than the information required for applications under the relevant substantive statute. This provision simply provides that the bureaus be forthcoming with descriptions of information that the applicant may need.

Comment: A few commenters stated that public involvement should be limited to submitting comments on the scoping notice, attending public meetings, and submitting comments on the final version of draft NEPA documents. Various commenters suggest that the proposed rule require early consultation with applicants. Others proposed additional changes to the proposed rule to further facilitate early coordination between the Department and applicants. These commenters recommended that the proposed rule distinguish between public involvement in the EA process and the EIS process.

Response: As noted above, CEQ regulations implementing NEPA direct agencies to encourage and facilitate public involvement in the NEPA process “to the fullest extent possible.” 40 CFR 1500.2(d); see also 40 CFR 1506.6. The Department is encouraging enhanced public involvement and broad-based environmental coordination early in the NEPA process. The purpose is to facilitate better outcomes by encouraging dialogue among the affected parties. Public involvement is encouraged during the EA and EIS process. CEQ regulations prescribe the manner in which the minimum level of public involvement must be carried out under the EIS process; the manner of conducting public involvement in the EA process is left to the discretion of RO.

Section 46.205 Actions categorically excluded from further NEPA review. This section provides Department-specific guidance on the use of categorical exclusions.

Comment: Many commenters supported this section of the proposed rule as it is currently written. These commenters supported the position that NEPA does not “apply to statutorily created categorical exclusions,” such as those created by Congress in 2005.

Response: The Department concurs that legislation governs the application of statutory categorical exclusions. For example, the Energy Policy Act of 2005 (EPA Act) establishes how NEPA applies with respect to these categorical exclusions.

Comment: Several groups suggested that the Department “ensure that its

bureaus involve the public in the development and application of CEs and clearly state that extraordinary circumstances need to be provided for unless Congress specifically exempts an agency from doing so.” These groups maintained that CE disagreements could be reduced through greater transparency in their application. Some of these comments recommended the deletion of paragraph 46.205(d) from the proposed rule. Overall, commenters generally believed it is important to articulate the extraordinary circumstance under which a CE will not apply.

Response: As noted above, CEQ regulations include specific requirements for the establishment of procedures, including CEs, for implementing NEPA. When established as part of the DM, the categories listed in the final rule and the extraordinary circumstances language were approved by CEQ and subject to public review and comment, in accordance with 40 CFR 1507.3, by publication in the **Federal Register**, March 8, 2004 (69 FR 10866). The final CEs, as originally published in the DM, and as presented in this final rule, were developed based on a consideration of those comments. The Department has provided for extraordinary circumstances in the application of its CEs. Each bureau has a process whereby proposed actions are evaluated for whether particular CEs are applicable including whether extraordinary circumstances exist. As noted above, part of the Department’s intent in publishing its NEPA procedures as regulations is to increase transparency in their implementation.

By moving its NEPA procedures, including CEs and the listing of extraordinary circumstances from the DM to regulations, the Department does not intend to alter the substance of these CEs or extraordinary circumstances. In paragraph 46.205(d) the Department is merely acknowledging the fact that Congress may establish CEs by legislation, in which case the terms of the legislation determine how to apply those CEs.

Section 46.210 Listing of Departmental Categorical Exclusions. This section includes a listing of the Department’s CEs (currently 516 DM Chapter 2, Appendix B–1). The CEs are in paragraphs (a) through (l). These CEs were all published for public comment prior to inclusion in the DM. This section includes the same number of CEs as were in the DM and the wording in the CEs is unchanged, with five exceptions. Four of those changes are made between the rule as proposed and final because of minor editorial changes

from how the categorical exclusions appeared in the DM.

First, § 46.210(b) has been revised from “Internal organizational changes and facility and office reductions and closings” as it appeared in the DM to “Internal organizational changes and facility and bureau reductions and closings” to conform to the definition of “bureau” in the final rule, at § 46.30, which includes “office.” The DM had not provided a definition of “bureau” and so used both “bureau” and “office.” Second, the word “development” was inadvertently added, so that the parenthetical in the proposed rule at § 46.210(c) read “(e.g., in accordance with applicable procedures and Executive Orders for sustainable development or green procurement).” This change has been deleted from this final rule.

Third, the numbering system has been changed in the CE § 46.210(k) from the DM, originally published as final on June 5, 2003 (68 FR 33814), in order to more clearly set out the requirements for use of the CE for hazardous fuels reduction activities. The meaning of the CE has not changed. And fourth, in paragraphs 46.210(k) and (l), the citations to the ESM series, which appeared in parentheses in the DM, but as footnotes in the Notice published on March 8, 2004 (69 FR 10866), have been placed in the text itself for ease of reference.

Finally, paragraph 46.210(i), which replaces 516 DM Chapter 2, Appendix B–1, Number 1.10, has been changed to correct an error during the finalization of the revision to these DM chapters in 2004. Prior to 1984, and up until 2004, this CE, as established and employed by the Department, covered “Policies, directives, regulations, and guidelines that are of an administrative, financial, legal, technical, or procedural nature; or the environmental effects of which are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process, either collectively or case-by-case.” 49 FR 21437 (May 21, 1984); 516 DM 2, Appendix 1 (June 30, 2003) (Archived versions of 516 DM chapters, including the 1984, 2003, and 2004 versions of 516 DM 2, may be accessed at http://elips.doi.gov/app_dm/index.cfm?fuseaction=ShowArchive). No problems with the use of the CE were brought to the attention of the Department during this period. It is the version of the CE that was in place prior to 2004 that was proposed in the Department’s January 2, 2008 Notice of Proposed Rulemaking (73 FR 126, 130), and is announced as final in the rule published today.

From 2004, however, a slightly different version of the CE appeared in the DM chapters. In 2000, the Department proposed revisions to 516 DM, including 516 DM 2. 65 FR 52212, 52215 (Aug. 28, 2000). No change was proposed to this CE at that time, and no comments were received regarding this CE. No further action was taken on the 2000 proposal until 2003, when the Department again published the proposed revision to the 516 DM chapters at issue; however, as proposed this revision included an erroneous change to this CE. 68 FR 52595 (Sept. 4, 2003). No comments were received regarding this CE in response to the 2003 Notice. As a result, although no change had been intended, the following version was published as final in 2004 (69 FR 10866, 10877–78 (Mar. 8, 2004)), and incorporated into 516 DM 2, Appendix 1.10: “Policies, directives, regulations, and guidelines that are of an administrative, financial, legal, technical, or procedural nature and whose environmental effects are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process, either collectively or case-by-case.”

As noted in the preamble to the proposed rule, published January 2, 2008 (73 FR 126, 130), the Department is correcting an unintended drafting error in the 2004 Rule. The text which previously described two categories of policies, directives, regulations and guidelines (“* * * that are of an administrative, financial, legal, technical, or procedural nature; or the environmental effects of which are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process * * *”), was replaced with a more restrictive category of policies, directives, regulations and guidelines (“* * * that are of an administrative, financial, legal, technical, or procedural nature and whose environmental effects are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process * * *”). During the Departmental review beginning in 2006, in preparation for this rulemaking, the Department discovered the drafting error that infected both the 2003 proposal and the 2004 final revision to the DM. This error has made it difficult to use the CE as originally intended, and has engendered confusion in the Department. It is now clear that the erroneous version that became final in 2004, though inadvertent, had resulted in a substantive difference in meaning.

For example, the use of the word “and” made it difficult to apply the CE to an agency action, such as a procedural rule, that has no individual or cumulative significant environmental effects. With the correction effectuated by this 2008 rulemaking (no comments were received with respect to this proposed correction), this CE has now been replaced with its original version. As such, actions such as procedural rules with no individual or cumulative significant environmental effects are covered by the categorical exclusion, as well as circumstances where the action will later be subject to NEPA compliance.

Comment: One commenter stated that the bureau-specific CEs should be included in the proposed rule. Comments also suggest the addition of a new category in the proposed rule which allows the bureaus the discretion to establish other Departmental CEs which are consistent with 43 CFR 46.205. One group suggests revising the proposed rule to cross-reference bureau-specific CEs. This group maintained that this cross-reference will provide better information for the public, as well as promote greater transparency in the NEPA process.

Response: Bureau specific CEs are listed separately in the 516 DM Chapters 8–15 to reflect bureau specific mission and activities. Those DM Chapters remain in effect. Bureaus have specific resource management and environmental conservation responsibilities and their CEs are tailored to these unique missions and mandates. The Departmental CEs are general and are applicable throughout the Department and across all bureaus. Bureaus have the discretion to propose additional CEs that apply in a bureau specific context and which are included in the bureau specific chapters of the DM. If appropriate, bureaus can also propose to the Department additional CEs to augment those already in this rule for future consideration. Such additional proposed CEs would have to be consistent with the broad nature of the already existing Departmental CEs. Cross referencing is unnecessary because bureau specific CEs are unique to that particular bureau and do not apply to other bureaus.

Comment: Several groups cited 40 CFR 1508.27(b), and stated that the Department “must also perform a cumulative effects analysis prior to promulgation of the CE.” These groups stated that impacts analysis at the project level does not relieve the Department from the obligation to ensure that the CE has no cumulative impacts. These groups were concerned

that the proposed rule on CEs does not comply with NEPA requirements and would violate recent court rulings.

Response: The requirements for establishing agency procedures for implementing NEPA—such as the procedures set forth in this rule, and including CEs—are set forth in CEQ’s regulations at 40 CFR 1505.1 and 1507.3. These provisions require agencies to consult with CEQ while developing procedures and to publish the procedures in the **Federal Register** for public comment prior to adoption. The CEQ regulations do not direct agencies to prepare a NEPA analysis or document before establishing agency NEPA procedures. This means that agencies are not required to prepare a NEPA analysis to establish their NEPA procedures; however, agencies must have a basis for determining that actions covered by proposed CEs do not have individual or cumulative impacts.

Agency NEPA procedures assist agencies in fulfilling agency responsibilities under NEPA and are not, themselves, actions or programs that may have effects on the human environment. Moreover, agency NEPA procedures do not dictate what level of NEPA analysis is required for a particular proposed action or program. Thus, such procedures are not federal actions subject to the requirements of NEPA. The determination that establishing agency NEPA procedures does not itself require NEPA analysis and documentation has been upheld in *Heartwood, Inc. v. U.S. Forest Service*, 73 F. Supp. 2d 962, 972–73 (S.D. Ill. 1999), *aff’d* 230 F.3d 947, 954–55 (7th Cir. 2000).

By including the Department’s CEs in this rule, the Department is merely moving established categories and language addressing extraordinary circumstances from their current location in the DM to the new 43 CFR Part 46. When established as part of the DM, these categories and extraordinary circumstances language were approved by CEQ and subject to public review and comment, in accordance with 40 CFR 1507.3. The substantiation for those actions included the bases for determining that the actions covered by the CE do not “individually or cumulatively have a significant effect on the human environment.” (40 CFR 1508.4). This final rule does not add any new categories or—apart from one clarifying addition (explained below)—alter existing language regarding extraordinary circumstances. Therefore, the Department does not believe that this final rule fails to comply with NEPA or the CEQ regulations and believes that the existing procedural

framework established by the statute, CEQ regulations, and existing Department procedures is maintained.

In *Sierra Club v. Bosworth*, 2007 U.S. App. LEXIS 28013 (9th Cir., Dec. 5, 2007), the case cited by commenters, the Ninth Circuit determined, in part, that the U.S. Forest Service's establishment of a CE constituted establishment of a program for which a cumulative effects analysis was required. Because this litigation involves a CE that is analogous to a CE used by the Department, the Department has determined that the category in question will remain in the final rule, with the understanding and written direction that it will not be used by the individual bureaus in areas within the jurisdiction of the Ninth Circuit. If, at a later date, the Department determines changes must be made to sections 210 and 215 of part 46, those changes will similarly undergo CEQ review as well as public review and comment. Further, in such event, the Department will comply with all applicable requirements for rulemaking.

Comment: Some groups also suggested that this section of the proposed rule is "extremely vague and broad." These commenters recommended removal of, or expanded limits on, the portions of the CE that authorize mechanical treatment to reduce fuels, as well as those portions which authorize post-fire rehabilitation. Commenters maintain that the allowance of these authorizations would be "environmentally disastrous." Furthermore, these groups recommended implementation of strict measures to ensure that "temporary roads" remain temporary.

Response: As explained above, by including the Department's CEs in this rule, the Department is merely moving established categories and language addressing extraordinary circumstances from their current location in the DM to the new 43 CFR Part 46. When established as part of the DM, these categories and extraordinary circumstances language were approved by CEQ and subject to public review and comment, in accordance with 40 CFR 1507.3 (for example, see 68 **Federal Register** 33813 published on June 5, 2003). This final rule does not add any new categories or alter existing language regarding extraordinary circumstances, with the exceptions noted above with respect to the language of the CEs, including the correction of the typographical error in paragraph 46.210(i) and the clarification in section 46.215 noted below.

Comment: Some commenters suggested modification of the proposed rule in such a way that the collection of

small samples for mineral assessments be included within educational CEs. Other commenters recommended the proposed rule be modified to incorporate CEs for the Fish and Wildlife Service. Another commenter recommended that the Department adopt its own CE relating to the installation, maintenance, or restoration of artificial water developments used in the conservation of wildlife. In addition, this commenter suggests clearly defining small water control structures in the proposed rule.

Response: See responses above.

Section 46.215 Categorical Exclusions: Extraordinary circumstances. This section contains a listing of the Department's CEs: Extraordinary Circumstances (currently 516 DM Chapter 2, Appendix B-2). This section includes the same number of CEs: Extraordinary Circumstances as were in the DM, and the wording in the CEs: Extraordinary Circumstances is essentially unchanged. Similar to the listing of CEs, each of the Extraordinary Circumstances was published for public comment prior to inclusion in the DM. The CEs: Extraordinary Circumstances are in paragraphs (a) through (l). In the proposed rule, and in this final rule, the only change from the way the Extraordinary Circumstances appeared in the DM is the addition of the following sentence to section 46.215: "Applicability of extraordinary circumstances to categorical exclusions is determined by the Responsible Official." This is not a substantive change to the extraordinary circumstances themselves, but reflects the authority and the responsibility of the RO. Similarly, the phrase "as determined by the bureau" (which appears in the DM) was inadvertently left out of the proposed rule at paragraph 46.215(g); the final rule therefore reads: "Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau." While the DM provision (see 69 FR 19866, Mar. 8, 2004) that is being replaced by this rule read "as determined by either the bureau or office," only "bureau" is used here, to be consistent with the definition of "bureau" in the final rule, at section 46.30.

Comment: Another commenter believed that the Executive Order on Facilitation of Hunting Heritage and Wildlife Conservation should form the basis of extraordinary circumstances and should be added to the proposed rule.

Response: As noted above, no new CEs or extraordinary circumstances are

being added at this time. That being said, the Department is aware of the referenced Executive Order and will incorporate in Departmental directives, as appropriate, any plan developed under the Executive Order for the management of resources under the Department's jurisdiction.

Comment: Some commenters stated that lands found to have "wilderness characteristics," such as citizen proposed wilderness areas, do not constitute extraordinary circumstances. Many commenters suggested that the Department revise this section of the proposed rule to clarify that the term "highly controversial environmental effects" does not include instances where there is merely a public controversy.

Response: The Departmental list of extraordinary circumstances specifies wilderness areas or wilderness study areas but not wilderness characteristics or citizen proposed wilderness areas. As noted above, no new extraordinary circumstances are being added as part of this initiative. That being said, just as with any other resource value, there may be circumstances where the issue of effects on areas with wilderness characteristics may be captured under the existing extraordinary circumstances.

Comment: One commenter requested, "where an Interior agency proposes to categorically exclude a decision from review under NEPA, that the agency include the proposed decision on NEPA registers available on the agency's Web site." This commenter also requested eliminating the adoption of regulations and policies from the list of Departmental CEs, as found in paragraph (i).

Response: The Department declines to adopt the commenter's recommendation regarding making the proposed decisions supported by CEs available on bureau *Web site(s)*. From a practical standpoint, many thousands of proposed actions annually are categorically excluded. To list each use of a CE on a NEPA register or bureaus' Web sites would prove overly burdensome. The Department declines to adopt the commenter's recommendation regarding eliminating the adoption of regulations and policies from the list of Departmental CEs, as found in paragraph (i). As explained above, the Department is not changing the language of the CEs or the extraordinary circumstances in the final rule, but is merely moving them from the DM to regulations.

Comment: Some groups stated that the proposed rule severely narrows the definition of extraordinary

circumstances. These groups also believed the proposed rule allows the Department to illegally manipulate NEPA's threshold question.

Response: This final rule simply moves established categories and language on extraordinary circumstances from the Department's NEPA procedures previously located in 516 DM 2, Appendix 1 and 2; no change was proposed or is made to the extraordinary circumstances themselves in the final rule. As noted above, these categories and requirements were established following public review and comment, in consultation with CEQ and with CEQ's concurrence, pursuant to 40 CFR 1507.3. The final rule does not add any new categories, nor does it substantively alter existing requirements regarding review for extraordinary circumstances. The Department notes that contrary to the commenter's assertion that the threshold question with respect to the extraordinary circumstances review is altered, the prefatory statement to the list of extraordinary circumstances was, and remains "Extraordinary circumstances (see § 46.205(c)) exist for individual actions within CXs that *may* meet any of the criteria listed in paragraphs (a) through (l) of this section." (Emphasis added.)

Section 46.220 How to designate lead agencies. This section provides specific detail regarding the selection of lead agencies.

Comment: Some commenters stated that the proposed rule needs to address how a lead agency will be designated when more than one federal agency is involved. These commenters recommended that the Department consider requiring the consent of an agency before it can be named the lead agency. In addition, commenters suggested that the Department may want to recognize in the proposed rule that the RO would need to comply with any applicable statutory or regulatory requirements in the designation of the lead agency.

Response: CEQ regulations at 40 CFR 1501.5 establish guidelines on the designation of a lead agency, including resolution of the question of designation, in the event of dispute. The RO complies with this rule in the designation of a lead agency.

Section 46.225 How to select cooperating agencies. This section establishes procedures for selecting cooperating agencies and determining the roles of non-Federal agencies, such as tribal governments, and the further identification of eligible governmental entities for cooperating agency relationships. Criteria for identifying,

and procedures for defining, the roles of cooperating agencies and the specific requirements to be carried out by cooperators in the NEPA process are set forth in this section.

Comment: Several commenters supported consensus-based management for resolving competing government interests.

Response: The Department appreciates the comments.

Comment: Some commenters suggested that lead NEPA agencies must collect the "best available information," with the decision-making process based on this information. These commenters also proposed modification of the proposed rule to "encourage" the use of this section in preparing an EA.

Response: The Department collects the high quality information, and that information supports the NEPA analysis which contributes to the decision-making process. This is consistent with CEQ requirements. The Department declines to make the recommended change to paragraph 46.225(e); ROs are given the latitude to exercise discretion in this regard.

Comment: Many commenters supported the use of memoranda of understanding (MOU) and recommended revision of the proposed rule to include clarification on cooperating agency status and limitations, as well as a schedule for the environmental document.

Response: Paragraph 46.225(d) provides for the use of memoranda of understanding (MOU) between the lead and cooperating agencies. The MOU provides a framework for cooperating agencies to agree to their respective roles, responsibilities and limitations, including, as appropriate, target schedules. The requirement with respect to memoranda of understanding in paragraph 46.225(e) may apply to EAs also.

Section 46.230 Role of cooperating agencies in the NEPA process. This section provides specific detail regarding the responsibilities of cooperating agencies.

No comments were received for this section.

Section 46.235 NEPA scoping process. This section discusses the use of NEPA's scoping requirements to engage the public in collaboration and consultation for the purpose of identifying concerns, potential impacts, relevant effects of past actions, possible alternatives, and interdisciplinary considerations. The regulatory language encourages the use of communication methods (such as using the Internet for the publications of status of NEPA documents on bulletin boards) for a

more efficient and proactive approach to scoping.

Comment: Some organizations stated that the Department has offered no explanation for the lack of required scoping when preparing an EA or applying a CE, as compared with scoping for an EIS. These organizations maintained that this lack of scoping contradicts the proposed guidance found in paragraph 46.200(b). These commenters stated that federal agencies are required to ensure proper public involvement when implementing NEPA and suggested public scoping assists in making an informed decision.

Response: Although scoping is not required for the preparation of an EA (CEQ regulations at 40 CFR 1501.7 specifically reference the preparation of an EIS), the Department encourages the use of scoping where appropriate as it does represent a form of public involvement, which is a requirement of EAs. The Department has added language to clarify the relationship between this section and section 46.305. In addition, in contrast to the rule as proposed, the Department has also clarified that while public notification and public involvement are required to the extent practicable in the preparation of an EA, the RO has the discretion to determine the manner of this public notification and public involvement. See paragraph 46.305(a). Scoping is not a step necessary to document a CE. The Department recognizes and acknowledges the importance of scoping as a form of public involvement and participation in the NEPA process, wherever it is appropriate, in that it can serve the purpose of informed decision making.

Comment: One commenter recommended clarification of "interdisciplinary considerations" in the proposed rule.

Response: This rule ensures that the use of the natural, social, and the environmental sciences as required under section 102(2)(A) of NEPA. As recommended by the commenter, we have clarified this provision by replacing the phrase "interdisciplinary considerations" in paragraph 46.235(a) with the phrase "interdisciplinary approach" as provided in 40 CFR 1502.6.

Section 46.240 Establishing time limits for the NEPA process. The section requires bureaus to establish time limits to make the NEPA process more efficient.

Comment: One commenter pointed out that the proposed rule does not explain why time limits should be established. This commenter recommended the addition of specific

guidance and direction to the proposed rule so bureau staff can process NEPA documents with minimal delay.

Response: CEQ regulations at 40 CFR 1501.8 encourage federal agencies to set time limits appropriate to individual actions. This rule requires individual bureaus to establish time limits, as appropriate, to expedite the NEPA process and to ensure efficiency, especially when project completion may be time sensitive or when statutory or regulatory timeframes may be applicable. The Department believes individual bureaus are best situated to establish time frames on a case-by-case basis, and does not deem it necessary to implement specific additional guidance to ensure that delays are not encountered in the NEPA process.

Comment: Another commenter stated that the proposed rule appears to be focused solely on internal administrative factors and fails to acknowledge that complex projects and potential impacts could seriously affect timelines. Commenters also suggested that the availability of the public to participate in the process needs to be considered and accounted for when setting time limits. Multiple commenters supported establishing time limits for the NEPA process on a case-by-case basis, as long as the time limits do not impose a schedule that cannot facilitate the project proponent's goals and objectives for the proposed action.

Response: The Department does not have a prescribed time limit for each proposed step in the NEPA process. In each case, time limits are set based on a consideration of factors such as funding, staff availability, public needs, and the complexity of the proposed action. The Department realizes that the proponent's goals and objectives are a consideration in scheduling the time considerations, as well as the factors mentioned above.

Comment: Several commenters requested an addition to the proposed rule "that cooperating agencies represent that they have sufficient qualified staff and necessary resources to participate as a cooperating agency on the project and meet project deadlines." Several commenters also recommended several additions to the proposed rule to strengthen time limit requirements.

Response: The MOU as required under paragraph 46.225(d) is a mechanism for establishing that such cooperating agencies represent that they have sufficient qualified staff to participate on the project and meet project deadlines. The Department does not believe any change to the final rule is necessary.

Subpart D: Environmental Assessments

In the conversion from 516 DM Chapter 3 to 43 Part 46 Subpart D, we have written this rule to incorporate procedural changes, expand upon existing procedures, give greater discretion and responsibilities to bureaus, and provide clarity in the EA process.

Section 46.300 Purpose of an EA and when it must be prepared. This section clarifies that the action being analyzed is a "proposed" action. It expands upon the purpose and clarifies when to prepare an EA.

Comment: One group recommended that the Department add a provision to assure that all decisions made by the RO after preparing an EA or an EA and FONSI are in writing and include the Official's reasoning behind that decision.

Response: This rule addresses the Department's NEPA procedures and not the Department's decision-making authorities. The Department has decided that documentation requirements for decisions on proposed actions made on the basis of preparation of EAs and FONSI are outside the scope of this rule. That is, bureau decision making itself is governed by Department and bureau-specific authorities. Section 46.325 describes the culmination of the EA process rather than documentation of a final decision on the proposed action and has been edited to ensure this point is clearly made.

Comment: Another group stated that wording in paragraph (a), in the context of the Bureau of Indian Affairs, may be misleading since many EAs are prepared by a tribal government agency. These commenters suggested that paragraph (a) be revised as follows: "A bureau must ensure that an EA is prepared for all proposed Federal actions * * *"

Response: The Department concurs and has revised the language at paragraph 46.300(a) to reflect the suggested change.

Section 46.305 Public involvement in the EA process. This section incorporates procedural changes and differentiates the requirements for public involvement in the EA and EIS processes. This section has been revised from the proposed to require bureaus, to the extent practicable, to provide for public notification and public involvement when an environmental assessment is being prepared. This represents a change from the rule as proposed, which had included a requirement that "The bureau must provide for public notification when an

EA is being prepared." The Department has made this change in order to be more consistent with CEQ regulations, which do not require bureaus to provide such notice in each and every instance, but only require that Federal agencies "shall to the fullest extent possible encourage and facilitate public involvement in decisions which affect the quality of the human environment." 40 CFR 1500.2(d). With respect to EAs, CEQ regulations require that agencies provide notice of the availability of such environmental documents, but are otherwise quite general in approach to public involvement in EAs. See 40 CFR 1501.4(b) and 1506.6. As the Department's bureaus prepare thousands of EAs each year—many times for routine matters for which there are not categorical exclusions, but for which there is no interest on the part of the public—a categorical public notification requirement would prove a fairly substantial burden. Therefore, discretion is left to the RO in each case to determine how best to involve the public in a decision that affects the quality of the human environment.

This section has also been expanded to give bureaus the discretion to provide cooperating agency status for EAs. It specifies that the publication of a draft EA for public comment is one method available for public involvement, but it is not required.

Comment: Some commenters supported this section of the proposed rule as it is currently written. These commenters believed that the proposed rule is consistent with CEQ regulations, which only require public involvement in EAs to the extent practicable.

Response: The Department appreciates the comments and has clarified that because notification is a means of public involvement, it too is subject to the qualifier "practicable" and has revised the final rule as described above.

Comment: This section of the proposed rule directs bureaus to consider comments that are "timely" received. One commenter maintained that the proposed rule did not adequately define "timely." This commenter also recommended stating in the rule "that if no comments are received during this 30-day comment period, the decision is made using the content of the draft document."

Response: Publication of a "draft" EA is not required. The RO has the discretion whether to invite comments on an EA. If an RO requests comments, there will be a stated time limit to the comment period. Comments not received within this stated time limit may be deemed untimely by the RO. It

is left to the discretion of the RO to take action when comments have been received after the end of the comment period.

Comment: Several commenters also supported the proposed provision which would allow cooperating agencies to participate in the development of EAs. They recommended rewording of the proposed rule to “encourage” cooperating agency participation, not merely “permit” this participation.

Response: The rule has used “may allow” rather than the term “encourage,” because cooperating agency involvement in an EA is a matter of discretion for the RO; no change is made to the final rule.

Comment: Many commenters supported publication of draft EAs and recommended modification of the proposed rule to support publication of draft EAs. These commenters believed that this section of the proposed rule is in violation of CEQ direction and that public review of environmental documents has the potential to identify information about impacts or resource uses that would be otherwise unknown.

Response: The manner of public involvement, including the publication of a draft EA, is a matter of discretion for the RO; this provision is consistent with 40 CFR 1501.3.

Comment: Several commenters expressed disappointment that “the language in the Department’s NEPA proposed rule focuses on how not to provide public involvement opportunities in section 46.305.” This group maintained that it is essential that the public effectively be involved in the NEPA process, that public participation is a fundamental component of NEPA, and that public involvement extends to all “environmental documents,” including EAs. These commenters urged the Department to include positive language in the proposed rule to involve the public in the preparation of an EA, including requiring publishing of draft EAs for public comment, and establishing clear and specific guidelines for public involvement in the EA process.

Response: The Department strongly encourages public involvement and participation in the NEPA process at all stages. However, consistent with CEQ regulations, the Department’s final rule distinguishes between “public involvement” and “public comment.” With respect to EISs, CEQ’s regulations specify that the public must have the opportunity to comment on a draft EIS. By contrast, the CEQ regulations do not specify that public involvement should take any particular form for EAs, as

recognized by every court that has decided the issue. Therefore, the Department’s final rule clarifies that the RO has the discretion to determine how public involvement in the preparation of an EA is to occur, depending on the particular circumstances surrounding the proposed action. Bureaus engage in a wide variety of routine actions, for which EAs are prepared (e.g., approval of replacement of culverts, erection of fences, etc.). Therefore, it is neither necessary nor practical for public comment to be required for each of these EAs. Public involvement can take a variety of forms, ranging from notification on bureau or field office Web sites to the holding of public meetings. Some of the bureaus provide more specific direction on facilitating public involvement (see 516 DM Chapters 8–15 and bureau handbooks).

Comment: Another commenter recommends that the proposed rule should ensure that communities and tribes potentially impacted by the proposed action have adequate opportunities to participate in the development of an EA.

Response: See response above regarding the CEQ requirement respecting public involvement. The circumstances surrounding each proposed action may interest a variety of members of the public, including, but not limited to, communities and tribes potentially impacted by the proposed action. The RO has the discretion to implement public notification and public involvement measures appropriate to the proposed action, and affected communities. In addition, as noted above, and independent of its responsibilities under NEPA, the United States has a government-to-government relationship with federally-recognized tribes. In accordance with this responsibility, the Department specifically provides for consultation, coordination and cooperation within the framework of government-to-government consultation.

Section 46.310 Contents of an EA. This section establishes new language outlining what information must be included in an EA. It describes the requirements for alternatives, if any, and provides for incorporating adaptive management strategies in alternatives. Sections on tiered analysis, from 516 DM Chapter 3, are found in subpart B of this rule, since this information pertains to both EISs and EAs.

Comment: Several commenters supported this section of the proposed rule as it is currently drafted. These commenters maintained that CEQ regulations only require that an EA contain a brief discussion of the

environmental impacts of the proposed action and alternatives.

Response: The Department appreciates the comments.

Comment: Other commenters stated that this section of the proposed rule should be removed because it conflicts with NEPA, CEQ regulations, and existing case law.

Response: The Department disagrees. This section fully complies with NEPA and CEQ regulations, as well as CEQ guidance. On September 8, 2005, the CEQ issued EA guidance to Federal agencies entitled “Emergency Actions and NEPA” that explained language at section 102(2)(E) of NEPA “unresolved conflicts concerning alternative uses of available resources” (42 U.S.C. 4332(2)(E)). The CEQ guidance states: “When there is consensus about the proposed action based on input from interested parties, you can consider the proposed action and proceed without consideration of additional alternatives. Otherwise, you need to develop reasonable alternatives to meet project needs” (Attachment 2 “Preparing Focused, Concise and Timely Environmental Assessments”, http://ceq.eh.doe.gov/nepa/regs/Preparing_Focused_Concise_and_Timely_EAs.pdf).

Comment: Several commenters stated that the proposed rule calls for a superficial analysis of impacts, which creates the potential for inadequate research. These commenters were concerned that this superficial analysis will not provide an adequate analysis of impacts, will only serve to exacerbate conflict and will result in poor decision-making and possible litigation.

Response: The Department disagrees. CEQ regulations describe EAs as “concise” documents that “briefly” provide information sufficient to determine whether preparation of an EIS is required. CEQ has issued guidance consistent with this idea (see September 8, 2005 CEQ guidance referenced above). The Department does not believe that conciseness necessarily leads to a superficial analysis.

Comment: These commenters therefore suggested that “consensus” be changed to “unanimity” to assure that there is no confusion about the limited circumstances in which paragraph 46.310(b) applies.

Response: “Unanimity” is not required; therefore, the Department declines to make the suggested alteration to the final rule.

Comment: One commenter suggested that the cumulative effects of the proposed action and other previous actions should be included in the list of things that must be discussed in an EA.

Response: This rule does not attempt to alter the requirements of the CEQ regulations. Rather, paragraph 46.310(a)(3) of the Department's final rule requires that EAs include brief discussions of the environmental impacts of the proposed action. Environmental impacts include direct, indirect and cumulative impacts (40 CFR 1508.7 and 1508.8). A separate listing of the requirement to include discussion of any cumulative impacts is not necessary.

Section 46.315 How to format an EA. This section provides clarification on the EA format.

No comments were received on this provision.

Section 46.320 Adopting EAs prepared by another agency, entity, or person. In this section, the term "and other program requirements" has been added to the compliance stipulations. It also expands the requirements of the RO in adopting another agency's EA.

Comment: One commenter suggested that a new section be added to the proposed rule which includes the requirement that the RO "consults with other agencies that have regulatory authority over the project" when adopting an EA prepared by another agency. This commenter maintained this will help ensure that other affected agencies agree with the adoption. Another organization suggested that this section of the proposed rule should state that an Indian tribe may be the applicant.

Response: The determination to adopt another agency's EA is left solely to the discretion of the RO. However, the Department expects that the RO will consult with any other agency that has regulatory authority over the project that is the subject of a bureau's proposed action and environmental analysis. In fact, this final rule provides at section 46.155: "The Responsible Official must whenever possible consult, coordinate, and cooperate with relevant State, local, and tribal governments and other bureaus and Federal agencies concerning the environmental effects of bureau plans, programs, and activities within the jurisdictions or related to the interests of these agencies." This provision applies to proposed actions supported by both EAs and EISs. As such no change has been made to section 46.320.

The Department recognizes generally that an Indian tribe may be an applicant, as well as a State or other unit of government; paragraph 46.300(a) has been modified to read: "A bureau must ensure that an EA is prepared for all proposed Federal actions" in order to reflect that it may be the applicant who

is preparing the EA, especially when a tribe is the applicant. No other change in this respect has been made to the final rule.

Section 46.325 Conclusion of the EA process. Documentation requirements for decisions made on the basis of EAs and FONSI are beyond the scope of this rule. After a bureau has completed an EA for a proposed action, the bureau will make a finding of no significant impact, or will determine that it is necessary to prepare an EIS, in which case, the bureau will publish a Notice of Intent in the **Federal Register** or will take no further action on the proposal.

Comment: Several commenters "suggested that the requirement that a decision be documented also include a requirement that the document be made public."

Response: Bureau decision documents are public documents. While some bureaus routinely publish these documents (for instance on bureau or field office Web sites), the Department is not including a requirement that all decision documents be published. Decision documents are available from bureaus upon request.

Subpart E: Environmental Impact Statements

This subpart takes the place of 516 DM Chapter 4, with following exceptions.

The language from 516 DM Chapter 4 that simply reiterates the CEQ regulations is not included in subpart E of this rule. Those DM sections are: statutory requirements, cover sheet, summary, purpose and need, appendix, methodology and scientific accuracy, proposals for legislation, and time periods.

Sections on tiering, incorporation of referenced documents into NEPA analysis, incomplete or unavailable information, adaptive management, and contractor prepared environmental documents, from 516 DM Chapter 4 are found in subpart B of this rule since that information pertains to EISs and EAs.

The phrase "environmentally preferable alternative" is found in the definitions, subpart A. This phrase expands on the definition that currently exists in 516 DM 4.10(A)(5).

This rule also incorporates procedural changes, clarifies the extent of discretion and responsibility that may be exercised by bureaus and provides clarity in the EIS process.

Section 46.400 Timing of EIS development. This section describes when an EIS must be prepared.

Comment: One commenter recommended revising the definition of

"environment" within the proposed rule to avoid disputes.

Response: Neither the Department's proposed nor final rule includes a definition of "environment." Neither NEPA nor the CEQ regulations define this term; however, the CEQ regulations do define "human environment," and the definitions in the CEQ regulations apply (see sections 46.20 and 46.30). The Department does not believe that a definition is required.

Comment: One commenter stated that it is important to note that the RO should not have the authority to mandate whether an applicant must pay for environmental analyses. The commenter recommended that the applicant should be given the opportunity to voluntarily fund the NEPA analysis. Others recommended that any reference to who pays for the analysis be deleted from the proposed rule.

Response: The provision in the Department's final rule specifies only that the RO "must inform applicants as soon as practicable of any responsibility they will bear for funding environmental analyses associated with their proposal." This provision refers specifically to the responsibility of the RO to inform the applicant of any such requirements in each instance. (As noted above in the introduction to section 46.200, this provision has been moved from section 46.400 to section 46.200 because it applies to EAs as well, and the application to EAs was inadvertently left out of the proposed rule.) The question of whether an RO may require an applicant to pay for NEPA analysis is outside the scope of this rule because programs and bureaus have different payment requirements, for example, under their cost recovery authority, if applicable.

Section 46.405 Remaining within page limits. This section encourages bureaus to keep EISs within the page limits described in the CEQ regulations using incorporation of referenced documents into NEPA analysis and tiering.

No comments were received on this provision.

Section 46.415 EIS Content, Alternatives, Circulation and Filing Requirements. This section provides direction for the development of alternatives, establishes language on the documentation of environmental effects with a focus on NEPA statutory requirements, and provides direction for circulating and filing the draft and final EIS or any supplement(s) thereto. The Department changed the title of this section and added a sentence to address

Federal Advisory Committee Act (FACA) implications.

Comment: Some commenters supported this portion of the proposed rule as it is written.

Response: The Department appreciates the comments.

Comment: One group stated that the term “interested parties” is too broadly defined, resulting in significant delays in agency decision-making. Consequently, standing would be given to parties that otherwise would lack standing to pursue future legal action.

Response: The Department agrees that the meaning of “interested parties” is potentially ambiguous and has revised this term to match the language used in the CEQ regulations. Please see the final rule at section 46.110, as well as the responses to comments on that section.

Comment: Some commenters believed that the cumulative effects of the proposed action and other previous actions must also be disclosed in an EIS. Consequently, these commenters recommended adding cumulative effects to the list of terms that must be disclosed in the contents of an EIS.

Response: Paragraph 46.415(a)(3) of the Department’s final rule requires that an EIS disclose “the environmental impact of the proposed action.” Environmental impact includes direct, indirect and cumulative impacts (40 CFR 1508.7 and 1508.8). The Department does not believe that a separate listing of the requirement to include discussion of cumulative impacts is necessary.

Comment: Several commenters commented on paragraph (c), which provides “the RO shall make those preliminary draft and final EISs available to those interested and affected persons and agencies for comment.” The main concern discussed by commenters is that the word “shall” implies that the RO will be required to circulate preliminary drafts of EISs. These commenters recommended that the proposed rule should allow public circulation of preliminary EISs when the RO determines that such circulation would be beneficial, but public disclosure should not be required. Other commenters stated it is inappropriate for agencies to share preliminary EISs that represent preliminary agency thoughts. They were concerned that public release of a preliminary document would hinder internal discussion regarding innovative management options available for consideration and analysis.

Response: The Department has elected not to include a “preliminary environmental impact statement” in the

final rule. Please see the response above to comments on section 46.30.

Comment: One group recommended clarification of the proposed rule by stating that the human environment changes over time, regardless of the action being assessed under NEPA. They recommended this clarification should “explicitly exclude the idea that nothing changes over time, so the no action alternative means no change.”

Response: The Department acknowledges that some clarification was needed and added language to the final rule. Natural systems evolve over time. The “no action” alternative is not the alternative that results in “no change” to the environment; rather it represents the state of the environment without the proposed action or any of the alternatives. When the proposed action involves a proposed change in management then, under the no action alternative, what does not change is management direction or level of intensity.

Comment: Another commenter stated “it is not clear from the proposed rule how or why “incremental changes” will be considered as alternatives” and asked for additional detail regarding the “incremental process” and how it interacts with the alternative discussion.

Response: The Department appreciates this comment. The intent of this provision is that modifications to alternatives developed through a collaborative process, may, themselves, be considered alternatives to a proposed action. To avoid confusion, the final rule no longer uses the term “incremental” when dealing with alternatives.

Comment: Many commenters fully supported and encouraged analysis of the no action alternative. Several recommended clarification in the proposed rule on how the tenets of adaptive management will work with the requirements for clearly articulating and pre-specifying the adjustments and the respective environmental effects that might later occur. Another commenter encouraged the Department to specify in the proposed rule that alternatives considered throughout the NEPA process must be capable of achieving the project goals.

Response: The Department believes that no further clarification is necessary. The intent of the provision respecting adaptive management is to clarify that the use of an adaptive management approach does not preclude the necessity of complying with NEPA. Each proposed action, including possible changes in management made as a result of an adaptive management approach may be analyzed at the outset

of the process or the changes in management made may be analyzed when implemented.

Comment: Several commenters strongly opposed the idea that the RO, with or without input from any interested parties, would be permitted to make modifications to a proponent’s proposed action. These commenters recommend eliminating this language in its entirety from the proposed rule.

Response: Bureaus would analyze reasonable alternatives that would meet the purpose and need for action. In determining the range of reasonable alternatives, the range may in some cases be limited by the proponent’s proposed action, but the RO must still evaluate reasonable alternatives within that range. As such the RO may include additional alternatives for analysis, including those which represent different modifications of the proposed action. No change to the provision has been made.

Comment: Some commenters requested clarification on the public comment opportunity that follows the publication of a final EIS. They maintained the rule should explain that the public can submit comments on a final EIS prior to an agency’s final decision.

Response: CEQ regulations at 40 CFR 1506.10(b)(2) require a 30-day waiting period between publication of the final EIS and signing of a ROD. CEQ guidance states: “During that period, in addition to the agency’s own internal final review, the public and other agencies can comment on the final EIS prior to the agency’s final action on the proposal. CEQ’s “Forty Most Asked Questions.” Therefore, while this period is not a formal comment period, the public may comment after the publication of the final EIS.

Section 46.420 Terms used in an EIS. This section describes terms that are commonly used to describe concepts or activities in an EIS, including: (a) Statement of purpose and need, (b) Reasonable alternatives, (c) Range of alternatives, (d) Proposed action, (e) Preferred alternative, and (f) No action alternative. Definitions for proposed action and no action alternative have been moved to the definitions in section 46.30 as they may both be applicable to EAs as well as EISs. Comments and responses on these terms, however, are below. In order to clarify that it is the bureau’s exercise of discretion that constitutes a proposed action that is subject to NEPA requirements, not just that the bureau might have a statutory role over a non-Federal entity’s planned activity, the final rule has been changed to read “discretion” rather than

“authority” in proposed paragraph 46.420(d), which is now in section 46.30. Section 46.30 explains that a “proposed action” includes “the bureau’s exercise of discretion over a non-Federal entity’s planned activity that falls under a Federal agency’s authority to issue permits, licenses, grants, rights-of-way, or other common Federal approvals, funding, or regulatory instruments.”

Comment: Several commenters stated that the proposed rule should clarify that, in order for an alternative to be reasonable, it must also be technically and economically feasible based upon input from the project proponent. These commenters stated that the term “range of alternatives” is defined without regard to the technical and economic feasibility of the alternatives.

Response: The Department’s final rule, at paragraph 46.420(b), specifies that the term “reasonable alternative” includes alternatives that are technically and economically practical or feasible and that satisfy the purpose and need. The Department agrees that the project proponent, as a member of the public, may provide input to the bureau with respect to the technical and economic feasibility of alternatives. Ultimately, however, the bureau determines whether an alternative is technically and economically practical or feasible and meets the purpose and need of the proposed action. The Department did not include a reference to technical and economic feasibility in the definition of “range of alternatives.” Consistent with CEQ’s regulations, 40 CFR 1505.1(e), and as explained in CEQ’s “Forty Most Asked Questions” document, the range of alternatives includes all or a reasonable number of examples covering the full spectrum of reasonable alternatives, each of which must be rigorously explored and objectively evaluated, as well as those other alternatives which are eliminated from detailed study with a brief discussion of the reasons for eliminating them. This includes alternatives that may not be technically and economically feasible. The Department’s final rule, at paragraph 46.420(c), maintains this broad meaning of “range of alternatives.”

Comment: Many commenters recommended that the rule expressly state that the applicant’s goals should be the primary consideration in the development of the statement of purpose and need. These commenters stated the Department should remove language in the proposed rule that requires agencies to consider the public interest in approving an application.

Response: The Department agrees that the bureau should consider the needs and goals of the parties involved, including the applicant. However, the public interest is also a key consideration under NEPA. As such the Department has not changed the language of this provision in the final rule.

Comment: One group recommended using the definition in paragraph 46.420(b) for the feasibility requirement throughout the proposed rule because it is the most complete definition.

Response: The Department concurs with the intent of this recommendation and has implemented this recommendation by changing 46.415(b) to read “range of alternatives” rather than “reasonable alternatives,” as “range of alternatives” as defined at paragraph 46.420(c) incorporates the definition of “reasonable alternatives” at paragraph 46.420(b).

Comment: One commenter stated that the definition of “range of alternatives” is circular and should be revised.

Response: The Department agrees and has clarified that the phrase “rigorously explored and objectively evaluated” in the CEQ regulations applies only to reasonable alternatives.

Comment: One commenter recommended that the Department distinguish the proposed federal action from the proposed project or activity for which the federal action is necessary.

Response: The Department agrees and has clarified the language of section 46.30 (formerly proposed as paragraph 46.420(d)). Paragraph 46.420(d) explains that a “proposed action” includes “the bureau’s exercise of discretion over a non-Federal entity’s planned activity that falls under a Federal agency’s authority to issue permits, licenses, grants, rights-of-way, or other common Federal approvals, funding, or regulatory instruments.”

Comment: A commenter agreed with the statement that no action can mean either no action or no change and that the proposed rule should acknowledge that the effect of the no action alternative is not always maintenance of the status quo.

Response: As specified in proposed paragraph 46.420(f) and now at section 46.30, the Department agrees that the no action alternative has two interpretations—“no change from a current management direction or level of management intensity” or “no project.” Natural systems evolve over time. The “no action” alternative is not the alternative that results in “no change” to the environment; rather it represents the state of the environment without the proposed action or any of

the alternatives. The Department has made minor edits to this section to clarify this point.

Comment: One individual recommended inserting “national policies” after “giving consideration to” in paragraph (e).

Response: The Department does not believe it is necessary to specifically include “national policies” as one of the factors that the bureau considers in identifying the preferred alternative. Proposed paragraph (e), now (d), refers to “other factors,” which is broad enough to include a variety of considerations, including, if appropriate, national policies.

Comment: One commenter stated that it is unclear whether the terms “practical” and “feasible” are intended to be synonymous within the proposed rule.

Response: These terms are not intended to be synonymous. CEQ’s “Forty Most Asked Questions” explains “reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense.” Any given reasonable alternative could be practical, feasible, or both.

Comment: One commenter encouraged the Department to revise the proposed rule to clarify and reflect established NEPA precedent that agencies need not conduct a separate analysis of alternatives that have substantially similar consequences.

Response: The Department agrees that bureaus need not separately analyze alternatives that have been shown to have substantially similar environmental consequences. This is a well-established principle; no change to the final rule is necessary.

Section 46.425 Identification of the preferred alternative in an EIS. This section clarifies when the preferred alternative must be identified.

Comment: Several groups questioned why more than one preferred alternative would be necessary and recommend that only one preferred alternative be allowed to avoid confusion.

Response: The Department’s final rule is consistent with CEQ regulations, which expressly contemplate situations in which more than one preferred alternative may exist. 40 CFR 1502.14(e). Rather than confusing the public, the Department believes that in certain circumstances presentation of more than one preferred alternatives may encourage public involvement in the process.

Section 46.430 Environmental review and consultation requirements. This section establishes procedures for an EIS that also addresses other

environmental review requirements and approvals. It should be noted that this section allows for the completion of the NEPA analysis prior to obtaining all permits. However, if the terms of the permit are outside of the scope of analysis, additional NEPA analysis may be required.

Comment: One commenter commented that CEQ is currently undertaking a project to integrate review under NEPA and the National Historic Preservation Act (NHPA). This commenter recommended that the Department assure effective integration of that project's results with the proposed rule. In order to protect statutory rights of Indian tribes, another group recommended integration of regulations from the Advisory Council on Historic Preservation in this section of the proposed rule.

Response: Regulations implementing the National Historic Preservation Act (NHPA) at 36 CFR Part 800 encourage Federal agencies to coordinate compliance with section 106 of the NHPA with steps taken to meet the requirements of NEPA (36 CFR 800.8(a)). The Department is aware of the CEQ initiative to develop guidance to integrate review under NEPA and the NHPA, as called for in both the NHPA and the CEQ regulations (40 CFR 1502.25(a)) and will work with CEQ to integrate any such guidance in the Department's directives as appropriate. Please see response to comments addressing section 46.110 above regarding the Department's fulfillment of its responsibilities toward Indian tribes.

Comment: One group strongly supported consolidation of processes whenever possible to reduce delays and eliminate duplication of effort. This group proposed revision of the proposed rule to promote the consolidation of processes "to the extent possible and otherwise not prohibited by law." This group also recommended the establishment of an exemption for mining operations based on the "functional equivalence doctrine." They maintained that other laws and regulations applicable to the mining operations provide a rigorous framework for providing a "harder look" at environmental consequences than NEPA.

Response: The Department appreciates the support for its efforts to encourage consolidation of processes whenever possible. However, the Department does not believe the revision proposed by the commenter to paragraph 46.430(b) is necessary. The Department does not believe such an exemption for mining operations as

advocated by the commenter is warranted, as it addresses matters beyond the scope of this rulemaking.

Comment: One commenter recommended revision of "Paragraph (a) to clarify that an EIS need only identify and discuss studies relied upon for other consultation and review processes if the EIS is intended to serve as the NEPA compliance for those review processes."

Response: The Department believes no revision to the final rule is necessary. When paragraph 46.430(a) states "An EIS that also addresses other environmental review and consultation requirements. * * *" this means that it is precisely when the EIS in question is to serve as the NEPA compliance (in whole or in part) for the other environmental review and consultation requirements that the EIS needs to identify and discuss studies relied upon for these other review and consultation processes.

Section 46.435 Inviting comments. This section requires bureaus to request comments from Federal, State, and local agencies, or tribal governments, and the public at large. This section also clarifies that bureaus do not have to delay a final EIS because they have not received comments.

Comment: One group proposed revisions to the proposed rule, which include: (1) Requesting comments from any potentially affected tribal government, (2) recognizing the federal government's continuing obligation to consult with tribal governments prior to making decisions which may impact tribal rights, (3) revising paragraph (c) to include all lands and waters within the boundaries of tribal lands, (4) inserting language to explicitly include Alaska Native tribes, and (5) including additional clauses covering various situations in which the Department must invite comments from a tribe. This group proposed these revisions because it believes the current language could be interpreted too narrowly by the Department bureaus, resulting in bureaus deciding not to request comments from tribal governments, even though a proposed action may affect tribal rights or interests.

Response: CEQ regulations at 40 CFR 1503.1(a)(4) require that agencies shall request the comments on a draft EIS from "the public, affirmatively soliciting comments from those persons or organizations who may be interested or affected." This would necessarily include "any potentially affected tribal government" regardless of whether the proposed action may affect the environment of Indian trust or restricted land or other Indian trust resources,

trust assets, or tribal health and safety, as specified in 46.435(c). In view of the CEQ regulations, the Department does not believe it is necessary to include the commenter's proposed language in this final rule. For instance, under 40 CFR 1503.1(a)(4), the bureaus would need to request comments from those persons or organizations affected by impacts to the resources noted by the commenters, including "one or more historic properties to which the tribe attaches religious and cultural significance" or "wildlife or plant species that are important to the tribe for cultural purposes." Likewise, if any member of the public specifically requests information regarding the analysis of effects of a proposed action on a specific identified area, the bureau would provide that information.

This being said, the requirement to engage in government-to-government consultation with Indian tribes is a requirement apart from NEPA, and, in effect, broadens any consultation that needs to take place as a function of compliance with NEPA. The Department has other, more specific directives addressing government-to-government consultation, as well as how the Department is to fulfill its trust responsibilities. See, e.g., 512 DM 2: "Departmental Responsibilities for Indian Trust Resources"; ECM97-2 "Departmental Responsibilities for Indian Trust Resources and Indian Sacred Sites on Federal Lands".

Comment: One commenter encouraged the Department to provide for better coordination with permit applicants when the federal action being examined involves the issuance of a federal permit or authorization.

Response: Please see discussion, above, regarding paragraph 46.430(a).

Section 46.440 Eliminating duplication with State and local procedures. This section allows a State agency to jointly prepare an EIS, if applicable.

No comments were received addressing this provision.

Section 46.445 Preparing a legislative EIS. This section ensures that, when appropriate, a legislative EIS will be included as a part of the formal transmittal of a legislative proposal to the Congress.

No comments were received addressing this provision.

Section 46.450 Identifying the environmentally preferable alternative. This section provides for identifying the environmentally preferable alternative in the ROD.

Comment: One commenter supported this part of the proposed rule as it is written. Multiple commenters oppose

this section of the proposed rule and urge the Department to delete this section from the proposed rule. They believed "that this provision is not necessary in light of the existing CEQ regulation found at 40 CFR 1505.2." In the event that Department does not remove this section from the proposed rule, these commenters recommended that the Department revise this section to include clarification that this rule in no way obligates agencies to identify and select an "environmentally preferable alternative" during its NEPA analysis.

Response: The Department appreciates these comments, but believes this provision is necessary to distinguish between "identifying" and "selecting" an environmentally preferable alternative, both for Departmental personnel and members of the public. Although the environmentally preferable alternative must be identified in the ROD, the RO is not required to select the environmentally preferable alternative as the alternative that will be implemented. No change is made in the final rule.

Procedural Requirements

Regulatory Planning and Review (E.O. 12866)

This is a significant rule and has been reviewed by the Office of Management and Budget (OMB) under Executive Order 12866. This rule:

(1) Is not an economically significant action because it will not have an annual effect of \$100 million or more on the economy nor adversely affect productivity, competition, jobs, the environment, public health or safety, nor state or local governments.

(2) Will not interfere with an action taken or planned by another agency.

(3) Will not alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients of such programs.

(4) Raises novel policy and legal issues. It is a significant rulemaking action subject to OMB review because of the extensive interest in Department planning and decision making relating to NEPA.

In accordance with the Office of Management and Budget (OMB) Circular A-4, "Regulatory Analysis," the Department has conducted a cost/benefit analysis. The analysis compared the costs and benefits associated with the current condition of having Departmental implementing procedures combined with Departmental explanatory guidance in the DM and the condition of having implementing

direction in regulations and explanatory guidance in the DM.

Many benefits and costs associated with the rule are not quantifiable. Some of the benefits of this rule include collaborative and participatory public involvement to more fully address public concerns, timely and focused environmental analysis, and flexibility in preparation of environmental documents. These will be positive effects of the new rule.

Moving NEPA procedures from the DM to regulations is expected to provide a variety of potential beneficial effects. This rule would meet the requirements of 40 CFR 1507.3 by placing the Department's implementing procedures in their proper regulatory position. The Department will maintain Department- and bureau-specific directives in the DM and bureau handbooks to assist field offices. This will facilitate timely bureau responses to procedural interpretations, training needs, and editorial changes to addresses and Internet links to assist bureaus when implementing the NEPA process. Finally, the changes to the Department NEPA procedures are intended to provide the Department specific options to meet the intent of NEPA through increased emphasis on collaboration and the use of a consensus-based approach when practicable.

Thus, while no single effect of this rule creates a significant quantifiable improvement, the benefits outlined above taken together create the potential for visible improvements in the Department's NEPA program. Further discussion of the costs and benefits associated with the rule is contained in the economic analysis which is incorporated in the administrative record for this rulemaking and may be accessed on the Department's Office of Environmental Policy and Compliance Web site located at: <http://www.doi.gov/oepc>.

Regulatory Flexibility Act

The Department certifies that this document will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). This document provides the Department with policy and procedures under NEPA and does not compel any other party to conduct any action.

Congressional Review Act

The Administrator of the Office of Information and Regulatory Affairs has determined that this rule is not a major rule under 5 U.S.C. 804(2).

Unfunded Mandates Reform Act

Under Title II of the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538), the Department has assessed the effects of this rule on State, local, and tribal governments and the private sector. This rule does not compel the expenditure of \$100 million or more by any State, local, or tribal government or anyone in the private sector. Therefore, a statement under section 202 of the Act is not required.

Takings (E.O. 12630)

This rule has been analyzed in accordance with the principles and criteria contained in E.O. 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights, and it has been determined that the rule does not pose the risk of a taking of Constitutionally protected private property.

Federalism (E.O. 13132)

The Department has considered this rule under the requirements of E.O. 13132, Federalism. The Department has concluded that the rule conforms to the federalism principles set out in this E.O.; will not impose any compliance costs on the States; and will not have substantial direct effects on the States or the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, the Department has determined that no further assessment of federalism implications is necessary.

Civil Justice Reform (E.O. 12988)

This rule complies with the requirements of E.O. 12988. Specifically, this rule:

(a) Does not unduly burden the judicial system;

(b) Meets the criteria of section 3(a) requiring that all regulations be reviewed to eliminate errors and ambiguity, and be written to minimize litigation; and

(c) Meets the criteria of section 3(b)(2) requiring that all regulations be written in clear language and contain clear legal standards.

Consultation With Indian Tribes (E.O. 13175)

In accordance with E.O. 13175 of November 6, 2000, and 512 DM 2, we have assessed this document's impact on tribal trust resources and have determined that it does not directly affect tribal resources since it describes the Department's procedures for its compliance with NEPA.

Paperwork Reduction Act

This rule does not contain information collections subject to OMB approval under the Paperwork Reduction Act (44 U.S.C. 3501, *et seq.*).

National Environmental Policy Act

The CEQ does not direct agencies to prepare a NEPA analysis or document before establishing agency procedures that supplement the CEQ regulations for implementing NEPA. Agency NEPA procedures are procedural guidance to assist agencies in the fulfillment of agency responsibilities under NEPA, but are not the agency's final determination of what level of NEPA analysis is required for a particular proposed action. The requirements for establishing agency NEPA procedures are set forth at 40 CFR 1505.1 and 1507.3. The determination that establishing agency NEPA procedures does not require NEPA analysis and documentation has been upheld in *Heartwood, Inc. v. U.S. Forest Service*, 73 F. Supp. 2d 962, 972–73 (S.D. Ill. 1999), *aff'd* 230 F.3d 947, 954–55 (7th Cir. 2000).

Data Quality Act

In developing this rule we did not conduct or use a study requiring peer review under the Data Quality Act (Pub. L. 106–554).

Effects on the Energy Supply (E.O. 13211)

This rule is not a significant energy action under the definition in E.O. 13211. A Statement of Energy Effects is not required.

Clarity of This Rule

We are required by E.O.s 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

- Be logically organized;
- Use the active voice to address readers directly;
- Use clear language rather than jargon;
- Be divided into short sections and sentences; and
- Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments as instructed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that you find unclear, which sections or sentences are too long, the sections where you think lists or tables would be useful, etc.

List of Subjects in 43 CFR part 46

Environmental protection, EISs.

Dated: September 30, 2008.

James E. Cason,

Associate Deputy Secretary.

■ For the reasons given in the preamble, the Office of the Secretary is adding a new part 46 to Subtitle A of title 43 of the Code of Federal Regulations to read as follows:

PART 46—IMPLEMENTATION OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Sec.

Subpart A—General Information

- 46.10 Purpose of this part.
46.20 How to use this part.
46.30 Definitions.

Subpart B—Protection and Enhancement of Environmental Quality

- 46.100 Federal action subject to the procedural requirements of NEPA.
46.105 Using a contractor to prepare environmental documents.
46.110 Incorporating consensus-based management.
46.115 Consideration of past actions in analysis of cumulative effects.
46.120 Using existing environmental analyses prepared pursuant to NEPA and the Council on Environmental Quality regulations.
46.125 Incomplete or unavailable information.
46.130 Mitigation measures in analyses.
46.135 Incorporation of referenced documents into NEPA analysis.
46.140 Using tiered documents.
46.145 Using adaptive management.
46.150 Emergency responses.
46.155 Consultation, coordination, and cooperation with other agencies.
46.160 Limitations on actions during the NEPA analysis process.
46.170 Environmental effects abroad of major Federal actions.

Subpart C—Initiating the NEPA Process

- 46.200 Applying NEPA early.
46.205 Actions categorically excluded from further NEPA review.
46.210 Listing of Departmental Categorical Exclusions.
46.215 Categorical Exclusions: Extraordinary circumstances.
46.220 How to designate lead agencies.
46.225 How to select cooperating agencies.
46.230 Role of cooperating agencies in the NEPA process.
46.235 NEPA scoping process.
46.240 Establishing time limits for the NEPA process.

Subpart D—Environmental Assessments

- 46.300 Purpose of an environmental assessment and when it must be prepared.
46.305 Public involvement in the environmental assessment process.
46.310 Contents of an environmental assessment.

- 46.315 How to format an environmental assessment.
46.320 Adopting environmental assessments prepared by another agency, entity, or person.
46.325 Conclusion of the environmental assessment process.

Subpart E—Environmental Impact Statements

- 46.400 Timing of environmental impact statement development.
46.405 Remaining within page limits.
46.415 Environmental impact statement content, alternatives, circulation and filing requirements.
46.420 Terms used in an environmental impact statement.
46.425 Identification of the preferred alternative in an environmental impact statement.
46.430 Environmental review and consultation requirements.
46.435 Inviting comments.
46.440 Eliminating duplication with State and local procedures.
46.445 Preparing a legislative environmental impact statement.
46.450 Identifying the environmentally preferable alternative.

Authority: 42 U.S.C. 4321 *et seq.* (The National Environmental Policy Act of 1969, as amended); Executive Order 11514, (Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by Executive Order 11991, May 24, 1977)); 40 CFR parts 1500–1508 (43 FR 55978) (National Environmental Policy Act, Implementation of Procedural Provisions).

Subpart A—General Information**§ 46.10 Purpose of this part.**

- (a) This part establishes procedures for the Department, and its constituent bureaus, to use for compliance with:
- (1) The National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 *et seq.*); and
 - (2) The Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 CFR parts 1500–1508).
- (b) Consistent with 40 CFR 1500.3, it is the Department's intention that any trivial violation of these regulations will not give rise to any independent cause of action.

§ 46.20 How to use this part.

(a) This part supplements, and is to be used in conjunction with, the CEQ regulations except where it is inconsistent with other statutory requirements. The following table shows the corresponding CEQ regulations for the sections in subparts A–E of this part. Some sections in those subparts do not have a corresponding CEQ regulation.

Subpart A 40 CFR

- 46.10 Parts 1500–1508

- 46.20 No corresponding CEQ regulation
- 46.30 No corresponding CEQ regulation

Subpart B

- 46.100 1508.14, 1508.18, 1508.23
- 46.105 1506.5
- 46.110 No corresponding CEQ regulation
- 46.115 1508.7
- 46.120 1502.9, 1502.20, 1502.21, 1506.3
- 46.125 1502.22
- 46.130 1502.14
- 46.135 1502.21
- 46.140 1502.20
- 46.145 No corresponding CEQ regulation
- 46.150 1506.11
- 46.155 1502.25, 1506.2
- 46.160 1506.1
- 46.170 No corresponding CEQ regulation

Subpart C

- 46.200 1501.2
- 46.205 1508.4
- 46.210 1508.4
- 46.215 1508.4
- 46.220 1501.5
- 46.225 1501.6
- 46.230 1501.6
- 46.235 1501.7
- 46.240 1501.8

Subpart D

- 46.300 1501.3
- 46.305 1501.7, 1506.6
- 46.310 1508.9
- 46.315 No corresponding CEQ regulation
- 46.320 1506.3
- 46.325 1501.4

Subpart E

- 46.400 1502.5
- 46.405 1502.7
- 46.415 1502.10
- 46.420 1502.14
- 46.425 1502.14
- 46.430 1502.25
- 46.435 1503
- 46.440 1506.2
- 46.445 1506.8
- 46.450 1505.2

(b) The Responsible Official will ensure that the decision making process for proposals subject to this part includes appropriate NEPA review.

(c) During the decision making process for each proposal subject to this part, the Responsible Official shall consider the relevant NEPA documents, public and agency comments (if any) on those documents, and responses to those comments, as part of consideration of the proposal and, except as specified in paragraphs

46.210(a) through (j), shall include such documents, including supplements, comments, and responses as part of the administrative file.

(d) The Responsible Official's decision on a proposed action shall be within the range of alternatives discussed in the relevant environmental document. The Responsible Official's decision may combine elements of alternatives discussed in the relevant environmental document if the effects of such combined elements of alternatives are reasonably apparent from the analysis in the relevant environmental document.

(e) For situations involving an applicant, the Responsible Official should initiate the NEPA process upon acceptance of an application for a proposed Federal action. The Responsible Official must publish or otherwise provide policy information and make staff available to advise potential applicants of studies or other information, such as costs, foreseeably required for later Federal action.

§ 46.30 Definitions.

For purposes of this part, the following definitions supplement terms defined at 40 CFR parts 1500–1508.

Adaptive management is a system of management practices based on clearly identified outcomes and monitoring to determine whether management actions are meeting desired outcomes; and, if not, facilitating management changes that will best ensure that outcomes are met or re-evaluated. Adaptive management recognizes that knowledge about natural resource systems is sometimes uncertain.

Bureau means bureau, office, service, or survey within the Department of the Interior.

Community-based training in the NEPA context is the training of local participants together with Federal participants in the workings of the environmental planning effort as it relates to the local community(ies).

Controversial refers to circumstances where a substantial dispute exists as to the environmental consequences of the proposed action and does not refer to the existence of opposition to a proposed action, the effect of which is relatively undisputed.

Environmental Statement Memoranda (ESM) are a series of instructions issued by the Department's Office of Environmental Policy and Compliance to provide information and explanatory guidance in the preparation, completion, and circulation of NEPA documents.

Environmentally preferable alternative is the alternative required by

40 CFR 1505.2(b) to be identified in a record of decision (ROD), that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources. The environmentally preferable alternative is identified upon consideration and weighing by the Responsible Official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.

No action alternative.

(1) This term has two interpretations. First "no action" may mean "no change" from a current management direction or level of management intensity (e.g., if no ground-disturbance is currently underway, no action means no ground-disturbance). Second "no action" may mean "no project" in cases where a new project is proposed for implementation.

(2) The Responsible Official must determine the "no action" alternative consistent with one of the definitions in paragraph (1) of this definition and appropriate to the proposed action to be analyzed in an environmental impact statement. The no action alternative looks at effects of not approving the action under consideration.

Proposed action. This term refers to the bureau activity under consideration. It includes the bureau's exercise of discretion over a non-Federal entity's planned activity that falls under a Federal agency's authority to issue permits, licenses, grants, rights-of-way, or other common Federal approvals, funding, or regulatory instruments. The proposed action:

(1) Is not necessarily, but may become, during the NEPA process, the bureau preferred alternative or (in a record of decision for an environmental impact statement, in accordance with 40 CFR 1505.2) an environmentally preferable alternative; and

(2) Must be clearly described in order to proceed with NEPA analysis.

Reasonably foreseeable future actions include those federal and non-federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision. These federal and non-federal activities that must be taken into account in the analysis of cumulative impact include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the

bureau. Reasonably foreseeable future actions do not include those actions that are highly speculative or indefinite.

Responsible Official is the bureau employee who is delegated the authority to make and implement a decision on a proposed action and is responsible for ensuring compliance with NEPA.

Subpart B—Protection and Enhancement of Environmental Quality

§ 46.100 Federal action subject to the procedural requirements of NEPA.

(a) A bureau proposed action is subject to the procedural requirements of NEPA if it would cause effects on the human environment (40 CFR 1508.14), and is subject to bureau control and responsibility (40 CFR 1508.18). The determination of whether a proposed action is subject to the procedural requirements of NEPA depends on the extent to which bureaus exercise control and responsibility over the proposed action and whether Federal funding or approval are necessary to implement it. If Federal funding is provided with no Federal agency control as to the expenditure of such funds by the recipient, NEPA compliance is not necessary. The proposed action is not subject to the procedural requirements of NEPA if it is exempt from the requirements of section 102(2) of NEPA.

(b) A bureau shall apply the procedural requirements of NEPA when the proposal is developed to the point that:

(1) The bureau has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal; and

(2) The effects of the proposed action can be meaningfully evaluated (40 CFR 1508.23).

§ 46.105 Using a contractor to prepare environmental documents.

A Responsible Official may use a contractor to prepare any environmental document in accordance with the standards of 40 CFR 1506.5(b) and (c). If a Responsible Official uses a contractor, the Responsible Official remains responsible for:

(a) Preparation and adequacy of the environmental documents; and

(b) Independent evaluation of the environmental documents after their completion.

§ 46.110 Incorporating consensus-based management.

(a) Consensus-based management incorporates direct community involvement in consideration of bureau activities subject to NEPA analyses, from initial scoping to implementation of the bureau decision. It seeks to

achieve agreement from diverse interests on the goals of, purposes of, and needs for bureau plans and activities, as well as the methods anticipated to carry out those plans and activities. For the purposes of this Part, consensus-based management involves outreach to persons, organizations or communities who may be interested in or affected by a proposed action with an assurance that their input will be given consideration by the Responsible Official in selecting a course of action.

(b) In incorporating consensus-based management in the NEPA process, bureaus should consider any consensus-based alternative(s) put forth by those participating persons, organizations or communities who may be interested in or affected by the proposed action. While there is no guarantee that any particular consensus-based alternative will be considered to be a reasonable alternative or be identified as the bureau's preferred alternative, bureaus must be able to show that the reasonable consensus-based alternative, if any, is reflected in the evaluation of the proposed action and discussed in the final decision. To be selected for implementation, a consensus-based alternative must be fully consistent with NEPA, the CEQ regulations, and all applicable statutory and regulatory provisions, as well as Departmental and bureau written policies and guidance.

(c) The Responsible Official must, whenever practicable, use a consensus-based management approach to the NEPA process.

(d) If the Responsible Official determines that the consensus-based alternative, if any, is not the preferred alternative, he or she must state the reasons for this determination in the environmental document.

(e) When practicing consensus-based management in the NEPA process, bureaus must comply with all applicable laws, including any applicable provisions of the Federal Advisory Committee Act (FACA).

§ 46.115 Consideration of past actions in the analysis of cumulative effects.

When considering the effects of past actions as part of a cumulative effects analysis, the Responsible Official must analyze the effects in accordance with 40 CFR 1508.7 and in accordance with relevant guidance issued by the Council on Environmental Quality, such as "The Council on Environmental Quality Guidance Memorandum on Consideration of Past Actions in Cumulative Effects Analysis" dated June 24, 2005, or any superseding Council on Environmental Quality guidance.

§ 46.120 Using existing environmental analyses prepared pursuant to NEPA and the Council on Environmental Quality regulations.

(a) When available, the Responsible Official should use existing NEPA analyses for assessing the impacts of a proposed action and any alternatives. Procedures for adoption or incorporation by reference of such analyses must be followed where applicable.

(b) If existing NEPA analyses include data and assumptions appropriate for the analysis at hand, the Responsible Official should use these existing NEPA analyses and/or their underlying data and assumptions where feasible.

(c) An existing environmental analysis prepared pursuant to NEPA and the Council on Environmental Quality regulations may be used in its entirety if the Responsible Official determines, with appropriate supporting documentation, that it adequately assesses the environmental effects of the proposed action and reasonable alternatives. The supporting record must include an evaluation of whether new circumstances, new information or changes in the action or its impacts not previously analyzed may result in significantly different environmental effects.

(d) Responsible Officials should make the best use of existing NEPA documents by supplementing, tiering to, incorporating by reference, or adopting previous NEPA environmental analyses to avoid redundancy and unnecessary paperwork.

§ 46.125 Incomplete or unavailable information.

In circumstances where the provisions of 40 CFR 1502.22 apply, bureaus must consider all costs to obtain information. These costs include monetary costs as well as other non-monetized costs when appropriate, such as social costs, delays, opportunity costs, and non-fulfillment or non-timely fulfillment of statutory mandates.

§ 46.130 Mitigation measures in analyses.

(a) Bureau proposed action. The analysis of the proposed action and any alternatives must include an analysis of the effects of the proposed action or alternative as well as analysis of the effects of any appropriate mitigation measures or best management practices that are considered. The mitigation measures can be analyzed either as elements of alternatives or in a separate discussion of mitigation.

(b) Applicant proposals (*i.e.*, bureau decision-making on such proposals is the proposed action). An applicant's

proposal presented to the bureau for analysis must include any ameliorative design elements (including stipulations, conditions, or best management practices), required to make the proposal conform to applicable legal requirements, as well as any voluntary ameliorative design element(s). The effects of any mitigation measures other than the ameliorative design elements included in the applicant's proposal must also be analyzed. The analysis of these mitigation measures can be structured as a matter of consideration of alternatives to approving the applicant's proposal or as separate mitigation measures to be imposed on any alternative selected for implementation.

§ 46.135 Incorporation of referenced documents into NEPA analysis.

(a) The Responsible Official must determine that the analysis and assumptions used in the referenced document are appropriate for the analysis at hand.

(b) Citations of specific information or analysis from other source documents should include the pertinent page numbers or other relevant identifying information.

(c) Publications incorporated into NEPA analysis by reference must be listed in the bibliography. Such publications must be readily available for review and, when not readily available, they must be made available for review as part of the record supporting the proposed action.

§ 46.140 Using tiered documents.

A NEPA document that tiers to another broader NEPA document in accordance with 40 CFR 1508.28 must include a finding that the conditions and environmental effects described in the broader NEPA document are still valid or address any exceptions.

(a) Where the impacts of the narrower action are identified and analyzed in the broader NEPA document, no further analysis is necessary, and the previously prepared document can be used for purposes of the pending action.

(b) To the extent that any relevant analysis in the broader NEPA document is not sufficiently comprehensive or adequate to support further decisions, the tiered NEPA document must explain this and provide any necessary analysis.

(c) An environmental assessment prepared in support of an individual proposed action can be tiered to a programmatic or other broader-scope environmental impact statement. An environmental assessment may be prepared, and a finding of no significant impact reached, for a proposed action

with significant effects, whether direct, indirect, or cumulative, if the environmental assessment is tiered to a broader environmental impact statement which fully analyzed those significant effects. Tiering to the programmatic or broader-scope environmental impact statement would allow the preparation of an environmental assessment and a finding of no significant impact for the individual proposed action, so long as any previously unanalyzed effects are not significant. A finding of no significant impact other than those already disclosed and analyzed in the environmental impact statement to which the environmental assessment is tiered may also be called a "finding of no *new* significant impact."

§ 46.145 Using adaptive management.

Bureaus should use adaptive management, as appropriate, particularly in circumstances where long-term impacts may be uncertain and future monitoring will be needed to make adjustments in subsequent implementation decisions. The NEPA analysis conducted in the context of an adaptive management approach should identify the range of management options that may be taken in response to the results of monitoring and should analyze the effects of such options. The environmental effects of any adaptive management strategy must be evaluated in this or subsequent NEPA analysis.

§ 46.150 Emergency responses.

This section applies only if the Responsible Official determines that an emergency exists that makes it necessary to take urgently needed actions before preparing a NEPA analysis and documentation in accordance with the provisions in subparts D and E of this part.

(a) The Responsible Official may take those actions necessary to control the immediate impacts of the emergency that are urgently needed to mitigate harm to life, property, or important natural, cultural, or historic resources. When taking such actions, the Responsible Official shall take into account the probable environmental consequences of these actions and mitigate foreseeable adverse environmental effects to the extent practical.

(b) The Responsible Official shall document in writing the determination that an emergency exists and describe the responsive action(s) taken at the time the emergency exists. The form of that documentation is within the discretion of the Responsible Official.

(c) If the Responsible Official determines that proposed actions taken

in response to an emergency, beyond actions noted in paragraph (a) of this section, are not likely to have significant environmental impacts, the Responsible Official shall document that determination in an environmental assessment and a finding of no significant impact prepared in accordance with this part, unless categorically excluded (see subpart C of this part). If the Responsible Official finds that the nature and scope of the subsequent actions related to the emergency require taking such proposed actions prior to completing an environmental assessment and a finding of no significant impact, the Responsible Official shall consult with the Office of Environmental Policy and Compliance about alternative arrangements for NEPA compliance. The Assistant Secretary, Policy Management and Budget or his/her designee may grant an alternative arrangement. Any alternative arrangement must be documented. Consultation with the Department must be coordinated through the appropriate bureau headquarters.

(d) The Department shall consult with CEQ about alternative arrangements as soon as possible if the Responsible Official determines that proposed actions, taken in response to an emergency, beyond actions noted in paragraph (a) of this section, are likely to have significant environmental impacts. The Responsible Official shall consult with appropriate bureau headquarters and the Department, about alternative arrangements as soon as the Responsible Official determines that the proposed action is likely to have a significant environmental effect. Such alternative arrangements will apply only to the proposed actions necessary to control the immediate impacts of the emergency. Other proposed actions remain subject to NEPA analysis and documentation in accordance with this part.

§ 46.155 Consultation, coordination, and cooperation with other agencies.

The Responsible Official must whenever possible consult, coordinate, and cooperate with relevant State, local, and tribal governments and other bureaus and Federal agencies concerning the environmental effects of any Federal action within the jurisdictions or related to the interests of these entities.

§ 46.160 Limitations on actions during the NEPA analysis process.

During the preparation of a program or plan NEPA document, the Responsible Official may undertake any

major Federal action in accordance with 40 CFR 1506.1 when that action is within the scope of, and analyzed in, an existing NEPA document supporting the current plan or program, so long as there is adequate NEPA documentation to support the individual action.

§ 46.170 Environmental effects abroad of major Federal actions.

(a) In order to facilitate informed decision-making, the Responsible Official having ultimate responsibility for authorizing and approving proposed actions encompassed by the provisions of Executive Order (EO) 12114 shall follow the provisions and procedures of that EO. EO 12114 "represents the United States government's exclusive and complete determination of the procedural and other actions to be taken by Federal agencies to further the purpose of the National Environmental Policy Act, with respect to the environment outside the United States, its territories and possessions."

(b) When implementing EO 12114, bureaus shall coordinate with the Department. The Department shall then consult with the Department of State, which shall coordinate all communications by the Department with foreign governments concerning environmental agreements and other arrangements in implementing EO 12114.

Subpart C—Initiating the NEPA Process

§ 46.200 Applying NEPA early.

(a) For any potentially major proposed Federal action (40 CFR 1508.23 and 1508.18) that may have potentially significant environmental impacts, bureaus must coordinate, as early as feasible, with:

(1) Any other bureaus or Federal agencies, State, local, and tribal governments having jurisdiction by law or special expertise; and

(2) Appropriate Federal, State, local, and tribal governments authorized to develop and enforce environmental standards or to manage and protect natural resources or other aspects of the human environment.

(b) Bureaus must solicit the participation of all those persons or organizations that may be interested or affected as early as possible, such as at the time an application is received or when the bureau initiates the NEPA process for a proposed action.

(c) Bureaus should provide, where practicable, any appropriate community-based training to reduce costs, prevent delays, and facilitate and promote efficiency in the NEPA process.

(d) Bureaus should inform private or non-Federal applicants, to the extent feasible, of:

(1) Any appropriate environmental information that the applicants must include in their applications; and

(2) Any consultation with other Federal agencies, or State, local, or tribal governments that the applicant must accomplish before or during the application process.

(e) Bureaus must inform applicants as soon as practicable of any responsibility they will bear for funding environmental analyses associated with their proposals.

§ 46.205 Actions categorically excluded from further NEPA review.

Categorical Exclusion means a category or kind of action that has no significant individual or cumulative effect on the quality of the human environment. See 40 CFR 1508.4.

(a) Except as provided in paragraph (c) of this section, if an action is covered by a Departmental categorical exclusion, the bureau is not required to prepare an environmental assessment (see subpart D of this part) or an environmental impact statement (see subpart E of this part). If a proposed action does not meet the criteria for any of the listed Departmental categorical exclusions or any of the individual bureau categorical exclusions, then the proposed action must be analyzed in an environmental assessment or environmental impact statement.

(b) The actions listed in section 46.210 are categorically excluded, Department-wide, from preparation of environmental assessments or environmental impact statements.

(c) The CEQ Regulations at 40 CFR 1508.4 require agency procedures to provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect and require additional analysis and action. Section 46.215 lists the extraordinary circumstances under which actions otherwise covered by a categorical exclusion require analyses under NEPA.

(1) Any action that is normally categorically excluded must be evaluated to determine whether it meets any of the extraordinary circumstances in section 46.215; if it does, further analysis and environmental documents must be prepared for the action.

(2) Bureaus must work within existing administrative frameworks, including any existing programmatic agreements, when deciding how to apply any of the section 46.215 extraordinary circumstances.

(d) Congress may establish categorical exclusions by legislation, in which case the terms of the legislation determine how to apply those categorical exclusions.

§ 46.210 Listing of Departmental categorical exclusions.

The following actions are categorically excluded under paragraph 46.205(b), unless any of the extraordinary circumstances in section 46.215 apply:

(a) Personnel actions and investigations and personnel services contracts.

(b) Internal organizational changes and facility and bureau reductions and closings.

(c) Routine financial transactions including such things as salaries and expenses, procurement contracts (*e.g.*, in accordance with applicable procedures and Executive Orders for sustainable or green procurement), guarantees, financial assistance, income transfers, audits, fees, bonds, and royalties.

(d) Departmental legal activities including, but not limited to, such things as arrests, investigations, patents, claims, and legal opinions. This does not include bringing judicial or administrative civil or criminal enforcement actions which are outside the scope of NEPA in accordance with 40 CFR 1508.18(a).

(e) Nondestructive data collection, inventory (including field, aerial, and satellite surveying and mapping), study, research, and monitoring activities.

(f) Routine and continuing government business, including such things as supervision, administration, operations, maintenance, renovations, and replacement activities having limited context and intensity (*e.g.*, limited size and magnitude or short-term effects).

(g) Management, formulation, allocation, transfer, and reprogramming of the Department's budget at all levels. (This does not exclude the preparation of environmental documents for proposals included in the budget when otherwise required.)

(h) Legislative proposals of an administrative or technical nature (including such things as changes in authorizations for appropriations and minor boundary changes and land title transactions) or having primarily economic, social, individual, or institutional effects; and comments and reports on referrals of legislative proposals.

(i) Policies, directives, regulations, and guidelines: that are of an administrative, financial, legal,

technical, or procedural nature; or whose environmental effects are too broad, speculative, or conjectural to lend themselves to meaningful analysis and will later be subject to the NEPA process, either collectively or case-by-case.

(j) Activities which are educational, informational, advisory, or consultative to other agencies, public and private entities, visitors, individuals, or the general public.

(k) Hazardous fuels reduction activities using prescribed fire not to exceed 4,500 acres, and mechanical methods for crushing, piling, thinning, pruning, cutting, chipping, mulching, and mowing, not to exceed 1,000 acres. Such activities:

(1) Shall be limited to areas—

(i) In wildland-urban interface; and

(ii) Condition Classes 2 or 3 in Fire Regime Groups I, II, or III, outside the wildland-urban interface;

(2) Shall be identified through a collaborative framework as described in “A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan;”

(3) Shall be conducted consistent with bureau and Departmental procedures and applicable land and resource management plans;

(4) Shall not be conducted in wilderness areas or impair the suitability of wilderness study areas for preservation as wilderness; and

(5) Shall not include the use of herbicides or pesticides or the construction of new permanent roads or other new permanent infrastructure; and may include the sale of vegetative material if the primary purpose of the activity is hazardous fuels reduction. (Refer to the ESM Series for additional, required guidance.)

(l) Post-fire rehabilitation activities not to exceed 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire. Such activities must comply with the following (Refer to the ESM Series for additional, required guidance.):

(1) Shall be conducted consistent with bureau and Departmental procedures and applicable land and resource management plans;

(2) Shall not include the use of herbicides or pesticides or the

construction of new permanent roads or other new permanent infrastructure; and

(3) Shall be completed within three years following a wildland fire.

§ 46.215 Categorical Exclusions: Extraordinary circumstances.

Extraordinary circumstances (see paragraph 46.205(c)) exist for individual actions within categorical exclusions that may meet any of the criteria listed in paragraphs (a) through (l) of this section. Applicability of extraordinary circumstances to categorical exclusions is determined by the Responsible Official.

(a) Have significant impacts on public health or safety.

(b) Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (EO 11990); floodplains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas.

(c) Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA section 102(2)(E)].

(d) Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.

(e) Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.

(f) Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.

(g) Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau.

(h) Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species or have significant impacts on designated Critical Habitat for these species.

(i) Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.

(j) Have a disproportionately high and adverse effect on low income or minority populations (EO 12898).

(k) Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007).

(l) Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and EO 13112).

§ 46.220 How to designate lead agencies.

(a) In most cases, the Responsible Official should designate one Federal agency as the lead with the remaining Federal, State, tribal governments, and local agencies assuming the role of cooperating agency. In this manner, the other Federal, State, and local agencies can work to ensure that the NEPA document will meet their needs for adoption and application to their related decision(s).

(b) In some cases, a non-Federal agency (including a tribal government) must comply with State or local requirements that are comparable to the NEPA requirements. In these cases, the Responsible Official may designate the non-Federal agency as a joint lead agency. (See 40 CFR 1501.5 and 1506.2 for a description of the selection of lead agencies, the settlement of lead agency disputes, and the use of joint lead agencies.)

(c) In some cases, the Responsible Official may establish a joint lead relationship among several Federal agencies. If there is a joint lead, then one Federal agency must be identified as the agency responsible for filing the environmental impact statement with EPA.

§ 46.225 How to select cooperating agencies.

(a) An “eligible governmental entity” is:

(1) Any Federal agency that is qualified to participate in the development of an environmental impact statement as provided for in 40 CFR 1501.6 and 1508.5 by virtue of its jurisdiction by law, as defined in 40 CFR 1508.15;

(2) Any Federal agency that is qualified to participate in the development of an environmental impact statement by virtue of its special expertise, as defined in 40 CFR 1508.26; or

(3) Any non-Federal agency (State, tribal, or local) with qualifications similar to those in paragraphs (a)(1) and (a)(2) of this section.

(b) Except as described in paragraph (c) of this section, the Responsible Official for the lead bureau must invite eligible governmental entities to participate as cooperating agencies

when the bureau is developing an environmental impact statement.

(c) The Responsible Official for the lead bureau must consider any request by an eligible governmental entity to participate in a particular environmental impact statement as a cooperating agency. If the Responsible Official for the lead bureau denies a request, or determines it is inappropriate to extend an invitation, he or she must state the reasons in the environmental impact statement. Denial of a request or not extending an invitation for cooperating agency status is not subject to any internal administrative appeals process, nor is it a final agency action subject to review under the Administrative Procedure Act, 5 U.S.C. 701 *et seq.*

(d) Bureaus should work with cooperating agencies to develop and adopt a memorandum of understanding that includes their respective roles, assignment of issues, schedules, and staff commitments so that the NEPA process remains on track and within the time schedule. Memoranda of understanding must be used in the case of non-Federal agencies and must include a commitment to maintain the confidentiality of documents and deliberations during the period prior to the public release by the bureau of any NEPA document, including drafts.

(e) The procedures of this section may be used for an environmental assessment.

§ 46.230 Role of cooperating agencies in the NEPA process.

In accordance with 40 CFR 1501.6, throughout the development of an environmental document, the lead bureau will collaborate, to the fullest extent possible, with all cooperating agencies concerning those issues relating to their jurisdiction and special expertise. Cooperating agencies may, by agreement with the lead bureau, help to do the following:

- (a) Identify issues to be addressed;
- (b) Arrange for the collection and/or assembly of necessary resource, environmental, social, economic, and institutional data;
- (c) Analyze data;
- (d) Develop alternatives;
- (e) Evaluate alternatives and estimate the effects of implementing each alternative; and
- (f) Carry out any other task necessary for the development of the environmental analysis and documentation.

§ 46.235 NEPA scoping process.

(a) Scoping is a process that continues throughout the planning and early

stages of preparation of an environmental impact statement. Scoping is required for an environmental impact statement; scoping may be helpful during preparation of an environmental assessment, but is not required (see paragraph 46.305(a) Public involvement in the environmental assessment process). For an environmental impact statement, bureaus must use scoping to engage State, local and tribal governments and the public in the early identification of concerns, potential impacts, relevant effects of past actions and possible alternative actions. Scoping is an opportunity to introduce and explain the interdisciplinary approach and solicit information as to additional disciplines that should be included. Scoping also provides an opportunity to bring agencies and applicants together to lay the groundwork for setting time limits, expediting reviews where possible, integrating other environmental reviews, and identifying any major obstacles that could delay the process. The Responsible Official shall determine whether, in some cases, the invitation requirement in 40 CFR 1501.7(a)(1) may be satisfied by including such an invitation in the notice of intent (NOI).

(b) In scoping meetings, newsletters, or by other communication methods appropriate to scoping, the lead agency must make it clear that the lead agency is ultimately responsible for determining the scope of an environmental impact statement and that suggestions obtained during scoping are only options for the bureau to consider.

§ 46.240 Establishing time limits for the NEPA process.

(a) For each proposed action, on a case-by-case basis, bureaus shall:

- (1) Set time limits from the start to the finish of the NEPA analysis and documentation, consistent with the requirements of 40 CFR 1501.8 and other legal obligations, including statutory and regulatory timeframes;
- (2) Consult with cooperating agencies in setting time limits; and
- (3) Encourage cooperating agencies to meet established time frames.

(b) Time limits should reflect the availability of Department and bureau personnel and funds. Efficiency of the NEPA process is dependent on the management capabilities of the lead bureau, which must assemble an interdisciplinary team and/or qualified staff appropriate to the type of project to be analyzed to ensure timely completion of NEPA documents.

Subpart D—Environmental Assessments

§ 46.300 Purpose of an environmental assessment and when it must be prepared.

The purpose of an environmental assessment is to allow the Responsible Official to determine whether to prepare an environmental impact statement or a finding of no significant impact.

(a) A bureau must ensure that an environmental assessment is prepared for all proposed Federal actions, except those:

- (1) That are covered by a categorical exclusion;
- (2) That are covered sufficiently by an earlier environmental document as determined and documented by the Responsible Official; or

(3) For which the bureau has already decided to prepare an environmental impact statement.

(b) A bureau may prepare an environmental assessment for any proposed action at any time to:

- (1) Assist in planning and decision-making;
- (2) Further the purposes of NEPA when no environmental impact statement is necessary; or
- (3) Facilitate environmental impact statement preparation.

§ 46.305 Public involvement in the environmental assessment process.

(a) The bureau must, to the extent practicable, provide for public notification and public involvement when an environmental assessment is being prepared. However, the methods for providing public notification and opportunities for public involvement are at the discretion of the Responsible Official.

(1) The bureau must consider comments that are timely received, whether specifically solicited or not.

(2) Although scoping is not required, the bureau may apply a scoping process to an environmental assessment.

(b) Publication of a “draft” environmental assessment is not required. Bureaus may seek comments on an environmental assessment if they determine it to be appropriate, such as when the level of public interest or the uncertainty of effects warrants, and may revise environmental assessments based on comments received without need of initiating another comment period.

(c) The bureau must notify the public of the availability of an environmental assessment and any associated finding of no significant impact once they have been completed. Comments on a finding of no significant impact do not need to be solicited, except as required by 40 CFR 1501.4(e)(2).

(d) Bureaus may allow cooperating agencies (as defined in § 46.225) to participate in developing environmental assessments.

§ 46.310 Contents of an environmental assessment.

(a) At a minimum, an environmental assessment must include brief discussions of:

- (1) The proposal;
- (2) The need for the proposal;
- (3) The environmental impacts of the proposed action;
- (4) The environmental impacts of the alternatives considered; and
- (5) A list of agencies and persons consulted.

(b) When the Responsible Official determines that there are no unresolved conflicts about the proposed action with respect to alternative uses of available resources, the environmental assessment need only consider the proposed action and does not need to consider additional alternatives, including the no action alternative. (See section 102(2)(E) of NEPA).

(c) In addition, an environmental assessment may describe a broader range of alternatives to facilitate planning and decision-making.

(d) A proposed action or alternative(s) may include adaptive management strategies allowing for adjustment of the action during implementation. If the adjustments to an action are clearly articulated and pre-specified in the description of the alternative and fully analyzed, then the action may be adjusted during implementation without the need for further analysis. Adaptive management includes a monitoring component, approved adaptive actions that may be taken, and environmental effects analysis for the adaptive actions approved.

(e) The level of detail and depth of impact analysis should normally be limited to the minimum needed to determine whether there would be significant environmental effects.

(f) Bureaus may choose to provide additional detail and depth of analysis as appropriate in those environmental assessments prepared under paragraph 46.300(b).

(g) An environmental assessment must contain objective analyses that support conclusions concerning environmental impacts.

§ 46.315 How to format an environmental assessment.

(a) An environmental assessment may be prepared in any format useful to facilitate planning, decision-making, and appropriate public participation.

(b) An environmental assessment may be accompanied by any other planning

or decision-making document. The portion of the document that analyzes the environmental impacts of the proposal and alternatives must be clearly and separately identified and not spread throughout or interwoven into other sections of the document.

§ 46.320 Adopting environmental assessments prepared by another agency, entity, or person.

(a) A Responsible Official may adopt an environmental assessment prepared by another agency, entity, or person, including an applicant, if the Responsible Official:

- (1) Independently reviews the environmental assessment; and
- (2) Finds that the environmental assessment complies with this subpart and relevant provisions of the CEQ Regulations and with other program requirements.

(b) When appropriate, the Responsible Official may augment the environmental assessment to be consistent with the bureau's proposed action.

(c) In adopting or augmenting the environmental assessment, the Responsible Official will cite the original environmental assessment.

(d) The Responsible Official must ensure that its bureau's public involvement requirements have been met before it adopts another agency's environmental assessment.

§ 46.325 Conclusion of the environmental assessment process.

Upon review of the environmental assessment by the Responsible Official, the environmental assessment process concludes with one of the following:

- (1) A notice of intent to prepare an environmental impact statement;
- (2) A finding of no significant impact; or
- (3) A result that no further action is taken on the proposal.

Subpart E—Environmental Impact Statements

§ 46.400 Timing of environmental impact statement development.

The bureau must prepare an environmental impact statement for each proposed major Federal action significantly affecting the quality of the human environment before making a decision on whether to proceed with the proposed action.

§ 46.405 Remaining within page limits.

To the extent possible, bureaus should use techniques such as incorporation of referenced documents into NEPA analysis (46.135) and tiering (46.140) in an effort to remain within the normal page limits stated in 40 CFR 1502.7.

§ 46.415 Environmental impact statement content, alternatives, circulation and filing requirements.

The Responsible Official may use any environmental impact statement format and design as long as the statement is in accordance with 40 CFR 1502.10.

(a) *Contents.* The environmental impact statement shall disclose:

- (1) A statement of the purpose and need for the action;
- (2) A description of the proposed action;
- (3) The environmental impact of the proposed action;
- (4) A brief description of the affected environment;
- (5) Any adverse environmental effects which cannot be avoided should the proposal be implemented;
- (6) Alternatives to the proposed action;
- (7) The relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity;
- (8) Any irreversible or irretrievable commitments of resources which would be involved in the proposed action should it be implemented; and
- (9) The process used to coordinate with other Federal agencies, State, tribal and local governments, and persons or organizations who may be interested or affected, and the results thereof.

(b) *Alternatives.* The environmental impact statement shall document the examination of the range of alternatives (paragraph 46.420(c)). The range of alternatives includes those reasonable alternatives (paragraph 46.420(b)) that meet the purpose and need of the proposed action, and address one or more significant issues (40 CFR 1501.7(a)(2–3)) related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed. In addition to the requirements in 40 CFR 1502.14, the Responsible Official has an option to use the following procedures to develop and analyze alternatives.

(1) The analysis of the effects of the no-action alternative may be documented by contrasting the current condition and expected future condition should the proposed action not be undertaken with the impacts of the proposed action and any reasonable alternatives.

(2) The Responsible Official may collaborate with those persons or organization that may be interested or affected to modify a proposed action and alternative(s) under consideration prior to issuing a draft environmental impact statement. In such cases the Responsible Official may consider these

modifications as alternatives considered. Before engaging in any collaborative processes, the Responsible Official must consider the Federal Advisory Committee Act (FACA) implications of such processes.

(3) A proposed action or alternative(s) may include adaptive management strategies allowing for adjustment of the action during implementation. If the adjustments to an action are clearly articulated and pre-specified in the description of the alternative and fully analyzed, then the action may be adjusted during implementation without the need for further analysis. Adaptive management includes a monitoring component, approved adaptive actions that may be taken, and environmental effects analysis for the adaptive actions approved.

(c) *Circulating and filing draft and final environmental impact statements.*

(1) The draft and final environmental impact statements shall be filed with the Environmental Protection Agency's Office of Federal Activities in Washington, DC (40 CFR 1506.9).

(2) Requirements at 40 CFR 1506.9 "Filing requirements," 40 CFR 1506.10 "Timing of agency action," 40 CFR 1502.9 "Draft, final, and supplemental statements," and 40 CFR 1502.19 "Circulation of the environmental impact statement" shall only apply to draft, final, and supplemental environmental impact statements that are filed with EPA.

§ 46.420 Terms used in an environmental impact statement.

The following terms are commonly used to describe concepts or activities in an environmental impact statement:

(a) *Statement of purpose and need.* In accordance with 40 CFR 1502.13, the statement of purpose and need briefly indicates the underlying purpose and need to which the bureau is responding.

(1) In some instances it may be appropriate for the bureau to describe its "purpose" and its "need" as distinct aspects. The "need" for the action may be described as the underlying problem or opportunity to which the agency is responding with the action. The "purpose" may refer to the goal or objective that the bureau is trying to achieve, and should be stated to the extent possible, in terms of desired outcomes.

(2) When a bureau is asked to approve an application or permit, the bureau should consider the needs and goals of the parties involved in the application or permit as well as the public interest. The needs and goals of the parties involved in the application or permit may be described as background

information. However, this description must not be confused with the bureau's purpose and need for action. It is the bureau's purpose and need for action that will determine the range of alternatives and provide a basis for the selection of an alternative in a decision.

(b) *Reasonable alternatives.* In addition to the requirements of 40 CFR 1502.14, this term includes alternatives that are technically and economically practical or feasible and meet the purpose and need of the proposed action.

(c) *Range of alternatives.* This term includes all reasonable alternatives, or when there are potentially a very large number of alternatives then a reasonable number of examples covering the full spectrum of reasonable alternatives, each of which must be rigorously explored and objectively evaluated, as well as those other alternatives that are eliminated from detailed study with a brief discussion of the reasons for eliminating them. 40 CFR 1502.14. The Responsible Official must not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents, but may select elements from several alternatives discussed. Moreover, the Responsible Official must, in fact, consider all the alternatives discussed in an environmental impact statement. 40 CFR 1505.1 (e).

(d) *Preferred alternative.* This term refers to the alternative which the bureau believes would best accomplish the purpose and need of the proposed action while fulfilling its statutory mission and responsibilities, giving consideration to economic, environmental, technical, and other factors. It may or may not be the same as the bureau's proposed action, the non-Federal entity's proposal or the environmentally preferable alternative.

§ 46.425 Identification of the preferred alternative in an environmental impact statement.

(a) Unless another law prohibits the expression of a preference, the draft environmental impact statement should identify the bureau's preferred alternative or alternatives, if one or more exists.

(b) Unless another law prohibits the expression of a preference, the final environmental impact statement must identify the bureau's preferred alternative.

§ 46.430 Environmental review and consultation requirements.

(a) Any environmental impact statement that also addresses other environmental review and consultation

requirements must clearly identify and discuss all the associated analyses, studies, or surveys relied upon by the bureau as a part of that review and consultation. The environmental impact statement must include these associated analyses, studies, or surveys, either in the text or in an appendix or indicate where such analysis, studies or surveys may be readily accessed by the public.

(b) The draft environmental impact statement must list all Federal permits, licenses, or approvals that must be obtained to implement the proposal. The environmental analyses for these related permits, licenses, and approvals should be integrated and performed concurrently. The bureau, however, need not unreasonably delay its NEPA analysis in order to integrate another agency's analyses. The bureau may complete the NEPA analysis before all approvals by other agencies are in place.

§ 46.435 Inviting comments.

(a) A bureau must seek comment from the public as part of the Notice of Intent to prepare an environmental impact statement and notice of availability for a draft environmental impact statement;

(b) In addition to paragraph (a) of this section, a bureau must request comments from:

(1) Federal agencies;

(2) State agencies through procedures established by the Governor of such state under EO 12372;

(3) Local governments and agencies, to the extent that the proposed action affects their jurisdictions; and

(4) The applicant, if any, and persons or organizations who may be interested or affected.

(c) The bureau must request comments from the tribal governments, unless the tribal governments have designated an alternate review process, when the proposed action may affect the environment of either:

(1) Indian trust or restricted land; or

(2) Other Indian trust resources, trust assets, or tribal health and safety.

(d) A bureau does not need to delay preparation and issuance of a final environmental impact statement when any Federal, State, and local agencies, or tribal governments from which comments must be obtained or requested do not comment within the prescribed time period.

§ 46.440 Eliminating duplication with State and local procedures.

A bureau must incorporate in its directives provisions allowing a State agency to jointly prepare an environmental impact statement, to the extent provided in 40 CFR 1506.2.

§ 46.445 Preparing a legislative environmental impact statement.

When required under 40 CFR 1506.8, the Department must ensure that a legislative environmental impact statement is included as a part of the

formal transmittal of a legislative proposal to the Congress.

§ 46.450 Identifying the environmentally preferable alternative(s).

In accordance with the requirements of 40 CFR 1505.2, a bureau must identify the environmentally preferable

alternative(s) in the record of decision. It is not necessary that the environmentally preferable alternative(s) be selected in the record of decision.

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APPENDIX 15

Department of the Interior Departmental Manual

Effective Date: 5/27/04

Series: Environmental Quality Programs

Part 516: National Environmental Policy Act of 1969

Chapter 10: Managing the NEPA Process--Bureau of Indian Affairs

Originating Office: Bureau of Indian Affairs

516 DM 10

10.1 **Purpose.** This Chapter provides supplementary requirements for implementing provisions of 516 DM 1 through 6 within the Department's Bureau of Indian Affairs (BIA). This Chapter is referenced in 516 DM 6.5.

10.2 NEPA Responsibility.

A. Deputy Commissioner of Indian Affairs is responsible for NEPA compliance of BIA activities and programs.

B. Director, Office of Trust Responsibilities (OTR) is responsible for oversight of the BIA program for achieving compliance with NEPA, program direction, and leadership for BIA environmental policy, coordination and procedures.

C. Environmental Services Staff, reports to the Director (OTR). This office is the Bureau-wide focal point for overall NEPA policy and guidance and is responsible for advising and assisting Area Offices, Agency Superintendents, and other field support personnel in their environmental activities. The office also provides training and acts as the Central Office's liaison with Indian tribal governments on NEPA and other environmental compliance matters. Information about BIA NEPA documents or the NEPA process can be obtained by contacting the Environmental Services Staff.

D. Other Central Office Directors and Division Chiefs are responsible for ensuring that the programs and activities within their jurisdiction comply with NEPA.

E. Area Directors and Project Officers are responsible for assuring NEPA compliance with all activities under their jurisdiction and providing advice and assistance to Agency Superintendents and consulting with the Indian tribes on environmental matters related to NEPA. Area Directors and Project Officers are also responsible for assigning sufficient trained staff to ensure NEPA compliance is carried out. An Environmental Coordinator is located at each Area Office.

F. Agency Superintendents and Field Unit Supervisors are responsible for NEPA compliance and enforcement at the Agency or field unit level.

10.3 Guidance to Applicants and Tribal Governments.

A. Relationship with Applicants and Tribal Governments.

(1) Guidance to Applicants.

(a) An "applicant" is an entity which proposes to undertake any activity which will at some point require BIA action. These may include tribal governments, private entities, state and local governments or other Federal agencies. BIA compliance with NEPA is Congressionally mandated. Compliance is initiated when a BIA action is necessary in order to implement a proposal.

(b) Applicants should contact the BIA official at the appropriate level for assistance. This will be the Agency Superintendent, Area Director or the Director, Office of Trust Responsibilities.

(c) If the applicant's proposed action will affect or involve more than one tribal government, one government agency, one BIA Agency, or where the action may be of State-wide or regional significance, the applicant should contact the respective Area Director(s). The Area Director(s), using sole discretion, may assign the lead NEPA compliance responsibilities to one Area Office or, as appropriate, to one Agency Superintendent. From that point, the Applicant will deal with the designated lead office.

(d) Since much of the applicant's planning may take place outside the BIA system, it is the applicant's responsibility to prepare a milestone chart for BIA use at the earliest possible stage in order to coordinate the efforts of both parties. Early communication with the responsible BIA office will expedite determination of the appropriate type of NEPA documentation required. Other matters such as the scope, depth and sources of data for an environmental document will also be expedited and will help lead to a more efficient and more timely NEPA compliance process.

(2) Guidance to Tribal Governments.

(a) Tribal governments may be applicants, and/or be affected by a proposed action of BIA or another Federal agency. Tribal governments affected by a proposed action shall be consulted during the preparation of environmental documents and, at their option, may cooperate in the review or preparation of such documents. Notwithstanding the above, the BIA retains sole responsibility and discretion in all NEPA compliance matters.

(b) Any proposed tribal actions that do not require BIA or other Federal approval, funding or "actions" are not subject to the NEPA process.

B. Prepared Program Guidance. BIA has implemented regulations for environmental guidance for surface mining in 25 CFR Part 216 (Surface Exploration, Mining and Reclamation of Lands.) Environmental guidance for Forestry activities is found in 25 CFR 163.27 and 53 BIAM Supplements 2 and 3.

C. Other Guidance. Programs under 25 CFR for which BIA has not yet issued regulations or directives for environmental information for applicants are listed below. These programs may or may not require environmental documents and could involve submission of applicant information to determine NEPA applicability. Applicants for these types of programs should contact the appropriate BIA office for information and assistance:

- (1) Partial payment construction charges on Indian irrigation projects (25 CFR Part 134).
- (2) Construction assessments, Crow Indian irrigation project (25 CFR Part 135).
- (3) Fort Hall Indian irrigation project, Idaho (25 CFR Part 136).
- (4) Reimbursement of construction costs, San Carlos Indian irrigation project, Arizona (25 CFR Part 137).
- (5) Reimbursement of construction costs, Ahtanum Unit, Wapato Indian irrigation project, Washington (25 CFR Part 138).
- (6) Reimbursement of construction costs, Wapato-Satus Unit, Wapato Indian Irrigation project, Washington (25 CFR Part 139).
- (7) Land acquisitions (25 CFR Part 151).
- (8) Leasing and permitting (Lands) (25 CFR Part 162).
- (9) Sale of lumber and other forest products produced by Indian enterprises from the forests on Indian reservation (25 CFR Part 164).
- (10) Sale of forest products, Red Lake Indian Reservation, Minn. (25 CFR Part 165).
- (11) General grazing regulations (25 CFR Part 166).
- (12) Navajo grazing regulations (25 CFR Part 167).
- (13) Grazing regulations for the Hopi partitioned lands (25 CFR Part 168).
- (14) Rights-of-way over Indian lands (25 CFR Part 169).

- (15) Roads of the Bureau of Indian Affairs (25 CFR Part 170).
- (16) Concessions, permits and leases on lands withdrawn or acquired in connection with Indian irrigation projects (25 CFR Part 173).
- (17) Indian Electric Power Utilities (25 CFR Part 175).
- (18) Resale of lands within the badlands Air Force Gunnery Range (Pine Ridge Aerial Gunnery Range) (25 CFR Part 178).
- (19) Leasing of tribal lands for mining (25 CFR Part 211).
- (20) Leasing of allotted lands for mining (25 CFR Part 212).
- (21) Leasing of restricted lands of members of Five Civilized Tribes, Oklahoma, for mining (25 CFR Part 213).
- (22) Leasing of Osage Reservation lands, Oklahoma, for mining, except oil and gas (25 CFR Part 214).
- (23) Lead and zinc mining operations and leases, Quapaw Agency (25 CFR Part 215).
- (24) Leasing of Osage Reservation lands for oil and gas mining (25 CFR Part 226).
- (25) Leasing of certain lands in Wind River Indian Reservation, Wyoming, for oil and gas mining (25 CFR Part 227).
- (26) Indian fishing in Alaska (25 CFR Part 241).
- (27) Commercial fishing on Red Lake Indian Reservation (25 CFR 242).
- (28) Use of Columbia River in-lieu fishing sites (25 CFR Part 248).
- (29) Off-reservation treaty fishing (25 CFR Part 249).
- (30) Indian fishing - Hoopa Valley Indian Reservation (25 CFR Part 150).
- (31) Housing Improvement Program (25 CFR Part 256).
- (32) Contracts under Indian Self-Determination Act (25 CFR Part 271).
- (33) Grants under Indian Self-Determination Act 25 CFR Part 272).
- (34) School construction or services for tribally operated previously private schools

(25 CFR Part 274).

(35) Uniform administration requirements for grants (25 CFR 276).

(36) School construction contracts for public schools (25 CFR Part 277).

10.4 Major Actions Normally Requiring an EIS.

A. The following BIA actions normally require the preparation of an Environmental Impact Statement (EIS):

(1) Proposed mining contracts (for other than oil and gas), or the combination of a number of smaller contracts comprising a mining unit for:

(a) New mines of 640 acres or more, other than surface coal mines.

(b) New surface coal mines of 1,280 acres or more, or having an annual full production level of 5 million tons or more.

(2) Proposed water development projects which would, for example, inundate more than 1,000 acres, or store more than 30,000 acre-feet, or irrigate more than 5,000 acres of undeveloped land.

(3) Construction of a treatment, storage or disposal facility for hazardous waste or toxic substances.

(4) Construction of a solid waste facility for commercial purposes.

B. If, for any of these actions, it is proposed not to prepare an EIS, an Environmental Assessment (EA) will be developed in accordance with 40 CFR 1501.4(a)(2).

10.5 Categorical Exclusions. In addition to the actions listed in the Department's categorical exclusions in Appendix 1 of 516 DM 2, many of which the BIA also performs, the following BIA actions are hereby designated as categorical exclusions unless the action qualifies as an exception under Appendix 2 of 516 DM 2. These activities are single, independent actions not associated with a larger, existing or proposed, complex or facility. If cases occur that involve larger complexes or facilities, an EA or supplement should be accomplished.

A. Operation, Maintenance, and Replacement of Existing Facilities. Examples are normal renovation of buildings, road maintenance and limited rehabilitation of irrigation structures.

B. Transfer of Existing Federal Facilities to Other Entities. Transfer of existing operation and maintenance activities of Federal facilities to tribal groups, water user organizations, or other entities where the anticipated operation and maintenance activities are

agreed to in a contract, follow BIA policy, and no change in operations or maintenance is anticipated.

C. Human Resources Programs. Examples are social services, education services, employment assistance, tribal operations, law enforcement and credit and financing activities not related to development.

D. Administrative Actions and Other Activities Relating to Trust Resources. Examples are: Management of trust funds (collection and distribution), budget, finance, estate planning, wills and appraisals.

E. Self-Determination and Self-Governance.

(1) Self-Determination Act contracts and grants for BIA programs listed as categorical exclusions, or for programs in which environmental impacts are adequately addressed in earlier NEPA analysis.

(2) Self-Governance compacts for BIA programs which are listed as categorical exclusions or for programs in which environmental impacts are adequately addressed in earlier NEPA analysis.

F. Rights-of-Way.

(1) Rights-of-Way inside another right-of-way, or amendments to rights-of-way where no deviations from or additions to the original right-of-way are involved and where there is an existing NEPA analysis covering the same or similar impacts in the right-of-way area.

(2) Service line agreements to an individual residence, building or well from an existing facility where installation will involve no clearance of vegetation from the right-of-way other than for placement of poles, signs (including highway signs), or buried power/cable lines.

(3) Renewals, assignments and conversions of existing rights-of-way where there would be essentially no change in use and continuation would not lead to environmental degradation.

G. Minerals.

(1) Approval of permits for geologic mapping, inventory, reconnaissance and surface sample collecting.

(2) Approval of unitization agreements, pooling or communitization agreements.

(3) Approval of mineral lease adjustments and transfers, including assignments and subleases.

(4) Approval of royalty determinations such as royalty rate adjustments of an existing lease or contract agreement.

H. Forestry.

(1) Approval of free-use cutting, without permit, to Indian owners for on-reservation personal use of forest products, not to exceed 2,500 feet board measure when cutting will not adversely affect associated resources such as riparian zones, areas of special significance, etc.

(2) Approval and issuance of cutting permits for forest products not to exceed \$5,000 in value.

(3) Approval and issuance of paid timber cutting permits or contracts for products valued at less than \$25,000 when in compliance with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.

(4) Approval of annual logging plans when in compliance with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.

(5) Approval of Fire Management Planning Analysis detailing emergency fire suppression activities.

(6) Approval of emergency forest and range rehabilitation plans when limited to environmental stabilization on less than 10,000 acres and not including approval of salvage sales of damaged timber.

(7) Approval of forest stand improvement projects of less than 2000 acres when in compliance with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.

(8) Approval of timber management access skid trail and logging road construction when consistent with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.

(9) Approval of prescribed burning plans of less than 2000 acres when in compliance with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.

(10) Approval of forestation projects with native species and associated protection and site preparation activities on less than 2000 acres when consistent with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.

I. Land Conveyance and Other Transfers. Approvals or grants of conveyances and other transfers of interests in land where no change in land use is planned.

J. Reservation Proclamations. Lands established as or added to a reservation pursuant to 25 U.S.C. 467, where no change in land use is planned.

K. Waste Management.

(1) Closure operations for solid waste facilities when done in compliance with other federal laws and regulations and where cover material is taken from locations which have been approved for use by earlier NEPA analysis.

(2) Activities involving remediation of hazardous waste sites if done in compliance with applicable federal laws such as the Resource Conservation and Recovery Act (P.L. 94-580), Comprehensive Environmental Response, Compensation, and Liability Act (P.L. 96-516) or Toxic Substances Control Act (P.L. 94-469).

L. Roads and Transportation.

(1) Approval of utility installations along or across a transportation facility located in whole within the limits of the roadway right-of-way.

(2) Construction of bicycle and pedestrian lanes and paths adjacent to existing highways and within the existing rights-of-way.

(3) Activities included in a "highway safety plan" under 23 CFR 402.

(4) Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.

(5) Emergency repairs under 23 U.S.C. 125.

(6) Acquisition of scenic easements.

(7) Alterations to facilities to make them accessible for the elderly or handicapped.

(8) Resurfacing a highway without adding to the existing width.

(9) Rehabilitation, reconstruction or replacement of an existing bridge structure on essentially the same alignment or location (e.g., widening, adding shoulders or safety lanes, walkways, bikeways or guardrails).

(10) Approvals for changes in access control within existing right-of-ways.

(11) Road construction within an existing right-of-way which has already been acquired for a HUD housing project and for which earlier NEPA analysis has already been

prepared.

M. Other.

(1) Data gathering activities such as inventories, soil and range surveys, timber cruising, geological, geophysical, archeological, paleontological and cadastral surveys.

(2) Establishment of non-disturbance environmental quality monitoring programs and field monitoring stations including testing services.

(3) Actions where BIA has concurrence or co-approval with another Bureau and the action is categorically excluded for that Bureau.

(4) Approval of an Application for Permit to Drill for a new water source or observation well.

(5) Approval of conversion of an abandoned oil well to a water well if water facilities are established only near the well site.

(6) Approval and issuance of permits under the Archaeological Resources Protection Act (16 U.S.C. 470aa-11) when the permitted activity is being done as a part of an action for which a NEPA analysis has been, or is being prepared.

5/27/04 #3620

Replaces 3/18/80 #3511

APPENDIX 16

INDIAN AFFAIRS MANUAL

3.1 Purpose. This chapter establishes policy, requirements and responsibilities for Indian Affairs (IA) headquarters and field staff for compliance with the National Environmental Policy Act (NEPA). Complying with NEPA requires IA to complete appropriate environmental documents to demonstrate IA has considered the effects its actions may cause on the human environment.

3.2 Scope. The policy and standards apply to all IA Offices who have control and responsibility for actions affecting Indian trust lands or any adjacent lands. These include all actions that IA offices directly initiate, fund or approve. The NEPA requires that IA consider the environmental effects and properly document this consideration prior to initiating the actions.

3.3 Policy. It is the policy of IA to:

- A. Consider the environmental effects of its actions by conducting the appropriate environmental review.
- B. Account for this review by preparing the appropriate environmental documents.
- C. Take the appropriate steps to ensure negative environmental effects are prevented, minimized or mitigated whenever possible.
- D. Monitor for and assess the effectiveness of mitigation measures identified to mitigate adverse environmental impacts in EAs and EISs.
- E. Periodically, review the IA list of categorically excluded actions and determine their continuing applicability.
- F. Categorically exclude purchase and consolidation of fractionated interests of Indian land, under 516 DM 10.5(I) and apply a single nation-wide Categorical Exclusion Exception Review (CEER). A separate CEER Checklist of each purchase is not required, but to document the nation-wide CEER, the following statement will be included with each deed:

“In compliance with the National Environmental Policy Act (NEPA), the Bureau of Indian Affairs (BIA) has determined that the purchase of fractionated interests under this deed is categorically excluded under 516 DM 10.5(I). BIA has evaluated the purchase to determine whether it meets any of the extraordinary circumstances in 43 C.F.R. 46.215, and has determined that any extraordinary circumstances would not be affected because the land use of the purchased interests would not change. Any future change in land use that requires a major federal action would require further NEPA review.”

3.4 Authority. The following statute, regulations, and Executive Order impose requirements on IA regarding compliance with NEPA:

A. Statutes.

- (1) National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 – et seq. as amended.

B. Regulations.

- (1) 40 CFR Parts 1500 - 1508, Regulations of the Council on Environmental Quality (CEQ).
- (2) 43 CFR Part 46, Implementation of the National Environmental Policy Act (NEPA) of 1969.

C. Executive Orders

- (1) Executive Order 11514 Protection and Enhancement of Environmental Quality, Section 2, March 5, 1970, as amended by Executive Order 11991, Relating to Protection and Enhancement of Environmental Quality, May 24, 1977.
- (2) Executive Order 11988, Floodplain Management, May 24, 1977.
- (3) Executive Order 11990, Protection of Wetlands, May 24, 1977.
- (4) Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994.

D. Guidance.

- (1) 516 DM 10 Managing the NEPA Process – Bureau of Indian Affairs
- (2) IA NEPA Guidebook.
- (3) CEQ Forty Most Asked Questions Concerning CEQ's National Environmental
- (4) Policy Act Regulations (46 FR 18026).
- (5) CEQ Guidance Regarding NEPA Regulations (48 FR 34236)
- (6) CEQ Environmental Justice Guidance under the National Environmental Policy Act, December 1997.
- (7) CEQ Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Use of Findings of No Significant Impact (76 FR 3843).
- (8) CEQ Final Guidance for Federal Departments and Agencies on Establishing, Applying, and Revising Categorical Exclusions under the National Environmental Policy Act (75 FR 75628).

3.5 Responsibilities.

- A. Assistant Secretary - Indian Affairs** discharges the duties of the Secretary of Interior with the authority to direct responsibility to protect and preserve Indian trust assets; provides program and budget support; oversees policies and programs for overall compliance with NEPA; and reviews and acts on any NEPA documents that are raised to the Assistant Secretary level.
- B. Deputy Assistant Secretary – Management** reviews and acts on any NEPA documents that are raised to the Deputy Assistant Secretary level; and reviews and acts upon IA policy to comply with NEPA.

INDIAN AFFAIRS MANUAL

- C. **Director, Bureau of Indian Affairs** ensures appropriate organizational arrangements, resources and personnel are available to comply with NEPA for all actions of the BIA.
- D. **Director, Office of Facilities, Environmental and Cultural Resources** ensures the interdisciplinary capabilities of the Division of Environmental and Cultural Resources Management as required by Section 102(A) of NEPA; and delegates responsibility to the Deputy Director, Office of Facilities, Management and Construction for signing Federal agency NEPA compliance documents for decisions that rest with the Office of Facilities, Management and Construction.
- E. **Deputy Director, Office of Facilities, Management and Construction** ensures compliance with NEPA for federal actions controlled by OFMC; and signs NEPA documents for decisions that rest with the Office of Facilities, Management and Construction.
- F. **Chief, Division of Environmental and Cultural Resources Management** establishes IA's environmental management policies, guidance and standards for complying with environmental statutory and regulatory requirements and Environmental Executive Orders; oversees IA NEPA compliance activities; and appoints a Central Office NEPA Coordinator.
- G. **Central Office NEPA Coordinator** coordinates IA NEPA activities and serves as NEPA representative for IA with other Offices, Bureaus and Agencies; drafts policy and procedures for implementing NEPA actions; coordinates the Federal Register notifications and distribution of Environmental Impact Statements; conducts Internal Control Reviews of the NEPA program; manages IA's federal and Departmental NEPA reporting requirements; and coordinates NEPA training and meetings for BIA and IA staff.
- H. **Regional Directors** review and act on any NEPA documents, including Categorical Exclusions, Environmental Assessments and Environmental Impact Statements that are not otherwise delegated to the Agency level.
- I. **IA Program Managers** ensure that federal actions under their control comply with NEPA.
- J. **Regional NEPA Coordinators** serve as the Regions' professional environmental representatives for providing technical advice to Regional Directors regarding proper compliance with NEPA; take the lead for ensuring NEPA analysis is conducted in accordance with the authority and guidance referenced in this chapter for any BIA action originating in the Regions and requiring Regional Directors' approval; review environmental documents (Categorical Exclusions, Environmental Assessments and Environmental Impact Statements) for actions occurring within the Regions, including documents prepared by BIA as well as documents prepared by other agencies for

activities occurring on or affecting Indian trust lands; serve as the Regions' representatives for cooperating agencies on environmental analysis affecting Trust lands; and monitor and ensure that all required mitigation measures are carried out.

- I. **Agency Superintendents and Program Directors** carry out, at the Agency/ Program level, those NEPA responsibilities delegated by the Regional Director. Such delegation will only be made where the Agency or Program Office has appropriate expertise on staff or otherwise readily available.
- J. **Agency and Program Environmental Specialists** perform those responsibilities of a Regional NEPA Coordinator that may be required to enable the Agency Superintendent or Program Representative to meet responsibilities that have been delegated to them relating NEPA.

3.6 Definitions

A. Major federal action. Indian Affairs adopts the 43 C.F.R §46.100 definition of federal action as synonymous with any reference to major federal action. The definition is as follows: “(a) A bureau proposed action is subject to the procedural requirements of NEPA if it would cause effects on the human environment (40 CFR 1508.14), and is subject to bureau control and responsibility (40 CFR 1508.18). The determination of whether a proposed action is subject to the procedural requirements of NEPA depends on the extent to which bureaus exercise control and responsibility over the proposed action and whether Federal funding or approval are necessary to implement it. If Federal funding is provided with no Federal agency control as to the expenditure of such funds by the recipient, NEPA compliance is not necessary. The proposed action is not subject to the procedural requirements of NEPA if it is exempt from the requirements of section 102(2) of NEPA.

(b) A bureau shall apply the procedural requirements of NEPA when the proposal is developed to the point that: (1) The bureau has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal; and (2) The effects of the proposed action can be meaningfully evaluated (40 CFR 1508.23).”

B. NEPA documents. There are five NEPA documents IA may prepare they are: a Categorical Exclusion Exception Review (CEER) Checklist ; an Environmental Assessment; a Finding of No Significant Impact (FONSI); an Environmental Impact Statement (EIS); and a Record of Decision (ROD).

APPENDIX 17

NEPA’S FORTY MOST ASKED QUESTIONS

Table of Contents

1.	Range of Alternatives	1
2.	Alternatives Outside the Capability of Applicant or Jurisdiction of Agency	1
3.	No-Action Alternative	2
4.	Agency's Preferred Alternative	3
5.	Proposed Action v. Preferred Alternative	3
6.	Environmentally Preferable Alternative	4
7.	Difference Between Sections of EIS on Alternatives and Environmental Consequences	5
8.	Early Application of NEPA	5
9.	Applicant Who Needs Other Permits	6
10.	Limitations on Action During 30-Day Review Period for Final EIS	7
11.	Limitations on Actions by an Applicant During EIS Process	7
12.	Effective Date and Enforceability of the Regulations	8
13.	Use of Scoping Before Notice of Intent to Prepare EIS	9
14.	Rights and Responsibilities of Lead and Cooperating Agencies	9
15.	Commenting Responsibilities of EPA	11
16.	Third Party Contracts	12
17.	Disclosure Statement to Avoid Conflict of Interest	12
18.	Uncertainties About Indirect Effects of A Proposal	13
19.	Mitigation Measures	13
20.	Worst Case Analysis. [Withdrawn.]	14

21.	Combining Environmental and Planning Documents	14
22.	State and Federal Agencies as Joint Lead Agencies	15
23.	Conflicts of Federal Proposal With Land Use Plans, Policies or Controls	15
24.	Environmental Impact Statements on Policies, Plans or Programs	16
25.	Appendices and Incorporation by Reference	17
26.	Index and Keyword Index in EISs	18
27.	List of Preparers	19
28.	Advance or Xerox Copies of EIS	19
29.	Responses to Comments	20
30.	Adoption of EISs	22
31.	Application of Regulations to Independent Regulatory Agencies	23
32.	Supplements to Old EISs	23
33.	Referrals	24
34.	Records of Decision	24
35.	Time Required for the NEPA Process	25
36.	Environmental Assessments (EA)	26
37.	Findings of No Significant Impact (FONSI)	26
38.	Public Availability of EAs v. FONSI	27
39.	Mitigation Measures Imposed in EAs and FONSI	27
40.	Propriety of Issuing EA When Mitigation Reduces Impacts	28
	ENDNOTES	29

1a. Range of Alternatives. What is meant by "range of alternatives" as referred to in Sec. 1505.1(e)?

A. The phrase "range of alternatives" refers to the alternatives discussed in environmental documents. It includes all reasonable alternatives, which must be rigorously explored and objectively evaluated, as well as those other alternatives, which are eliminated from detailed study with a brief discussion of the reasons for eliminating them. Section 1502.14. A decisionmaker must not consider alternatives beyond the range of alternatives discussed in the relevant environmental documents. Moreover, a decisionmaker must, in fact, consider all the alternatives discussed in an EIS. Section 1505.1(e).

1b. How many alternatives have to be discussed when there is an infinite number of possible alternatives?

A. For some proposals there may exist a very large or even an infinite number of possible reasonable alternatives. For example, a proposal to designate wilderness areas within a National Forest could be said to involve an infinite number of alternatives from 0 to 100 percent of the forest. When there are potentially a very large number of alternatives, only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS. An appropriate series of alternatives might include dedicating 0, 10, 30, 50, 70, 90, or 100 percent of the Forest to wilderness. What constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case.

2a. Alternatives Outside the Capability of Applicant or Jurisdiction of Agency. If an EIS is prepared in connection with an application for a permit or other federal approval, must the EIS rigorously analyze and discuss alternatives that are outside the capability of the applicant or can it be limited to reasonable alternatives that can be carried out by the applicant?

A. Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.

2b. Must the EIS analyze alternatives outside the jurisdiction or capability of the agency or beyond what Congress has authorized?

A. An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered. Section 1506.2(d). Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may

serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a).

3. No-Action Alternative. What does the "no action" alternative include? If an agency is under a court order or legislative command to act, must the EIS address the "no action" alternative?

A. Section 1502.14(d) requires the alternatives analysis in the EIS to "include the alternative of no action." There are two distinct interpretations of "no action" that must be considered, depending on the nature of the proposal being evaluated. The first situation might involve an action such as updating a land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases "no action" is "no change" from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative management schemes would be compared in the EIS to those impacts projected for the existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development.

The second interpretation of "no action" is illustrated in instances involving federal decisions on proposals for projects. "No action" in such cases would mean the proposed activity would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward.

Where a choice of "no action" by the agency would result in predictable actions by others, this consequence of the "no action" alternative should be included in the analysis. For example, if denial of permission to build a railroad to a facility would lead to construction of a road and increased truck traffic, the EIS should analyze this consequence of the "no action" alternative.

In light of the above, it is difficult to think of a situation where it would not be appropriate to address a "no action" alternative. Accordingly, the regulations require the analysis of the no action alternative even if the agency is under a court order or legislative command to act. This analysis provides a benchmark, enabling decisionmakers to compare the magnitude of environmental effects of the action alternatives. It is also an example of a reasonable alternative outside the jurisdiction of the agency which must be analyzed. Section 1502.14(c). See Question 2 above. Inclusion of such an analysis in the EIS is necessary to inform the Congress, the public, and the President as intended by NEPA. Section 1500.1(a).

4a. Agency's Preferred Alternative. What is the "agency's preferred alternative"?

A. The "agency's preferred alternative" is the alternative which the agency believes would fulfill its statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors. The concept of the "agency's preferred alternative" is different from the "environmentally preferable alternative," although in some cases one alternative may be both. See Question 6 below. It is identified so that agencies and the public can understand the lead agency's orientation.

4b. Does the "preferred alternative" have to be identified in the Draft EIS and the Final EIS or just in the Final EIS?

A. Section 1502.14(e) requires the section of the EIS on alternatives to "identify the agency's preferred alternative if one or more exists, in the draft statement, and identify such alternative in the final statement . . ." This means that if the agency has a preferred alternative at the Draft EIS stage, that alternative must be labeled or identified as such in the Draft EIS. If the responsible federal official in fact has no preferred alternative at the Draft EIS stage, a preferred alternative need not be identified there. By the time the Final EIS is filed, Section 1502.14(e) presumes the existence of a preferred alternative and requires its identification in the Final EIS "unless another law prohibits the expression of such a preference."

4c. Who recommends or determines the "preferred alternative?"

A. The lead agency's official with line responsibility for preparing the EIS and assuring its adequacy is responsible for identifying the agency's preferred alternative(s). The NEPA regulations do not dictate which official in an agency shall be responsible for preparation of EISs, but agencies can identify this official in their implementing procedures, pursuant to Section 1507.3.

Even though the agency's preferred alternative is identified by the EIS preparer in the EIS, the statement must be objectively prepared and not slanted to support the choice of the agency's preferred alternative over the other reasonable and feasible alternatives.

5a. Proposed Action v. Preferred Alternative. Is the "proposed action" the same thing as the "preferred alternative"?

A. The "proposed action" may be, but is not necessarily, the agency's "preferred alternative." The proposed action may be a proposal in its initial form before undergoing analysis in the EIS process. If the proposed action is [46 FR 18028] internally generated, such as preparing a land management plan, the proposed action might end up as the agency's preferred alternative. On the other hand the proposed action may be granting an application to a non-federal entity for a permit. The agency may or may not have a "preferred alternative" at the Draft EIS stage (see Question 4 above). In that case the agency may decide at the Final EIS

stage, on the basis of the Draft EIS and the public and agency comments, that an alternative other than the proposed action is the agency's "preferred alternative."

5b. Is the analysis of the "proposed action" in an EIS to be treated differently from the analysis of alternatives?

A. The degree of analysis devoted to each alternative in the EIS is to be substantially similar to that devoted to the "proposed action." Section 1502.14 is titled "Alternatives including the proposed action" to reflect such comparable treatment. Section 1502.14(b) specifically requires "substantial treatment" in the EIS of each alternative including the proposed action. This regulation does not dictate an amount of information to be provided, but rather, prescribes a level of treatment, which may in turn require varying amounts of information, to enable a reviewer to evaluate and compare alternatives.

6a. Environmentally Preferable Alternative. What is the meaning of the term "environmentally preferable alternative" as used in the regulations with reference to Records of Decision? How is the term "environment" used in the phrase?

A. Section 1505.2(b) requires that, in cases where an EIS has been prepared, the Record of Decision (ROD) must identify all alternatives that were considered, ". . . specifying the alternative or alternatives which were considered to be environmentally preferable." The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.

The Council recognizes that the identification of the environmentally preferable alternative may involve difficult judgments, particularly when one environmental value must be balanced against another. The public and other agencies reviewing a Draft EIS can assist the lead agency to develop and determine environmentally preferable alternatives by providing their views in comments on the Draft EIS. Through the identification of the environmentally preferable alternative, the decisionmaker is clearly faced with a choice between that alternative and others, and must consider whether the decision accords with the Congressionally declared policies of the Act.

6b. Who recommends or determines what is environmentally preferable?

A. The agency EIS staff is encouraged to make recommendations of the environmentally preferable alternative(s) during EIS preparation. In any event the lead agency official responsible for the EIS is encouraged to identify the environmentally preferable alternative(s) in the EIS. In all cases, commentors from other agencies and the public are also encouraged to address this question. The agency must identify the environmentally preferable alternative in the ROD.

7. Difference Between Sections of EIS on Alternatives and Environmental Consequences. What is the difference between the sections in the EIS on "alternatives" and "environmental consequences"? How do you avoid duplicating the discussion of alternatives in preparing these two sections?

A. The "alternatives" section is the heart of the EIS. This section rigorously explores and objectively evaluates all reasonable alternatives including the proposed action. Section 1502.14. It should include relevant comparisons on environmental and other grounds. The "environmental consequences" section of the EIS discusses the specific environmental impacts or effects of each of the alternatives including the proposed action. Section 1502.16. In order to avoid duplication between these two sections, most of the "alternatives" section should be devoted to describing and comparing the alternatives. Discussion of the environmental impacts of these alternatives should be limited to a concise descriptive summary of such impacts in a comparative form, including charts or tables, thus sharply defining the issues and providing a clear basis for choice among options. Section 1502.14. The "environmental consequences" section should be devoted largely to a scientific analysis of the direct and indirect environmental effects of the proposed action and of each of the alternatives. It forms the analytic basis for the concise comparison in the "alternatives" section.

8. Early Application of NEPA. Section 1501.2(d) of the NEPA regulations requires agencies to provide for the early application of NEPA to cases where actions are planned by private applicants or non-Federal entities and are, at some stage, subject to federal approval of permits, loans, loan guarantees, insurance or other actions. What must and can agencies do to apply NEPA early in these cases?

A. Section 1501.2(d) requires federal agencies to take steps toward ensuring that private parties and state and local entities initiate environmental studies as soon as federal involvement in their proposals can be foreseen. This section is intended to ensure that environmental factors are considered at an early stage in the planning process and to avoid the situation where the applicant for a federal permit or approval has completed planning and eliminated all alternatives to the proposed action by the time the EIS process commences or before the EIS process has been completed.

Through early consultation, business applicants and approving agencies may gain better appreciation of each other's needs and foster a decisionmaking process which avoids later unexpected confrontations.

Federal agencies are required by Section 1507.3(b) to develop procedures to carry out Section 1501.2(d). The procedures should include an "outreach program," such as a means for prospective applicants to conduct pre-application consultations with the lead and cooperating agencies. Applicants need to find out, in advance of project planning, what environmental studies or other information will be required, and what mitigation requirements are likely, in connection with the later federal NEPA process. Agencies should

designate staff to advise potential applicants of the agency's NEPA information requirements and should publicize their pre-application procedures and information requirements in newsletters or other media used by potential applicants.

Complementing Section 1501.2(d), Section 1506.5(a) requires agencies to assist applicants by outlining the types of information required in those cases where the agency requires the applicant to submit environmental data for possible use by the agency in preparing an EIS.

Section 1506.5(b) allows agencies to authorize preparation of environmental assessments by applicants. Thus, the procedures should also include a means for anticipating and utilizing applicants' environmental studies or "early corporate environmental assessments" to fulfill some of the federal agency's NEPA obligations. However, in such cases the agency must still evaluate independently the environmental issues [46 FR 18029] and take responsibility for the environmental assessment.

These provisions are intended to encourage and enable private and other non-federal entities to build environmental considerations into their own planning processes in a way that facilitates the application of NEPA and avoids delay.

9. Applicant Who Needs Other Permits. To what extent must an agency inquire into whether an applicant for a federal permit, funding or other approval of a proposal will also need approval from another agency for the same proposal or some other related aspect of it?

A. Agencies must integrate the NEPA process into other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts. Specifically, the agency must "provide for cases where actions are planned by . . . applicants," so that designated staff are available to advise potential applicants of studies or other information that will foreseeably be required for the later federal action; the agency shall consult with the applicant if the agency foresees its own involvement in the proposal; and it shall insure that the NEPA process commences at the earliest possible time. Section 1501.2(d). (See Question 8.)

The regulations emphasize agency cooperation early in the NEPA process. Section 1501.6. Section 1501.7 on "scoping" also provides that all affected Federal agencies are to be invited to participate in scoping the environmental issues and to identify the various environmental review and consultation requirements that may apply to the proposed action. Further, Section 1502.25(b) requires that the draft EIS list all the federal permits, licenses and other entitlements that are needed to implement the proposal.

These provisions create an affirmative obligation on federal agencies to inquire early, and to the maximum degree possible, to ascertain whether an applicant is or will be seeking other federal assistance or approval, or whether the applicant is waiting until a proposal has been substantially developed before requesting federal aid or approval.

Thus, a federal agency receiving a request for approval or assistance should determine whether the applicant has filed separate requests for federal approval or assistance with other federal agencies. Other federal agencies that are likely to become involved should then be contacted, and the NEPA process coordinated, to insure an early and comprehensive analysis of the direct and indirect effects of the proposal and any related actions. The agency should inform the applicant that action on its application may be delayed unless it submits all other federal applications (where feasible to do so), so that all the relevant agencies can work together on the scoping process and preparation of the EIS.

10a. Limitations on Action During 30-Day Review Period for Final EIS. What actions by agencies and/or applicants are allowed during EIS preparation and during the 30-day review period after publication of a final EIS?

- A. No federal decision on the proposed action shall be made or recorded until at least 30 days after the publication by EPA of notice that the particular EIS has been filed with EPA. Sections 1505.2 and 1506.10. Section 1505.2 requires this decision to be stated in a public Record of Decision.

Until the agency issues its Record of Decision, no action by an agency or an applicant concerning the proposal shall be taken which would have an adverse environmental impact or limit the choice of reasonable alternatives. Section 1506.1(a). But this does not preclude preliminary planning or design work which is needed to support an application for permits or assistance. Section 506.1(d).

When the impact statement in question is a program EIS, no major action concerning the program may be taken which may significantly affect the quality of the human environment, unless the particular action is justified independently of the program, is accompanied by its own adequate environmental impact statement and will not prejudice the ultimate decision on the program. Section 1506.1(c).

10b. Do these limitations on action (described in Question 10a) apply to state or local agencies that have statutorily delegated responsibility for preparation of environmental documents required by NEPA, for example, under the HUD Block Grant program?

- A. Yes, these limitations do apply, without any variation from their application to federal agencies.

11. Limitations on Actions by an Applicant During EIS Process. What actions must a lead agency take during the NEPA process when it becomes aware that a non-federal applicant is about to take an action within the agency's jurisdiction that would either have an adverse environmental impact or limit the choice of reasonable alternatives (e.g., prematurely commit money or other resources towards the completion of the proposal)?

- A. The federal agency must notify the applicant that the agency will take strong affirmative steps to insure that the objectives and procedures of NEPA are fulfilled. Section 1506.1(b). These steps could include seeking injunctive measures under NEPA, or the use of sanctions available under either the agency's permitting authority or statutes setting forth the agency's statutory mission. For example, the agency might advise an applicant that if it takes such action the agency will not process its application.

12a. Effective Date and Enforceability of the Regulations. What actions are subject to the Council's new regulations, and what actions are grand-fathered under the old guidelines?

- A. The effective date of the Council's regulations was July 30, 1979 (except for certain HUD programs under the Housing and Community Development Act, 42 U.S.C. 5304(h), and certain state highway programs that qualify under Section 102(2)(D) of NEPA for which the regulations became effective on November 30, 1979). All the provisions of the regulations are binding as of that date, including those covering decisionmaking, public participation, referrals, limitations on actions, EIS supplements, etc. For example, a Record of Decision would be prepared even for decisions where the draft EIS was filed before July 30, 1979.

But in determining whether or not the new regulations apply to the preparation of a particular environmental document, the relevant factor is the date of filing of the draft of that document. Thus, the new regulations do not require the redrafting of an EIS or supplement if the draft EIS or supplement was filed before July 30, 1979. However, a supplement prepared after the effective date of the regulations for an EIS issued in final before the effective date of the regulations would be controlled by the regulations.

Even though agencies are not required to apply the regulations to an EIS or other document for which the draft was filed prior to July 30, 1979, the regulations encourage agencies to follow the regulations "to the fullest extent practicable," i.e., if it is feasible to do so, in preparing the final document. Section 1506.12(a).

12b. Are projects authorized by Congress before the effective date of the Council's regulations grand-fathered?

- A. No. The date of Congressional authorization for a project is not determinative of whether the Council's regulations or former Guidelines apply to the particular proposal. No incomplete projects or proposals of any kind are grand-fathered in whole or in part. Only certain environmental documents, for which the draft was issued before the effective date of the regulations, are grand-fathered and [46 FR 18030] subject to the Council's former Guidelines.

12c. Can a violation of the regulations give rise to a cause of action?

- A. While a trivial violation of the regulations would not give rise to an independent cause of action, such a cause of action would arise from a substantial violation of the regulations. Section 1500.3.

13. Use of Scoping Before Notice of Intent to Prepare EIS. Can the scoping process be used in connection with preparation of an environmental assessment, i.e., before both the decision to proceed with an EIS and publication of a notice of intent?

- A. Yes. Scoping can be a useful tool for discovering alternatives to a proposal, or significant impacts that may have been overlooked. In cases where an environmental assessment is being prepared to help an agency decide whether to prepare an EIS, useful information might result from early participation by other agencies and the public in a scoping process.

The regulations state that the scoping process is to be preceded by a Notice of Intent (NOI) to prepare an EIS. But that is only the minimum requirement. Scoping may be initiated earlier, as long as there is appropriate public notice and enough information available on the proposal so that the public and relevant agencies can participate effectively.

However, scoping that is done before the assessment, and in aid of its preparation, cannot substitute for the normal scoping process after publication of the NOI, unless the earlier public notice stated clearly that this possibility was under consideration, and the NOI expressly provides that written comments on the scope of alternatives and impacts will still be considered.

14a. Rights and Responsibilities of Lead and Cooperating Agencies. What are the respective rights and responsibilities of lead and cooperating agencies? What letters and memoranda must be prepared?

- A. After a lead agency has been designated (Sec. 1501.5), that agency has the responsibility to solicit cooperation from other federal agencies that have jurisdiction by law or special expertise on any environmental issue that should be addressed in the EIS being prepared. Where appropriate, the lead agency should seek the cooperation of state or local agencies of similar qualifications. When the proposal may affect an Indian reservation, the agency should consult with the Indian tribe. Section 1508.5. The request for cooperation should come at the earliest possible time in the NEPA process.

After discussions with the candidate cooperating agencies, the lead agency and the cooperating agencies are to determine by letter or by memorandum which agencies will undertake cooperating responsibilities. To the extent possible at this stage, responsibilities for specific issues should be assigned. The allocation of responsibilities will be completed during scoping. Section 1501.7(a)(4).

Cooperating agencies must assume responsibility for the development of information and the preparation of environmental analyses at the request of the lead agency. Section 1501.6(b)(3). Cooperating agencies are now required by Section 1501.6 to devote staff resources that were normally primarily used to critique or comment on the Draft EIS after its preparation, much earlier in the NEPA process -- primarily at the scoping and Draft EIS preparation stages. If a cooperating agency determines that its resource limitations preclude any involvement, or the degree of involvement (amount of work) requested by the lead agency, it must so inform the lead agency in writing and submit a copy of this correspondence to the Council. Section 1501.6(c).

In other words, the potential cooperating agency must decide early if it is able to devote any of its resources to a particular proposal. For this reason the regulation states that an agency may reply to a request for cooperation that "other program commitments preclude any involvement or the degree of involvement requested in the action that is the subject of the environmental impact statement." (Emphasis added). The regulation refers to the "action," rather than to the EIS, to clarify that the agency is taking itself out of all phases of the federal action, not just draft EIS preparation. This means that the agency has determined that it cannot be involved in the later stages of EIS review and comment, as well as decisionmaking on the proposed action. For this reason, cooperating agencies with jurisdiction by law (those which have permitting or other approval authority) cannot opt out entirely of the duty to cooperate on the EIS. See also Question 15, relating specifically to the responsibility of EPA.

14b. How are disputes resolved between lead and cooperating agencies concerning the scope and level of detail of analysis and the quality of data in impact statements?

A. Such disputes are resolved by the agencies themselves. A lead agency, of course, has the ultimate responsibility for the content of an EIS. But it is supposed to use the environmental analysis and recommendations of cooperating agencies with jurisdiction by law or special expertise to the maximum extent possible, consistent with its own responsibilities as lead agency. Section 1501.6(a)(2).

If the lead agency leaves out a significant issue or ignores the advice and expertise of the cooperating agency, the EIS may be found later to be inadequate. Similarly, where cooperating agencies have their own decisions to make and they intend to adopt the environmental impact statement and base their decisions on it, one document should include all of the information necessary for the decisions by the cooperating agencies. Otherwise they may be forced to duplicate the EIS process by issuing a new, more complete EIS or Supplemental EIS, even though the original EIS could have sufficed if it had been properly done at the outset. Thus, both lead and cooperating agencies have a stake in producing a document of good quality. Cooperating agencies also have a duty to participate fully in the scoping process to ensure that the appropriate range of issues is determined early in the EIS process.

Because the EIS is not the Record of Decision, but instead constitutes the information and analysis on which to base a decision, disagreements about conclusions to be drawn from the EIS need not inhibit agencies from issuing a joint document, or adopting another agency's EIS, if the analysis is adequate. Thus, if each agency has its own "preferred alternative," both can be identified in the EIS. Similarly, a cooperating agency with jurisdiction by law may determine in its own ROD that alternative A is the environmentally preferable action, even though the lead agency has decided in its separate ROD that Alternative B is environmentally preferable.

14c. What are the specific responsibilities of federal and state cooperating agencies to review draft EISs?

A. Cooperating agencies (i.e., agencies with jurisdiction by law or special expertise) and agencies that are authorized to develop or enforce environmental standards, must comment on environmental impact statements within their jurisdiction, expertise or authority. Sections 1503.2, 1508.5. If a cooperating agency is satisfied that its views are adequately reflected in the environmental impact statement, it should simply comment accordingly. Conversely, if the cooperating agency determines that a draft EIS is incomplete, inadequate or inaccurate, or it has other comments, it should promptly make such comments, conforming to the requirements of specificity in section 1503.3.

14d. How is the lead agency to treat the comments of another agency with jurisdiction by law or special expertise which has failed or refused to cooperate or participate in scoping or EIS preparation?

A. A lead agency has the responsibility to respond to all substantive comments raising significant issues regarding a draft EIS. Section 1503.4. However, cooperating agencies are generally under an obligation to raise issues or otherwise participate in the EIS process during scoping and EIS preparation if they reasonably can do so. In practical terms, if a cooperating agency fails to cooperate at the outset, such as during scoping, it will find that its comments at a later stage will not be as persuasive to the lead agency.

15. Commenting Responsibilities of EPA. Are EPA's responsibilities to review and comment on the environmental effects of agency proposals under Section 309 of the Clean Air Act independent of its responsibility as a cooperating agency?

A. Yes. EPA has an obligation under Section 309 of the Clean Air Act to review and comment in writing on the environmental impact of any matter relating to the authority of the Administrator contained in proposed legislation, federal construction projects, other federal actions requiring EISs, and new regulations. 42 U.S.C. Sec. 7609. This obligation is independent of its role as a cooperating agency under the NEPA regulations.

16. Third Party Contracts. What is meant by the term "third party contracts" in connection with the preparation of an EIS? See Section 1506.5(c). When can "third party contracts" be used?

- A. As used by EPA and other agencies, the term "third party contract" refers to the preparation of EISs by contractors paid by the applicant. In the case of an EIS for a National Pollution Discharge Elimination System (NPDES) permit, the applicant, aware in the early planning stages of the proposed project of the need for an EIS, contracts directly with a consulting firm for its preparation. See 40 C.F.R. 6.604(g). The "third party" is EPA which, under Section 1506.5(c), must select the consulting firm, even though the applicant pays for the cost of preparing the EIS. The consulting firm is responsible to EPA for preparing an EIS that meets the requirements of the NEPA regulations and EPA's NEPA procedures. It is in the applicant's interest that the EIS comply with the law so that EPA can take prompt action on the NPDES permit application. The "third party contract" method under EPA's NEPA procedures is purely voluntary, though most applicants have found it helpful in expediting compliance with NEPA.

If a federal agency uses "third party contracting," the applicant may undertake the necessary paperwork for the solicitation of a field of candidates under the agency's direction, so long as the agency complies with Section 1506.5(c). Federal procurement requirements do not apply to the agency because it incurs no obligations or costs under the contract, nor does the agency procure anything under the contract.

17a. Disclosure Statement to Avoid Conflict of Interest. If an EIS is prepared with the assistance of a consulting firm, the firm must execute a disclosure statement. What criteria must the firm follow in determining whether it has any "financial or other interest in the outcome of the project" which would cause a conflict of interest?

- A. Section 1506.5(c), which specifies that a consulting firm preparing an EIS must execute a disclosure statement, does not define "financial or other interest in the outcome of the project." The Council interprets this term broadly to cover any known benefits other than general enhancement of professional reputation. This includes any financial benefit such as a promise of future construction or design work on the project, as well as indirect benefits the consultant is aware of (e.g., if the project would aid proposals sponsored by the firm's other clients). For example, completion of a highway project may encourage construction of a shopping center or industrial park from which the consultant stands to benefit. If a consulting firm is aware that it has such an interest in the decision on the proposal, it should be disqualified from preparing the EIS, to preserve the objectivity and integrity of the NEPA process.

When a consulting firm has been involved in developing initial data and plans for the project, but does not have any financial or other interest in the outcome of the decision, it need not be disqualified from preparing the EIS. However, a disclosure statement in the draft EIS should clearly state the scope and extent of the firm's prior involvement to expose any potential conflicts of interest that may exist.

17b. If the firm in fact has no promise of future work or other interest in the outcome of the proposal, may the firm later bid in competition with others for future work on the project if the proposed action is approved?

A. Yes.

18. Uncertainties About Indirect Effects of A Proposal. How should uncertainties about indirect effects of a proposal be addressed, for example, in cases of disposal of federal lands, when the identity or plans of future landowners is unknown?

A. The EIS must identify all the indirect effects that are known, and make a good faith effort to explain the effects that are not known but are "reasonably foreseeable." Section 1508.8(b). In the example, if there is total uncertainty about the identity of future land owners or the nature of future land uses, then of course, the agency is not required to engage in speculation or contemplation about their future plans. But, in the ordinary course of business, people do make judgments based upon reasonably foreseeable occurrences. It will often be possible to consider the likely purchasers and the development trends in that area or similar areas in recent years; or the likelihood that the land will be used for an energy project, shopping center, subdivision, farm or factory. The agency has the responsibility to make an informed judgment, and to estimate future impacts on that basis, especially if trends are ascertainable or potential purchasers have made themselves known. The agency cannot ignore these uncertain, but probable, effects of its decisions.

19a. Mitigation Measures. What is the scope of mitigation measures that must be discussed?

A. The mitigation measures discussed in an EIS must cover the range of impacts of the proposal. The measures must include such things as design alternatives that would decrease pollution emissions, construction impacts, esthetic intrusion, as well as relocation assistance, possible land use controls that could be enacted, and other possible efforts. Mitigation measures must be considered even for impacts that by themselves would not be considered "significant." Once the proposal itself is considered as a whole to have significant effects, all of its specific effects on the environment (whether or not "significant") must be considered, and mitigation measures must be developed where it is feasible to do so. Sections 1502.14(f), 1502.16(h), 1508.14.

19b. How should an EIS treat the subject of available mitigation measures that are (1) outside the jurisdiction of the lead or cooperating agencies, or (2) unlikely to be adopted or enforced by the responsible agency?

A. All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperating agencies, and thus would not be committed as part of the RODs of these agencies. Sections 1502.16(h), 1505.2(c). This will serve to [46 FR 18032] alert agencies or officials who can implement these extra measures, and will encourage them to do so. Because the EIS is the most comprehensive environmental document, it is an ideal vehicle in which to lay out not

only the full range of environmental impacts but also the full spectrum of appropriate mitigation.

However, to ensure that environmental effects of a proposed action are fairly assessed, the probability of the mitigation measures being implemented must also be discussed. Thus the EIS and the Record of Decision should indicate the likelihood that such measures will be adopted or enforced by the responsible agencies. Sections 1502.16(h), 1505.2. If there is a history of non-enforcement or opposition to such measures, the EIS and Record of Decision should acknowledge such opposition or non-enforcement. If the necessary mitigation measures will not be ready for a long period of time, this fact, of course, should also be recognized.

20. Worst Case Analysis. [Withdrawn.]

21. Combining Environmental and Planning Documents. Where an EIS or an EA is combined with another project planning document (sometimes called "piggybacking"), to what degree may the EIS or EA refer to and rely upon information in the project document to satisfy NEPA's requirements?

A. Section 1502.25 of the regulations requires that draft EISs be prepared concurrently and integrated with environmental analyses and related surveys and studies required by other federal statutes. In addition, Section 1506.4 allows any environmental document prepared in compliance with NEPA to be combined with any other agency document to reduce duplication and paperwork. However, these provisions were not intended to authorize the preparation of a short summary or outline EIS, attached to a detailed project report or land use plan containing the required environmental impact data. In such circumstances, the reader would have to refer constantly to the detailed report to understand the environmental impacts and alternatives which should have been found in the EIS itself.

The EIS must stand on its own as an analytical document which fully informs decisionmakers and the public of the environmental effects of the proposal and those of the reasonable alternatives. Section 1502.1. But, as long as the EIS is clearly identified and is self-supporting, it can be physically included in or attached to the project report or land use plan, and may use attached report material as technical backup.

Forest Service environmental impact statements for forest management plans are handled in this manner. The EIS identifies the agency's preferred alternative, which is developed in detail as the proposed management plan. The detailed proposed plan accompanies the EIS through the review process, and the documents are appropriately cross-referenced. The proposed plan is useful for EIS readers as an example, to show how one choice of management options translates into effects on natural resources. This procedure permits initiation of the 90-day public review of proposed forest plans, which is required by the National Forest Management Act.

All the alternatives are discussed in the EIS, which can be read as an independent document. The details of the management plan are not repeated in the EIS, and vice versa. This is a

reasonable functional separation of the documents: the EIS contains information relevant to the choice among alternatives; the plan is a detailed description of proposed management activities suitable for use by the land managers. This procedure provides for concurrent compliance with the public review requirements of both NEPA and the National Forest Management Act.

Under some circumstances, a project report or management plan may be totally merged with the EIS, and the one document labeled as both "EIS" and "management plan" or "project report." This may be reasonable where the documents are short, or where the EIS format and the regulations for clear, analytical EISs also satisfy the requirements for a project report.

22. State and Federal Agencies as Joint Lead Agencies. May state and federal agencies serve as joint lead agencies? If so, how do they resolve law, policy and resource conflicts under NEPA and the relevant state environmental policy act? How do they resolve differences in perspective where, for example, national and local needs may differ?

A. Under Section 1501.5(b), federal, state or local agencies, as long as they include at least one federal agency, may act as joint lead agencies to prepare an EIS. Section 1506.2 also strongly urges state and local agencies and the relevant federal agencies to cooperate fully with each other. This should cover joint research and studies, planning activities, public hearings, environmental assessments and the preparation of joint EISs under NEPA and the relevant "little NEPA" state laws, so that one document will satisfy both laws.

The regulations also recognize that certain inconsistencies may exist between the proposed federal action and any approved state or local plan or law. The joint document should discuss the extent to which the federal agency would reconcile its proposed action with such plan or law. Section 1506.2(d). (See Question 23).

Because there may be differences in perspective as well as conflicts among [46 FR 18033] federal, state and local goals for resources management, the Council has advised participating agencies to adopt a flexible, cooperative approach. The joint EIS should reflect all of their interests and missions, clearly identified as such. The final document would then indicate how state and local interests have been accommodated, or would identify conflicts in goals (e.g., how a hydroelectric project, which might induce second home development, would require new land use controls). The EIS must contain a complete discussion of scope and purpose of the proposal, alternatives, and impacts so that the discussion is adequate to meet the needs of local, state and federal decisionmakers.

23a. Conflicts of Federal Proposal With Land Use Plans, Policies or Controls. How should an agency handle potential conflicts between a proposal and the objectives of Federal, state or local land use plans, policies and controls for the area concerned? See Sec. 1502.16(c).

A. The agency should first inquire of other agencies whether there are any potential conflicts. If there would be immediate conflicts, or if conflicts could arise in the future when the plans are finished (see Question 23(b) below), the EIS must acknowledge and describe the extent

of those conflicts. If there are any possibilities of resolving the conflicts, these should be explained as well. The EIS should also evaluate the seriousness of the impact of the proposal on the land use plans and policies, and whether, or how much, the proposal will impair the effectiveness of land use control mechanisms for the area. Comments from officials of the affected area should be solicited early and should be carefully acknowledged and answered in the EIS.

23b. What constitutes a "land use plan or policy" for purposes of this discussion?

- A. The term "land use plans," includes all types of formally adopted documents for land use planning, zoning and related regulatory requirements. Local general plans are included, even though they are subject to future change. Proposed plans should also be addressed if they have been formally proposed by the appropriate government body in a written form, and are being actively pursued by officials of the jurisdiction. Staged plans, which must go through phases of development such as the Water Resources Council's Level A, B and C planning process should also be included even though they are incomplete.

The term "policies" includes formally adopted statements of land use policy as embodied in laws or regulations. It also includes proposals for action such as the initiation of a planning process, or a formally adopted policy statement of the local, regional or state executive branch, even if it has not yet been formally adopted by the local, regional or state legislative body.

23c. What options are available for the decisionmaker when conflicts with such plans or policies are identified?

- A. After identifying any potential land use conflicts, the decisionmaker must weigh the significance of the conflicts, among all the other environmental and non-environmental factors that must be considered in reaching a rational and balanced decision. Unless precluded by other law from causing or contributing to any inconsistency with the land use plans, policies or controls, the decisionmaker retains the authority to go forward with the proposal, despite the potential conflict. In the Record of Decision, the decisionmaker must explain what the decision was, how it was made, and what mitigation measures are being imposed to lessen adverse environmental impacts of the proposal, among the other requirements of Section 1505.2. This provision would require the decisionmaker to explain any decision to override land use plans, policies or controls for the area.

24a. Environmental Impact Statements on Policies, Plans or Programs. When are EISs required on policies, plans or programs?

- A. An EIS must be prepared if an agency proposes to implement a specific policy, to adopt a plan for a group of related actions, or to implement a specific statutory program or executive directive. Section 1508.18. In addition, the adoption of official policy in the form of rules, regulations and interpretations pursuant to the Administrative Procedure Act, treaties, conventions, or other formal documents establishing governmental or agency policy which

will substantially alter agency programs, could require an EIS. Section 1508.18. In all cases, the policy, plan, or program must have the potential for significantly affecting the quality of the human environment in order to require an EIS. It should be noted that a proposal "may exist in fact as well as by agency declaration that one exists." Section 1508.23.

24b. When is an area-wide or overview EIS appropriate?

- A. The preparation of an area-wide or overview EIS may be particularly useful when similar actions, viewed with other reasonably foreseeable or proposed agency actions, share common timing or geography. For example, when a variety of energy projects may be located in a single watershed, or when a series of new energy technologies may be developed through federal funding, the overview or area-wide EIS would serve as a valuable and necessary analysis of the affected environment and the potential cumulative impacts of the reasonably foreseeable actions under that program or within that geographical area.

24c. What is the function of tiering in such cases?

- A. Tiering is a procedure which allows an agency to avoid duplication of paperwork through the incorporation by reference of the general discussions and relevant specific discussions from an environmental impact statement of broader scope into one of lesser scope or vice versa. In the example given in Question 24b, this would mean that an overview EIS would be prepared for all of the energy activities reasonably foreseeable in a particular geographic area or resulting from a particular development program. This impact statement would be followed by site-specific or project-specific EISs. The tiering process would make each EIS of greater use and meaning to the public as the plan or program develops, without duplication of the analysis prepared for the previous impact statement.

25a. Appendices and Incorporation by Reference. When is it appropriate to use appendices instead of including information in the body of an EIS?

- A. The body of the EIS should be a succinct statement of all the information on environmental impacts and alternatives that the decisionmaker and the public need, in order to make the decision and to ascertain that every significant factor has been examined. The EIS must explain or summarize methodologies of research and modeling, and the results of research that may have been conducted to analyze impacts and alternatives.

Lengthy technical discussions of modeling methodology, baseline studies, or other work are best reserved for the appendix. In other words, if only technically trained individuals are likely to understand a particular discussion then it should go in the appendix, and a plain language summary of the analysis and conclusions of that technical discussion should go in the text of the EIS.

The final statement must also contain the agency's responses to comments on the draft EIS. These responses will be primarily in the form of changes in the document itself, but specific answers to each significant comment should also be included. These specific responses may

be placed in an appendix. If the comments are especially voluminous, summaries of the comments and responses will suffice. (See Question 29 regarding the level of detail required for responses to comments.)

25b. How does an appendix differ from incorporation by reference?

- A. First, if at all possible, the appendix accompanies the EIS, whereas the material which is incorporated by reference does not accompany the EIS. Thus the appendix should contain information that reviewers will be likely to want to examine. The appendix should include material that pertains to preparation of a particular EIS. Research papers directly relevant to the proposal, lists of affected species, discussion of the methodology of models used in the analysis of impacts, extremely detailed responses to comments, or other information, would be placed in the appendix.

The appendix must be complete and available at the time the EIS is filed. Five copies of the appendix must be sent to EPA with five copies of the EIS for filing. If the appendix is too bulky to be circulated, it instead must be placed in conveniently accessible locations or furnished directly to commentors upon request. If it is not circulated with the EIS, the Notice of Availability published by EPA must so state, giving a telephone number to enable potential commentors to locate or request copies of the appendix promptly.

Material that is not directly related to preparation of the EIS should be incorporated by reference. This would include other EISs, research papers in the general literature, technical background papers or other material that someone with technical training could use to evaluate the analysis of the proposal. These must be made available, either by citing the literature, furnishing copies to central locations, or sending copies directly to commentors upon request.

Care must be taken in all cases to ensure that material incorporated by reference, and the occasional appendix that does not accompany the EIS, are in fact available for the full minimum public comment period.

26a. Index and Keyword Index in EISs. How detailed must an EIS index be?

- A. The EIS index should have a level of detail sufficient to focus on areas of the EIS of reasonable interest to any reader. It cannot be restricted to the most important topics. On the other hand, it need not identify every conceivable term or phrase in the EIS. If an agency believes that the reader is reasonably likely to be interested in a topic, it should be included.

26b. Is a keyword index required?

- A. No. A keyword index is a relatively short list of descriptive terms that identifies the key concepts or subject areas in a document. For example it could consist of 20 terms which describe the most significant aspects of an EIS that a future researcher would need: type of

proposal, type of impacts, type of environment, geographical area, sampling or modeling methodologies used. This technique permits the compilation of EIS data banks, by facilitating quick and inexpensive access to stored materials. While a keyword index is not required by the regulations, it could be a useful addition for several reasons. First, it can be useful as a quick index for reviewers of the EIS, helping to focus on areas of interest. Second, if an agency keeps a listing of the keyword indexes of the EISs it produces, the EIS preparers themselves will have quick access to similar research data and methodologies to aid their future EIS work. Third, a keyword index will be needed to make an EIS available to future researchers using EIS data banks that are being developed. Preparation of such an index now when the document is produced will save a later effort when the data banks become operational.

27a. List of Preparers. If a consultant is used in preparing an EIS, must the list of preparers identify members of the consulting firm as well as the agency NEPA staff who were primarily responsible?

A. Section 1502.17 requires identification of the names and qualifications of persons who were primarily responsible for preparing the EIS or significant background papers, including basic components of the statement. This means that members of a consulting firm preparing material that is to become part of the EIS must be identified. The EIS should identify these individuals even though the consultant's contribution may have been modified by the agency.

27b. Should agency staff involved in reviewing and editing the EIS also be included in the list of preparers?

A. Agency personnel who wrote basic components of the EIS or significant background papers must, of course, be identified. The EIS should also list the technical editors who reviewed or edited the statements.

27c. How much information should be included on each person listed?

A. The list of preparers should normally not exceed two pages. Therefore, agencies must determine which individuals had primary responsibility and need not identify individuals with minor involvement. The list of preparers should include a very brief identification of the individuals involved, their qualifications (expertise, professional disciplines) and the specific portion of the EIS for which they are responsible. This may be done in tabular form to cut down on length. A line or two for each person's qualifications should be sufficient.

28. Advance or Xerox Copies of EIS. May an agency file xerox copies of an EIS with EPA pending the completion of printing the document?

A. Xerox copies of an EIS may be filed with EPA prior to printing only if the xerox copies are simultaneously made available to other agencies and the public. Section 1506.9 of the regulations, which governs EIS filing, specifically requires Federal agencies to file EISs with EPA no earlier than the EIS is distributed to the public. However, this section does not

prohibit xeroxing as a form of reproduction and distribution. When an agency chooses xeroxing as the reproduction method, the EIS must be clear and legible to permit ease of reading and ultimate microfiching of the EIS. Where color graphs are important to the EIS, they should be reproduced and circulated with the xeroxed copy.

29a. Responses to Comments. What response must an agency provide to a comment on a draft EIS which states that the EIS's methodology is inadequate or inadequately explained? For example, what level of detail must an agency include in its response to a simple postcard comment making such an allegation?

- A. Appropriate responses to comments are described in Section 1503.4. Normally the responses should result in changes in the text of the EIS, not simply a separate answer at the back of the document. But, in addition, the agency must state what its response was, and if the agency decides that no substantive response to a comment is necessary, it must explain briefly why.

An agency is not under an obligation to issue a lengthy reiteration of its methodology for any portion of an EIS if the only comment addressing the methodology is a simple complaint that the EIS methodology is inadequate. But agencies must respond to comments, however brief, which are specific in their criticism of agency methodology. For example, if a commentator on an EIS said that an agency's air quality dispersion analysis or methodology was inadequate, and the agency had included a discussion of that analysis in the EIS, little if anything need be added in response to such a comment. However, if the commentator said that the dispersion analysis was inadequate because of its use of a certain computational technique, or that a dispersion analysis was inadequately explained because computational techniques were not included or referenced, then the agency would have to respond in a substantive and meaningful way to such a comment.

If a number of comments are identical or very similar, agencies may group the comments and prepare a single answer for each group. Comments may be summarized if they are especially voluminous. The comments or summaries must be attached to the EIS regardless of whether the agency believes they merit individual discussion in the body of the final EIS.

29b. How must an agency respond to a comment on a draft EIS that raises a new alternative not previously considered in the draft EIS?

- A. This question might arise in several possible situations. First, a commentator on a draft EIS may indicate that there is a possible alternative which, in the agency's view, is not a reasonable alternative. Section 1502.14(a). If that is the case, the agency must explain why the comment does not warrant further agency response, citing authorities or reasons that support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response. Section 1503.4(a). For example, a commentator on a draft EIS on a coal fired power plant may suggest the alternative of using synthetic fuel.

The agency may reject the alternative with a brief discussion (with authorities) of the unavailability of synthetic fuel within the time frame necessary to meet the need and purpose of the proposed facility.

A second possibility is that an agency may receive a comment indicating that a particular alternative, while reasonable, should be modified somewhat, for example, to achieve certain mitigation benefits, or for other reasons. If the modification is reasonable, the agency should include a discussion of it in the final EIS. For example, a commentator on a draft EIS on a proposal for a pumped storage power facility might suggest that the applicant's proposed alternative should be enhanced by the addition of certain reasonable mitigation measures, including the purchase and set-aside of a wildlife preserve to substitute for the tract to be destroyed by the project. The modified alternative including the additional mitigation measures should be discussed by the agency in the final EIS.

A third slightly different possibility is that a comment on a draft EIS will raise an alternative which is a minor variation of one of the alternatives discussed in the draft EIS, but this variation was not given any consideration by the agency. In such a case, the agency should develop and evaluate the new alternative, if it is reasonable, in the final EIS. If it is qualitatively within the spectrum of alternatives that were discussed in the draft, a supplemental draft will not be needed. For example, a commentator on a draft EIS to designate a wilderness area within a National Forest might reasonably identify a specific tract of the forest, and urge that it be considered for designation. If the draft EIS considered designation of a range of alternative tracts which encompassed forest area of similar quality and quantity, no supplemental EIS would have to be prepared. The agency could fulfill its obligation by addressing that specific alternative in the final EIS.

As another example, an EIS on an urban housing project may analyze the alternatives of constructing 2,000, 4,000, or 6,000 units. A commentator on the draft EIS might urge the consideration of constructing 5,000 units utilizing a different configuration of buildings. This alternative is within the spectrum of alternatives already considered, and, therefore, could be addressed in the final EIS.

A fourth possibility is that a commentator points out an alternative which is not a variation of the proposal or of any alternative discussed in the draft impact statement, and is a reasonable alternative that warrants serious agency response. In such a case, the agency must issue a supplement to the draft EIS that discusses this new alternative. For example, a commentator on a draft EIS on a nuclear power plant might suggest that a reasonable alternative for meeting the projected need for power would be through peak load management and energy conservation programs. If the permitting agency has failed to consider that approach in the Draft EIS, and the approach cannot be dismissed by the agency as unreasonable, a supplement to the Draft EIS, which discusses that alternative, must be prepared. (If necessary, the same supplement should also discuss substantial changes in the proposed action or significant new circumstances or information, as required by Section 1502.9(c)(1) of the Council's regulations.)

If the new alternative was not raised by the commentor during scoping, but could have been, commentors may find that they are unpersuasive in their efforts to have their suggested alternative analyzed in detail by the agency. However, if the new alternative is discovered or developed later, and it could not reasonably have been raised during the scoping process, then the agency must address it in a supplemental draft EIS. The agency is, in any case, ultimately responsible for preparing an adequate EIS that considers all alternatives.

30. Adoption of EISs. When a cooperating agency with jurisdiction by law intends to adopt a lead agency's EIS and it is not satisfied with the adequacy of the document, may the cooperating agency adopt only the part of the EIS with which it is satisfied? If so, would a cooperating agency with jurisdiction by law have to prepare a separate EIS or EIS supplement covering the areas of disagreement with the lead agency?

A. Generally, a cooperating agency may adopt a lead agency's EIS without recirculating it if it concludes that its NEPA requirements and its comments and suggestions have been satisfied. Section 1506.3(a), ©). If necessary, a cooperating agency may adopt only a portion of the lead agency's EIS and may reject that part of the EIS with which it disagrees, stating publicly why it did so. Section 1506.3(a).

A cooperating agency with jurisdiction by law (e.g., an agency with independent legal responsibilities with respect to the proposal) has an independent legal obligation to comply with NEPA. Therefore, if the cooperating agency determines that the EIS is wrong or inadequate, it must prepare a supplement to the EIS, replacing or adding any needed information, and must circulate the supplement as a draft for public and agency review and comment. A final supplemental EIS would be required before the agency could take action. The adopted portions of the lead agency EIS should be circulated with the supplement. Section 1506.3(b). A cooperating agency with jurisdiction by law will have to prepare its own Record of Decision for its action, in which it must explain how it reached its conclusions. Each agency should explain how and why its conclusions differ, if that is the case, from those of other agencies which issued their Records of Decision earlier.

An agency that did not cooperate in preparation of an EIS may also adopt an EIS or portion thereof. But this would arise only in rare instances, because an agency adopting an EIS for use in its own decision normally would have been a cooperating agency. If the proposed action for which the EIS was prepared is substantially the same as the proposed action of the adopting agency, the EIS may be adopted as long as it is re-circulated as a final EIS and the agency announces what it is doing. This would be followed by the 30-day review period and issuance of a Record of Decision by the adopting agency. If the proposed action by the adopting agency is not substantially the same as that in [46 FR 18036] the EIS (i.e., if an EIS on one action is being adapted for use in a decision on another action), the EIS would be treated as a draft and circulated for the normal public comment period and other procedures. Section 1506.3(b).

31a. Application of Regulations to Independent Regulatory Agencies. Do the Council's NEPA regulations apply to independent regulatory agencies like the Federal Energy Regulatory Commission (FERC) and the Nuclear Regulatory Commission?

A. The statutory requirements of NEPA's Section 102 apply to "all agencies of the federal government." The NEPA regulations implement the procedural provisions of NEPA as set forth in NEPA's Section 102(2) for all agencies of the federal government. The NEPA regulations apply to independent regulatory agencies, however, they do not direct independent regulatory agencies or other agencies to make decisions in any particular way or in a way inconsistent with an agency's statutory charter. Sections 1500.3, 1500.6, 1507.1, and 1507.3.

31b. Can an Executive Branch agency like the Department of the Interior adopt an EIS prepared by an independent regulatory agency such as FERC?

A. If an independent regulatory agency such as FERC has prepared an EIS in connection with its approval of a proposed project, an Executive Branch agency (e.g., the Bureau of Land Management in the Department of the Interior) may, in accordance with Section 1506.3, adopt the EIS or a portion thereof for its use in considering the same proposal. In such a case the EIS must, to the satisfaction of the adopting agency, meet the standards for an adequate statement under the NEPA regulations (including scope and quality of analysis of alternatives) and must satisfy the adopting agency's comments and suggestions. If the independent regulatory agency fails to comply with the NEPA regulations, the cooperating or adopting agency may find that it is unable to adopt the EIS, thus forcing the preparation of a new EIS or EIS Supplement for the same action. The NEPA regulations were made applicable to all federal agencies in order to avoid this result, and to achieve uniform application and efficiency of the NEPA process.

32. Supplements to Old EISs. Under what circumstances do old EISs have to be supplemented before taking action on a proposal?

A. As a rule of thumb, if the proposal has not yet been implemented, or if the EIS concerns an ongoing program, EISs that are more than 5 years old should be carefully reexamined to determine if the criteria in Section 1502.9 compel preparation of an EIS supplement.

If an agency has made a substantial change in a proposed action that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, a supplemental EIS must be prepared for an old EIS so that the agency has the best possible information to make any necessary substantive changes in its decisions regarding the proposal. Section 1502.9(c).

33a. Referrals. When must a referral of an interagency disagreement be made to the Council?

A. The Council's referral procedure is a pre-decision referral process for interagency disagreements. Hence, Section 1504.3 requires that a referring agency must deliver its referral to the Council not later than 25 days after publication by EPA of notice that the final EIS is available (unless the lead agency grants an extension of time under Section 1504.3(b)).

33b. May a referral be made after this issuance of a Record of Decision?

A. No, except for cases where agencies provide an internal appeal procedure which permits simultaneous filing of the final EIS and the record of decision (ROD). Section 1506.10(b)(2). Otherwise, as stated above, the process is a pre-decision referral process. Referrals must be made within 25 days after the notice of availability of the final EIS, whereas the final decision (ROD) may not be made or filed until after 30 days from the notice of availability of the EIS. Sections 1504.3(b), 1506.10(b). If a lead agency has granted an extension of time for another agency to take action on a referral, the ROD may not be issued until the extension has expired.

34a. Records of Decision. Must Records of Decision (RODs) be made public? How should they be made available?

A. Under the regulations, agencies must prepare a "concise public record of decision," which contains the elements specified in Section 1505.2. This public record may be integrated into any other decision record prepared by the agency, or it may be separate if decision documents are not normally made public. The Record of Decision is intended by the Council to be an environmental document (even though it is not explicitly mentioned in the definition of "environmental document" in Section 1508.10). Therefore, it must be made available to the public through appropriate public notice as required by Section 1506.6(b). However, there is no specific requirement for publication of the ROD itself, either in the Federal Register or elsewhere.

34b. May the summary section in the final Environmental Impact Statement substitute for or constitute an agency's Record of Decision?

A. No. An environmental impact statement is supposed to inform the decisionmaker before the decision is made. Sections 1502.1, 1505.2. The Council's regulations provide for a 30-day period after notice is published that the final EIS has been filed with EPA before the agency may take final action. During that period, in addition to the agency's own internal final review, the public and other agencies can comment on the final EIS prior to the agency's final action on the proposal. In addition, the Council's regulations make clear that the requirements for the summary in an EIS are not the same as the requirements for a ROD. Sections 1502.12 and 1505.2.

34c. What provisions should Records of Decision contain pertaining to mitigation and monitoring?

- A. Lead agencies "shall include appropriate conditions [including mitigation measures and monitoring and enforcement programs] in grants, permits or other approvals" and shall "condition funding of actions on mitigation." Section 1505.3. Any such measures that are adopted must be explained and committed in the ROD.

The reasonable alternative mitigation measures and monitoring programs should have been addressed in the draft and final EIS. The discussion of mitigation and monitoring in a Record of Decision must be more detailed than a general statement that mitigation is being required, but not so detailed as to duplicate discussion of mitigation in the EIS. The Record of Decision should contain a concise summary identification of the mitigation measures which the agency has committed itself to adopt.

The Record of Decision must also state whether all practicable mitigation measures have been adopted, and if not, why not. Section 1505.2(c). The Record of Decision must identify the mitigation measures and monitoring and enforcement programs that have been selected and plainly indicate that they are adopted as part of the agency's decision. If the proposed action is the issuance of a permit or other approval, the specific details of the mitigation measures shall then be included as appropriate conditions in whatever grants, permits, funding or other approvals are being made by the federal agency. Section 1505.3 (a), (b). If the proposal is to be carried out by the [46 FR 18037] federal agency itself, the Record of Decision should delineate the mitigation and monitoring measures in sufficient detail to constitute an enforceable commitment, or incorporate by reference the portions of the EIS that do so.

34d. What is the enforceability of a Record of Decision?

- A. Pursuant to generally recognized principles of federal administrative law, agencies will be held accountable for preparing Records of Decision that conform to the decisions actually made and for carrying out the actions set forth in the Records of Decision. This is based on the principle that an agency must comply with its own decisions and regulations once they are adopted. Thus, the terms of a Record of Decision are enforceable by agencies and private parties. A Record of Decision can be used to compel compliance with or execution of the mitigation measures identified therein.

35. Time Required for the NEPA Process. How long should the NEPA process take to complete?

- A. When an EIS is required, the process obviously will take longer than when an EA is the only document prepared. But the Council's NEPA regulations encourage streamlined review, adoption of deadlines, elimination of duplicative work, eliciting suggested alternatives and other comments early through scoping, cooperation among agencies, and consultation with applicants during project planning. The Council has advised agencies that under the new NEPA regulations even large complex energy projects would require only about 12 months

for the completion of the entire EIS process. For most major actions, this period is well within the planning time that is needed in any event, apart from NEPA.

The time required for the preparation of program EISs may be greater. The Council also recognizes that some projects will entail difficult long-term planning and/or the acquisition of certain data which of necessity will require more time for the preparation of the EIS. Indeed, some proposals should be given more time for the thoughtful preparation of an EIS and development of a decision which fulfills NEPA's substantive goals.

For cases in which only an environmental assessment will be prepared, the NEPA process should take no more than 3 months, and in many cases substantially less, as part of the normal analysis and approval process for the action.

36a. Environmental Assessments (EA). How long and detailed must an environmental assessment (EA) be?

A. The environmental assessment is a concise public document which has three defined functions. (1) It briefly provides sufficient evidence and analysis for determining whether to prepare an EIS; (2) it aids an agency's compliance with NEPA when no EIS is necessary, i.e., it helps to identify better alternatives and mitigation measures; and (3) it facilitates preparation of an EIS when one is necessary. Section 1508.9(a).

Since the EA is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered. Rather, it should contain a brief discussion of the need for the proposal, alternatives to the proposal, the environmental impacts of the proposed action and alternatives, and a list of agencies and persons consulted. Section 1508.9(b).

While the regulations do not contain page limits for EA's, the Council has generally advised agencies to keep the length of EAs to not more than approximately 10-15 pages. Some agencies expressly provide page guidelines (e.g., 10-15 pages in the case of the Army Corps). To avoid undue length, the EA may incorporate by reference background data to support its concise discussion of the proposal and relevant issues.

36b. Under what circumstances is a lengthy EA appropriate?

A. Agencies should avoid preparing lengthy EAs except in unusual cases, where a proposal is so complex that a concise document cannot meet the goals of Section 1508.9 and where it is extremely difficult to determine whether the proposal could have significant environmental effects. In most cases, however, a lengthy EA indicates that an EIS is needed.

37a. Findings of No Significant Impact (FONSI). What is the level of detail of information that must be included in a finding of no significant impact (FONSI)?

- A. The FONSI is a document in which the agency briefly explains the reasons why an action will not have a significant effect on the human environment and, therefore, why an EIS will not be prepared. Section 1508.13. The finding itself need not be detailed, but must succinctly state the reasons for deciding that the action will have no significant environmental effects, and, if relevant, must show which factors were weighted most heavily in the determination. In addition to this statement, the FONSI must include, summarize, or attach and incorporate by reference, the environmental assessment.

37b. What are the criteria for deciding whether a FONSI should be made available for public review for 30 days before the agency's final determination whether to prepare an EIS?

- A. Public review is necessary, for example, (a) if the proposal is a borderline case, i.e., when there is a reasonable argument for preparation of an EIS; (b) if it is an unusual case, a new kind of action, or a precedent setting case such as a first intrusion of even a minor development into a pristine area; (c) when there is either scientific or public controversy over the proposal; or (d) when it involves a proposal which is or is closely similar to one which normally requires preparation of an EIS. Sections 1501.4(e)(2), 1508.27. Agencies also must allow a period of public review of the FONSI if the proposed action would be located in a floodplain or wetland. E.O. 11988, Sec. 2(a)(4); E.O. 11990, Sec. 2(b).

38. Public Availability of EAs v. FONSI. Must (EAs) and FONSI be made public? If so, how should this be done?

- A. Yes, they must be available to the public. Section 1506.6 requires agencies to involve the public in implementing their NEPA procedures, and this includes public involvement in the preparation of EAs and FONSI. These are public "environmental documents" under Section 1506.6(b), and, therefore, agencies must give public notice of their availability. A combination of methods may be used to give notice, and the methods should be tailored to the needs of particular cases. Thus, a Federal Register notice of availability of the documents, coupled with notices in national publications and mailed to interested national groups might be appropriate for proposals that are national in scope. Local newspaper notices may be more appropriate for regional or site-specific proposals.

The objective, however, is to notify all interested or affected parties. If this is not being achieved, then the methods should be reevaluated and changed. Repeated failure to reach the interested or affected public would be interpreted as a violation of the regulations.

39. Mitigation Measures Imposed in EAs and FONSI. Can an EA and FONSI be used to impose enforceable mitigation measures, monitoring programs, or other requirements, even though there is no requirement in the regulations in such cases for a formal Record of Decision?

- A. Yes. In cases where an environmental assessment is the appropriate environmental document, there still may be mitigation measures or alternatives that would be desirable to consider and adopt even though the impacts of the proposal will not be "significant." In such

cases, the EA should include a discussion of these measures or alternatives to "assist [46 FR 18038] agency planning and decisionmaking" and to "aid an agency's compliance with [NEPA] when no environmental impact statement is necessary." Section 1501.3(b), 1508.9(a)(2). The appropriate mitigation measures can be imposed as enforceable permit conditions, or adopted as part of the agency final decision in the same manner mitigation measures are adopted in the formal Record of Decision that is required in EIS cases.

40. Propriety of Issuing EA When Mitigation Reduces Impacts. If an environmental assessment indicates that the environmental effects of a proposal are significant but that, with mitigation, those effects may be reduced to less than significant levels, may the agency make a finding of no significant impact rather than prepare an EIS? Is that a legitimate function of an EA and scoping?

[N.B.: Courts have disagreed with CEQ's position in Question 40. The 1987-88 CEQ Annual Report stated that CEQ intended to issue additional guidance on this topic. Ed. note.]

A. Mitigation measures may be relied upon to make a finding of no significant impact only if they are imposed by statute or regulation, or submitted by an applicant or agency as part of the original proposal. As a general rule, the regulations contemplate that agencies should use a broad approach in defining significance and should not rely on the possibility of mitigation as an excuse to avoid the EIS requirement. Sections 1508.8, 1508.27.

If a proposal appears to have adverse effects which would be significant, and certain mitigation measures are then developed during the scoping or EA stages, the existence of such possible mitigation does not obviate the need for an EIS. Therefore, if scoping or the EA identifies certain mitigation possibilities without altering the nature of the overall proposal itself, the agency should continue the EIS process and submit the proposal, and the potential mitigation, for public and agency review and comment. This is essential to ensure that the final decision is based on all the relevant factors and that the full NEPA process will result in enforceable mitigation measures through the Record of Decision.

In some instances, where the proposal itself so integrates mitigation from the beginning that it is impossible to define the proposal without including the mitigation, the agency may then rely on the mitigation measures in determining that the overall effects would not be significant (e.g., where an application for a permit for a small hydro dam is based on a binding commitment to build fish ladders, to permit adequate down stream flow, and to replace any lost wetlands, wildlife habitat and recreational potential). In those instances, agencies should make the FONSI and EA available for 30 days of public comment before taking action. Section 1501.4(e)(2).

Similarly, scoping may result in a redefinition of the entire project, as a result of mitigation proposals. In that case, the agency may alter its previous decision to do an EIS, as long as the agency or applicant resubmits the entire proposal and the EA and FONSI are available for 30 days of review and comment. One example of this would be where the size and location of a proposed industrial park are changed to avoid affecting a nearby wetland area.

"ENDNOTES"

The first endnote appeared in the original Federal Register. The other endnotes are for information only.

1. References throughout the document are to the Council on Environmental Quality's Regulations For Implementing The Procedural Provisions of the National Environmental Policy Act. 40 CFR Parts 1500-1508.
2. [46 FR 18027] indicates that the subsequent text may be cited to 48 Fed. Reg. 18027 (1981). Ed Note.
3. Q20 Worst Case Analysis was withdrawn by final rule issued at 51 Fed. Reg. 15618 (Apr. 25, 1986); textual errors corrected 51 F.R. p. 16,846 (May 7, 1986). The preamble to this rule is published at ELR Admin. Mat. 35055.

APPENDIX 18

Environmental Justice

Guidance Under the National Environmental Policy Act



Council on Environmental Quality

Front cover photograph of John Heinz National Wildlife Refuge at Tinicum
by John and Karen Hollingsworth

Front cover photograph of school bus and children by Sam Kittner.

ENVIRONMENTAL JUSTICE
Guidance Under the
National Environmental Policy Act



Council on Environmental Quality
Executive Office of the President
Old Executive Office Building, Room 360
Washington, D.C. 20502
(202)395-5750
<http://www.whitehouse.gov/CEQ/>
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Table of Contents

I. Introduction	1
II. Executive Order 12898 and the Presidential Memorandum	3
III. Executive Order 12898 and NEPA	7
<i>A. NEPA Generally</i>	7
<i>B. Principles for Considering Environmental Justice under NEPA</i>	8
1. General Principles	8
2. Additional Considerations	9
<i>C. Considering Environmental Justice in Specific Phases of the NEPA Process</i>	10
1. Scoping	10
2. Public Participation	13
3. Determining the Affected Environment	14
4. Analysis	14
5. Alternatives	15
6. Record of Decision	15
7. Mitigation	16
<i>D. Where No EIS or EA is Prepared</i>	16
IV. Regulatory Changes	19
V. Effect of this Guidance	21
Appendix: Guidance for Agencies on Key Terms in Executive Order 12898 .	23

I.

Introduction

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,"¹ provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The Executive Order makes clear that its provisions apply fully to programs involving Native Americans.

In the memorandum to heads of departments and agencies that accompanied Executive Order 12898, the President specifically recognized the importance of procedures under the National Environmental Policy Act (NEPA)² for identifying and addressing environmental justice concerns. The memorandum states that "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]." The memorandum particularly emphasizes the importance of NEPA's public participation process, directing that "each Federal agency shall provide opportunities for community input in the NEPA process." Agencies are further directed to "identify potential effects and mitigation measures in consultation with affected communities, and improve the accessibility of meetings, crucial documents, and notices."

The Council on Environmental Quality (CEQ) has oversight of the Federal government's compliance with Executive Order 12898 and NEPA.³ CEQ, in consultation with EPA and other affected agencies, has developed this guidance to further assist Federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed. To the extent practicable and permitted by law, agencies may supplement this guidance with more specific procedures tailored to particular programs or activities of an individual department, agency, or office.

¹ 59 Fed. Reg. 7629 (1994).

² 42 U.S.C. §4321 *et seq.*

³ Certain oversight functions in the Executive Order are delegated to the Deputy Assistant to the President for Environmental Policy. Following the merger of the White House Office on Environmental Policy with CEQ, the Chair of CEQ assumed those functions. The Environmental Protection Agency (EPA) has lead responsibility for implementation of the Executive Order as Chair of the Interagency Working Group (IWG) on Environmental Justice.

II.

Executive Order 12898 and the Presidential Memorandum

In addition to the general directive in Executive Order 12898 that each agency identify and address, as appropriate, "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations,"⁴ there are several provisions of the Executive Order and a number of supporting documents to which agencies should refer when identifying and addressing environmental justice concerns in the NEPA process.

First, the Executive Order itself contains particular emphasis on four issues that are pertinent to the NEPA process:

- The Executive Order requires the development of agency-specific environmental justice strategies.⁵ Thus, agencies have developed and should periodically revise their strategies providing guidance concerning the types of programs, policies, and activities that may, or historically have, raised environmental justice concerns at the particular agency. These guidances may suggest possible approaches to addressing such concerns in the agency's NEPA analyses, as appropriate.
- The Executive Order recognizes the importance of research, data collection, and analysis, particularly with respect to multiple and cumulative exposures to environmental hazards for low-income populations, minority populations, and Indian tribes.⁶ Thus, data on these exposure issues should be incorporated into NEPA analyses as appropriate.⁷
- The Executive Order provides for agencies to collect, maintain, and analyze information on patterns of subsistence consumption of fish, vegetation, or wildlife.⁸ Where an agency action may affect fish, vegetation, or wildlife, that agency action may

⁴ Executive Order No. 12898, 59 Fed. Reg. at 7630 (Section 1-101).

⁵ *Id.* at 7630 (Section 1-103).

⁶ *Id.* at 7631 (Section 3-3).

⁷ For further information on considering cumulative effects, see *Considering Cumulative Effects Under The National Environmental Policy Act* (Council on Environmental Quality, Executive Office of the President, Jan. 1997)

⁸ *Id.* at 7631 (Section 4-401).

also affect subsistence patterns of consumption and indicate the potential for disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, and Indian tribes.

- The Executive Order requires agencies to work to ensure effective public participation and access to information.⁹ Thus, within its NEPA process and through other appropriate mechanisms, each Federal agency shall, "wherever practicable and appropriate, translate crucial public documents, notices and hearings, relating to human health or the environment for limited English speaking populations." In addition, each agency should work to "ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public."¹⁰

Second, the memorandum accompanying the Executive Order identifies four important ways to consider environmental justice under NEPA.

- Each Federal agency should analyze the environmental effects, including human health, economic, and social effects of Federal actions, including effects on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA.¹¹

- Mitigation measures identified as part of an environmental assessment (EA), a finding of no significant impact (FONSI), an environmental impact statement (EIS), or a record of decision (ROD), should, whenever feasible, address significant and adverse environmental effects of proposed federal actions on minority populations, low-income populations, and Indian tribes.¹²

- Each Federal agency must provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices.¹³

- Review of NEPA compliance (such as EPA's review under § 309 of the Clean Air Act)

⁹ *Id.* at 7632 (Section 5-5).

¹⁰ *Id.* at 7632 (Section 5-5).

¹¹ Memorandum from the President to the Heads of Departments and Agencies. Comprehensive Presidential Documents No. 279. (Feb. 11, 1994).

¹² *Id.*

¹³ *Id.*

must ensure that the lead agency preparing NEPA analyses and documentation has appropriately analyzed environmental effects on minority populations, low-income populations, or Indian tribes, including human health, social, and economic effects.¹⁴

Third, the Interagency Working Group (IWG), established by the Executive Order to implement the order's requirements, has developed guidance on key terms in the Executive Order. The guidance, reproduced as Appendix A, reflects a general consensus based on Federal agencies' experience and understanding of the issues presented. Agencies should apply the guidance with flexibility, and may consider its terms a point of departure rather than conclusive direction in applying the terms of the Executive Order.

¹⁴ *Id.*

III.

Executive Order 12898 and NEPA

A. NEPA Generally

NEPA's fundamental policy is to "encourage productive and enjoyable harmony between man and his environment."¹⁵ In the statute, Congress "recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment."¹⁶ The following goals, set forth in NEPA, make clear that attainment of environmental justice is wholly consistent with the purposes and policies of NEPA¹⁷:

- to "assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings"¹⁸;
- to "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences",¹⁹
- to "preserve important historic, cultural, and natural aspects of our natural heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice"²⁰; and
- to "achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities."²¹

These goals are promoted through the requirement that all agencies of the Federal government shall include in every recommendation or report on proposals for legislation and other

¹⁵ 42 U.S.C. § 4321.

¹⁶ 42 U.S.C. § 4331(c).

¹⁷ 42 U.S.C. § 4331(b).

¹⁸ 42 U.S.C. § 4331(b)(2).

¹⁹ 42 U.S.C. § 4331(b)(3).

²⁰ 42 U.S.C. § 4331(b)(4).

²¹ 42 U.S.C. § 4331(b)(5).

major Federal actions significantly affecting the quality of the human environment, a "detailed statement by the responsible official" on: the environmental impacts of the proposed action; adverse environmental effects that cannot be avoided should the proposal be implemented; alternatives to the proposed action; the relationship between local, short-term uses of man's environment and long-term productivity; and any irreversible or irretrievable commitments of resources involved in the proposed action itself.²²

Preparation of an EA may precede preparation of an EIS, to determine whether a proposed action may "significantly affect" the quality of the human environment. The EA either will support a finding of no significant impact (FONSI), or will document the need for an EIS. Agency procedure at each step of this process should be guided by the agency's own NEPA regulations and by the CEQ regulations found at 40 C.F.R. Parts 1500-1508.

B. Principles for Considering Environmental Justice under NEPA

Environmental justice issues may arise at any step of the NEPA process and agencies should consider these issues at each and every step of the process, as appropriate. Environmental justice issues encompass a broad range of impacts covered by NEPA, including impacts on the natural or physical environment and interrelated social, cultural and economic effects.²³ In preparing an EIS or an EA, agencies must consider both impacts on the natural or physical environment and related social, cultural, and economic impacts.²⁴ Environmental justice concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes, or from related social or economic impacts.

1. General Principles

Agencies should recognize that the question of whether agency action raises environmental justice issues is highly sensitive to the history or circumstances of a particular community or population, the particular type of environmental or human health impact, and the nature of the proposed action itself. There is not a standard formula for how environmental justice issues should be identified or addressed. However, the following six principles provide general guidance.

²² 42 U.S.C. § 4332(c).

²³ The CEQ implementing regulations define "effects" or "impacts" to include "ecological...aesthetic, historic, cultural, economic, social or health, whether direct, indirect or cumulative." 40 C.F.R. 1508.8.

²⁴ 40 C.F.R. 1508.14.

- Agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by the proposed action, and if so whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes.

- Agencies should consider relevant public health data and industry data concerning the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical patterns of exposure to environmental hazards, to the extent such information is reasonably available. For example, data may suggest there are disproportionately high and adverse human health or environmental effects on a minority population, low-income population, or Indian tribe from the agency action. Agencies should consider these multiple, or cumulative effects, even if certain effects are not within the control or subject to the discretion of the agency proposing the action.

- Agencies should recognize the interrelated cultural, social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the community structure associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community.

- Agencies should develop effective public participation strategies. Agencies should, as appropriate, acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation, and should incorporate active outreach to affected groups.

- Agencies should assure meaningful community representation in the process. Agencies should be aware of the diverse constituencies within any particular community when they seek community representation and should endeavor to have complete representation of the community as a whole. Agencies also should be aware that community participation must occur as early as possible if it is to be meaningful.

- Agencies should seek tribal representation in the process in a manner that is consistent with the government-to-government relationship between the United States and tribal governments, the federal government's trust responsibility to federally-recognized tribes, and any treaty rights.

2. Additional Considerations

The preceding principles must be applied in light of these further considerations that are

pertinent to any analysis of environmental justice under NEPA.

- The Executive Order does not change the prevailing legal thresholds and statutory interpretations under NEPA and existing case law. For example, for an EIS to be required, there must be a sufficient impact on the physical or natural environment to be "significant" within the meaning of NEPA. Agency consideration of impacts on low-income populations, minority populations, or Indian tribes may lead to the identification of disproportionately high and adverse human health or environmental effects that are significant and that otherwise would be overlooked.²⁵
- Under NEPA, the identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population.
- Neither the Executive Order nor this guidance prescribes any specific format for examining environmental justice, such as designating a specific chapter or section in an EIS or EA on environmental justice issues. Agencies should integrate analyses of environmental justice concerns in an appropriate manner so as to be clear, concise, and comprehensible within the general format suggested by 40 C.F.R. § 1502.10.

C. Considering Environmental Justice in Specific Phases of the NEPA Process

While appropriate consideration of environmental justice issues is highly dependent upon the particular facts and circumstances of the proposed action, the affected environment, and the affected populations, there are opportunities and strategies that are useful at particular stages of the NEPA process.

1. Scoping

During the scoping process, an agency should preliminarily determine whether

²⁵ Title VI of the Civil Rights Act of 1964, U.S.C. 2000d *et seq.*, and agency implementing regulations, prohibit recipients of federal financial assistance from taking actions that discriminate on the basis of race, sex, color, national origin, or religion. If an agency is aware that a recipient of federal funds may be taking action that is causing a racially discriminatory impact, the agency should consider using Title VI as a means to prevent or eliminate that discrimination.

an area potentially affected by a proposed agency action may include low-income populations, minority populations, or Indian tribes, and seek input accordingly. When the scoping process is used to develop an EIS or EA, an agency should seek input from low income populations, minority populations, or Indian tribes as early in the process as information becomes available.²⁶ Any such determination, as well as the basis for the determination, should be more substantively addressed in the appropriate NEPA documents and communicated as appropriate during the NEPA process.

If an agency identifies any potentially affected minority populations, low-income populations, or Indian tribes, the agency should develop a strategy for effective public involvement in the agency's determination of the scope of the NEPA analysis. Customary agency practices for notifying the public of a proposed action and subsequent scoping and public events may be enhanced through better use of local resources, community and other nongovernmental organizations, and locally targeted media.

Agencies should consider enhancing their outreach through the following means:

- Religious organizations (e.g., churches, temples, ministerial associations);
- Newspapers, radio and other media, particularly media targeted to low-income populations, minority populations, or Indian tribes;
- Civic associations;
- Minority business associations;
- Environmental and environmental justice organizations;
- Legal aid providers;
- Homeowners', tenants', and neighborhood watch groups;
- Federal, state, local, and tribal governments;
- Rural cooperatives;
- Business and trade organizations;
- Community and social service organizations;
- Universities, colleges, vocational and other schools;
- Labor organizations;
- Civil rights organizations;
- Local schools and libraries;
- Senior citizens' groups;
- Public health agencies and clinics; and
- The Internet and other electronic media.

²⁶ For more information on scoping, see Memorandum from Nicolas C. Yost, Scoping Guidance (Council on Environmental Quality, Executive Office of the President, April 30, 1981).

The participation of diverse groups in the scoping process is necessary for full consideration of the potential environmental impacts of a proposed agency action and any alternatives. By discussing and informing the public of the emerging issues related to the proposed action, agencies may reduce misunderstandings, build cooperative working relationships, educate the public and decisionmakers, and avoid potential conflicts. Agencies should recognize that the identity of the relevant "public" may evolve during the process and may include different constituencies or groups of individuals at different stages of the NEPA process. This may also be the appropriate juncture to begin government-to-government consultation with affected Indian tribes and to seek their participation as cooperating agencies. For this participation to be meaningful, the public should have access to enough information so that it is well informed and can provide constructive input.

The following information may help inform the public during the scoping process:

- A description of the proposed action;
- An outline of the anticipated schedule for completing the NEPA process, with key milestones;
- An initial list of alternatives (including alternative sites, if possible) and potential impacts;
- An initial list of other existing or proposed actions, Federal and non-Federal, that may have cumulative impacts;
- Maps, drawings, and any other appropriate material or references;
- An agency point of contact;
- Timely notice of locations where comments will be received or public meetings held;
- Any telephone number or locations where further information can be obtained;
- Examples of past public comments on similar agency actions.

Thorough scoping is the foundation for the analytical process and provides an early opportunity for the public to participate in the design of alternatives for achieving the goals and objectives of the proposed agency action.

2. Public Participation

Early and meaningful public participation in the federal agency decision making process is a paramount goal of NEPA. CEQ's regulations require agencies to make diligent efforts to involve the public throughout the NEPA process. Participation of low-income populations, minority populations, or tribal populations may require adaptive or innovative approaches to overcome linguistic, institutional, cultural, economic, historical, or other potential barriers to effective participation in the decision-making processes of Federal agencies under customary NEPA procedures. These barriers may range from agency failure to provide translation of documents to the scheduling of meetings at times and in places that are not convenient to working families.

The following steps may be considered, as appropriate, in developing an innovative strategy for effective public participation:

- Coordination with individuals, institutions, or organizations in the affected community to educate the public about potential health and environmental impacts and enhance public involvement;
- Translation of major documents (or summaries thereof), provision of translators at meetings, or other efforts as appropriate to ensure that limited-English speakers potentially affected by a proposed action have an understanding of the proposed action and its potential impacts;
- Provision of opportunities for limited-English speaking members of the affected public to provide comments throughout the NEPA process;
- Provision of opportunities for public participation through means other than written communication, such as personal interviews or use of audio or video recording devices to capture oral comments;
- Use of periodic newsletters or summaries to provide updates on the NEPA process to keep the public informed;
- Use of different meeting sizes or formats, or variation on the type and number of media used, so that communications are tailored to the particular community or population;
- Circulation or creation of specialized materials that reflect the concerns and sensitivities of particular populations such as information about risks specific to subsistence consumers of fish, vegetation, or wildlife;
- Use of locations and facilities that are local, convenient, and accessible to the disabled, low-income and minority communities, and Indian tribes; and
- Assistance to hearing-impaired or sight-impaired individuals.

3. Determining the Affected Environment

In order to determine whether a proposed action is likely to have disproportionately high and adverse human health or environmental effects on low-income populations, minority populations, or Indian tribes, agencies should identify a geographic scale for which they will obtain demographic information on the potential impact area. Agencies may use demographic data available from the Bureau of the Census (BOC) to identify the composition of the potentially affected population. Geographic distribution by race, ethnicity, and income, as well as a delineation of tribal lands and resources, should be examined. Census data are available in published formats, and on CD-ROM available through the BOC. This data also is available from a number of local, college, and university libraries, and the World Wide Web. Agencies may also find that Federal, tribal, state and local health, environmental, and economic agencies have useful demographic information and studies, such as the Landview II system, which is used by the BOC to assist in utilizing data from a geographic information system (GIS). Landview II has proven to be a low-cost, readily available means of graphically accessing environmental justice data. These approaches already should be incorporated into current NEPA compliance.

Agencies should recognize that the impacts within minority populations, low-income populations, or Indian tribes may be different from impacts on the general population due to a community's distinct cultural practices. For example, data on different patterns of living, such as subsistence fish, vegetation, or wildlife consumption and the use of well water in rural communities may be relevant to the analysis. Where a proposed agency action would not cause any adverse environmental impacts, and therefore would not cause any disproportionately high and adverse human health or environmental impacts, specific demographic analysis may not be warranted. Where environments of Indian tribes may be affected, agencies must consider pertinent treaty, statutory, or executive order rights and consult with tribal governments in a manner consistent with the government-to-government relationship.

4. Analysis

When a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe has been identified, agencies should analyze how environmental and health effects are distributed within the affected community. Displaying available data spatially, through a GIS, can provide the agency and the public with an effective visualization of the distribution of health and environmental impacts among demographic populations. This type of data should be analyzed in light of any additional qualitative or quantitative information gathered through the public participation process.

Where a potential environmental justice issue has been identified by an agency, the agency should state clearly in the EIS or EA whether, in light of all of the facts and circumstances, a disproportionately high and adverse human health or environmental impact on minority populations, low-income populations, or Indian tribe is likely to result from the proposed action and any alternatives. This statement should be supported by sufficient information for the public to understand the rationale for the conclusion. The underlying analysis should be presented as concisely as possible, using language that is understandable to the public and that minimizes use of acronyms or jargon.

5. Alternatives

Agencies should encourage the members of the communities that may suffer a disproportionately high and adverse human health or environmental effect from a proposed agency action to help develop and comment on possible alternatives to the proposed agency action as early as possible in the process.

Where an EIS is prepared, CEQ regulations require agencies to identify an environmentally preferable alternative in the record of decision (ROD).²⁷ When the agency has identified a disproportionately high and adverse human health or environmental effect on low-income populations, minority populations, or Indian tribes from either the proposed action or alternatives, the distribution as well as the magnitude of the disproportionate impacts in these communities should be a factor in determining the environmentally preferable alternative. In weighing this factor, the agency should consider the views it has received from the affected communities, and the magnitude of environmental impacts associated with alternatives that have a less disproportionate and adverse effect on low-income populations, minority populations, or Indian tribes.

6. Record of Decision

When an agency reaches a decision on an action for which an EIS was prepared, a public record of decision (ROD) must be prepared that provides information on the alternatives considered and the factors weighed in the decision-making process. Disproportionately high and adverse human health or environmental effects on a low-income population, minority population, or Indian tribe should be among those factors explicitly discussed in the ROD, and should also be addressed in any discussion of whether all practicable means to avoid or minimize environmental and other interrelated effects were adopted. Where relevant, the agency should discuss how these issues are addressed

²⁷ 40 C.F.R. § 1505.2(b)

in any monitoring and enforcement program summarized in the ROD.²⁸

Dissemination of the information in the ROD may provide an effective means to inform the public of the extent to which environmental justice concerns were considered in the decision-making process, and where appropriate, whether the agency intends to mitigate any disproportionately high and adverse human health or environmental effects within the constraints of NEPA and other existing laws. In addition to translating crucial portions of the EIS where appropriate, agencies should provide translation, where practicable and appropriate, of the ROD in non-technical, plain language for limited-English speakers. Agencies should also consider translating documents into languages other than English where appropriate and practical.

7. Mitigation

Mitigation measures include steps to avoid, mitigate, minimize, rectify, reduce, or eliminate the impact associated with a proposed agency action.²⁹ Throughout the process of public participation, agencies should elicit the views of the affected populations on measures to mitigate a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe and should carefully consider community views in developing and implementing mitigation strategies. Mitigation measures identified in an EIS or developed as part of a FONSI should reflect the needs and preferences of affected low-income populations, minority populations, or Indian tribes to the extent practicable.

D. Where no EIS or EA is prepared

There are certain circumstances in which the policies of NEPA apply, and a disproportionately high and adverse human health or environmental impact on low-income populations, minority populations, or Indian tribes may exist, but where the specific statutory requirement to prepare an EIS or EA does not apply. These circumstances may arise because of an exemption from the requirement, a categorical exclusion of specific activities by regulation, or a claim by an agency that another environmental statute establishes the “functional equivalent” of an EIS or EA. For example, neither an EIS nor an EA is prepared for certain hazardous waste facility permits.

In circumstances in which an EIS or EA will not be prepared and a disproportionately high and adverse human health or environmental impact on low-income

²⁸ See 40 C.F.R. § 1505.2(c).

²⁹ See 40 C.F.R. § 1508.20.

populations, minority populations, or Indian tribes may exist, agencies should augment their procedures as appropriate to ensure that the otherwise applicable process or procedure for a federal action addresses environmental justice concerns. Agencies should ensure that the goals for public participation outlined in this guidance are satisfied to the fullest extent possible. Agencies also should fully develop and consider alternatives to the proposed action whenever possible, as would be required by NEPA.



IV.

Regulatory Changes

Consistent with the obligation of all agencies to promote consideration of environmental justice under NEPA and in all of their programs and activities, agencies that promulgate or revise regulations, policies, and guidances under NEPA or under any other statutory scheme should consult with CEQ and EPA to ensure that the principles and approaches presented in this guidance are fully incorporated into any new or revised regulations, policies, and guidances.



V.

Effect of this Guidance

Agencies should apply, and comply with, this guidance prospectively. If an agency has made substantial investments in NEPA compliance, or public participation with respect to a particular agency action, prior to issuance of this guidance, the agency should ensure that application of this guidance does not result in additional delays or costs of compliance.

This guidance is intended to improve the internal management of the Executive Branch with respect to environmental justice under NEPA. The guidance interprets NEPA as implemented through the CEQ regulations in light of Executive Order 12898. It does not create any rights, benefits, or trust obligations, either substantive or procedural, enforceable by any person, or entity in any court against the United States, its agencies, its officers, or any other person.



APPENDIX A

GUIDANCE FOR FEDERAL AGENCIES ON KEY TERMS IN EXECUTIVE ORDER 12898

INTRODUCTION

Pursuant to Executive Order 12898 on Environmental Justice, Federal agencies are to make the achievement of environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations, low-income populations, and Indian tribes and allowing all portions of the population a meaningful opportunity to participate in the development of, compliance with, and enforcement of Federal laws, regulations, and policies affecting human health or the environment regardless of race, color, national origin, or income. To that end, set forth below is guidance for Federal agencies on key terms contained in Executive Order 12898.

This guidance is intended only to improve the internal management of the Executive Branch. It shall not be deemed to create any right, benefit, or trust obligation, either substantive or procedural, enforceable by any person, or entity in any court against the United States, its agencies, its officers, or any other person. Consequently, neither this Guidance nor the deliberative processes or products resulting from the implementation of this Guidance shall be treated as establishing standards or criteria that constitute any basis for review of the actions of the Executive Branch. Compliance with this Guidance shall not be justiciable in any proceeding for judicial review of Agency action.



TEXT OF EXECUTIVE ORDER 12898,
"FEDERAL ACTIONS TO ADDRESS ENVIRONMENTAL JUSTICE IN
MINORITY POPULATIONS AND LOW-INCOME POPULATIONS,"
ANNOTATED
WITH PROPOSED GUIDANCE ON TERMS IN THE EXECUTIVE ORDER³⁰

Section 1-1. IMPLEMENTATION.

1-101. *Agency Responsibilities.* To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Marianas Islands.

Low-income population: Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.

Minority: Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

Minority population: Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in

³⁰ Executive Order provisions are in standard font. Guidance is in **bold** font.

geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

Disproportionately high and adverse human health effects: When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- (a) Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death; and
- (b) Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
- (c) Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Disproportionately high and adverse environmental effects: When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- (a) Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment; and

(b) Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low-income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group; and

(c) Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

1-102. Creation of an Interagency Working Group on Environmental Justice. (a) Within 3 months of the date of this order, the Administrator of the Environmental Protection Agency ("Administrator") or the Administrator's designee shall convene an interagency Federal Working Group on Environmental Justice ("Working Group"). The Working Group shall comprise the heads of the following executive agencies and offices, or their designees: (a) Department of Defense; (b) Department of Health and Human Services; (c) Department of Housing and Urban Development; (d) Department of Labor; (e) Department of Agriculture; (f) Department of Transportation; (g) Department of Justice; (h) Department of the Interior; (I) Department of Commerce; (j) Department of Energy; (k) Environmental Protection Agency; (l) Office of Management and Budget; (m) Office of Science and Technology Policy; (n) Office of the Deputy Assistant to the President for Environmental Policy; (o) Office of the Assistant to the President for Domestic Policy; (p) National Economic Council; (q) Council of Economic Advisers; and (r) such other Government officials as the President may designate. The Working Group shall report to the President through the Deputy Assistant to the President for Environmental Policy and the Assistant to the President for Domestic Policy.

(b) The Working Group shall:

(1) provide guidance to Federal agencies on criteria for identifying disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

(2) coordinate with, provide guidance to, and serve as a clearinghouse for, each Federal agency as it develops an environmental justice strategy as required by section 1-103 of this order, in order to ensure that the administration, interpretation and enforcement of programs, activities and policies are undertaken in a consistent manner;

(3) assist in coordinating research by, and stimulating cooperation among, the Environmental Protection Agency, the Department of Health and Human Services, the

Department of Housing and Urban Development, and other agencies conducting research or other activities in accordance with section 3-3 of this order;

- (4) assist in coordinating data collection, required by this order;
- (5) examine existing data and studies on environmental justice;
- (6) hold public meetings as required in section 5-502(d) of this order; and
- (7) develop interagency model projects on environmental justice that evidence cooperation among Federal agencies.

1-103. *Development of Agency Strategies.*

(a) Except as provided in section 6-605 of this order, each Federal agency shall develop an agency-wide environmental justice strategy, as set forth in subsections (b)-(e) of this section that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy shall list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and (4) identify differential patterns of consumption of natural resources among minority populations and low-income populations. In addition, the environmental justice strategy shall include, where appropriate, a timetable for undertaking identified revisions and consideration of economic and social implications of the revisions.

Differential patterns of consumption of natural resources: The term "differential patterns of consumption of natural resources" relates to subsistence and differential patterns of subsistence, and means differences in rates and/or patterns of fish, water, vegetation and/or wildlife consumption among minority populations, low-income populations, or Indian tribes, as compared to the general population.

(b) Within 4 months of the date of this order, each Federal agency shall identify an internal administrative process for developing its environmental justice strategy, and shall inform this Working Group of the process.

(c) Within 6 months of the date of this order, each Federal agency shall provide the Working Group with an outline of its proposed environmental justice strategy.

(d) Within 10 months of the date of this order, each Federal agency shall provide the Working Group with its proposed environmental justice strategy.

(e) Within 12 months of the date of this order, each Federal agency shall finalize its environmental justice strategy and provide a copy and written description of its strategy to the Working Group. During the 12 month period from the date of this order, each Federal agency, as part of its environmental justice strategy, shall identify several specific projects that can be promptly undertaken to address particular concerns identified during the development of the proposed environmental justice strategy, and a schedule for implementing those projects.

(f) Within 24 months of the date of this order, each Federal agency shall report to the Working Group on its progress in implementing its agency-wide environmental justice strategy.

(g) Federal agencies shall provide additional periodic reports to the Working Group as requested by the Working Group.

1-104. *Reports to the President.* Within 14 months of the date of this order, the Working Group shall submit to the President, through the Office of the Deputy Assistant to the President for Environmental Policy and the Office of the Assistant to the President for Domestic Policy, a report that describes the implementation of this order, and includes the final environmental justice strategies described in section 1-103(e) of this order.

Sec. 2-2. FEDERAL AGENCY RESPONSIBILITIES FOR FEDERAL PROGRAMS.

Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

Sec. 3-3. RESEARCH, DATA COLLECTION, AND ANALYSIS.

3-301. *Human Health and Environmental Research and Analysis.*

(a) Environmental human health research, whenever practicable and appropriate, shall include diverse segments of the population in epidemiological and clinical studies, including segments at high risk from environmental hazards, such as minority populations, low-income populations and workers who may be exposed to substantial environmental hazards.

Environmental hazard and substantial environmental hazard: For purposes of research, data collection, and analysis under Section 3-3 of the Executive Order, the term "environmental hazard" means a chemical, biological, physical or radiological agent, situation or source that has the potential for deleterious effects to the environment and/or human health. Among the factors that may be important in defining a substantial environmental hazard are: the likelihood, seriousness, and magnitude of the impact.

(b) Environmental human health analyses, whenever practical and appropriate, shall identify multiple and cumulative exposures.

Environmental Exposure: For purposes of research, data collection, and analysis under Section 3-3 of the Executive Order, the term "environmental exposure" means contact with a chemical (e.g., asbestos, radon), biological (e.g., Legionella), physical (e.g., noise), or radiological agent.

Multiple Environmental Exposure: For purposes of research, data collection, and analysis under Section 3-3 of the Executive Order, the term "multiple environmental exposure" means exposure to any combination of two or more chemical, biological, physical or radiological agents (or two or more agents from two or more of these categories) from single or multiple sources that have the potential for deleterious effects to the environment and/or human health.

Cumulative Environmental Exposure: For purposes of research, data collection, and analysis under Section 3-3 of the Executive Order, the term "cumulative environmental exposure" means exposure to one or more chemical, biological, physical, or radiological agents across environmental media (e.g., air, water, soil) from single or multiple sources, over time in one or more locations, that have the potential for deleterious effects to the environment and/or human health.

(c) Federal agencies shall provide minority populations and low-income populations the opportunity to comment on the development and design of research strategies undertaken pursuant to this order.

3-302. *Human Health and Environmental Data Collection and Analysis.* To the extent permitted by existing law, including the Privacy Act, as amended (5 U.S.C. § 552a):

(a) each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(b) In connection with the development and implementation of agency strategies in section 1-103 of this order, each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action. Such information shall be made available to the public unless prohibited by law; and

Federal environmental administrative or judicial action includes any administrative enforcement action, civil enforcement action, or criminal enforcement action initiated by, or permitting or licensing determination undertaken by, a Federal agency to enforce or execute a Federal law intended, in whole or in part, to protect human health or the environment.

(c) Each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding Federal facilities that are: (1) subject to the reporting requirements under the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11001-11050 as mandated in Executive Order No. 12856; and (2) expected to have a substantial environmental, human health, or economic effect on surrounding populations. Such information shall be made available to the public, unless prohibited by law.

(d) In carrying out the responsibilities in this section, each Federal agency, whenever practicable and appropriate, shall share information and eliminate unnecessary duplication of efforts through the use of existing data systems and cooperative agreements among Federal agencies and with State, local, and tribal governments.

Sec. 4-4. SUBSISTENCE CONSUMPTION OF FISH AND WILDLIFE.

4-401. *Consumption Patterns.* In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

Subsistence consumption of fish and wildlife: Dependence by a minority population, low-income population, Indian tribe or subgroup of such populations on indigenous fish, vegetation and/or wildlife, as the principal portion of their diet.

Differential patterns of subsistence consumption: Differences in rates and/or patterns of subsistence consumption by minority populations, low-income populations, and Indian tribes as compared to rates and patterns of consumption of the general population.

4-402. *Guidance.* Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or wildlife. Agencies shall consider such guidance in developing their policies and rules.

Sec. 5-5. PUBLIC PARTICIPATION AND ACCESS TO INFORMATION.

(a) The public may submit recommendations to Federal agencies relating to the incorporation of environmental justice principles into Federal agency programs or policies. Each Federal agency shall convey such recommendations to the Working Group.

(b) Each Federal agency may, whenever practicable and appropriate, translate crucial public documents, notices, and hearings relating to human health or the environment for limited English speaking populations.

(c) Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public.

(d) The Working Group shall hold public meetings, as appropriate, for the purpose of fact-finding, receiving public comments, and conducting inquiries concerning environmental justice. The Working Group shall prepare for public review a summary of the comments and recommendations discussed at the public meetings.

Sec. 6-6. GENERAL PROVISIONS.

6-601. *Responsibility for Agency Implementation.* The head of each Federal agency shall be responsible for ensuring compliance with this order. Each Federal agency shall conduct internal reviews and take such other steps as may be necessary to monitor compliance with this order.

6-602. *Executive Order No. 12250.* This Executive order is intended to supplement but not supersede Executive Order No. 12250, which requires consistent and effective implementation of various laws prohibiting discriminatory practices in programs receiving Federal financial assistance. Nothing herein shall limit the effect or mandate of Executive Order No. 12250.

6-603. *Executive Order No. 12875.* This Executive order is not intended to limit the effect or mandate of Executive Order No. 12875.

6-604. *Scope.* For purposes of this order, Federal agency means any agency on the Working Group, and such other agencies as may be designated by the President, that conducts any Federal program or activity that substantially affects human health or the environment. Independent agencies are requested to comply with the provisions of this order.

6-605. *Petitions for Exemptions.* The head of a Federal agency may petition the President for an exemption from the requirements of this order on the grounds that all or some of the petitioning agency's programs or activities should not be subject to the requirements of this order.

6-606. *Native American Programs.* Each Federal agency responsibility set forth under this order shall apply equally to Native American programs. In addition, the Department of the Interior, in coordination with the Working Group, and, after consultation with tribal leaders, shall coordinate steps to be taken pursuant to this order that address Federally-recognized Indian Tribes.

Native American programs: Native American programs include those Federal programs designed to serve Indian Tribes or individual Indians, recognizing that such programs are to be guided, as appropriate, by the government-to-government relationship, the Federal trust responsibility, and the role of tribes as governments within the Federal system.

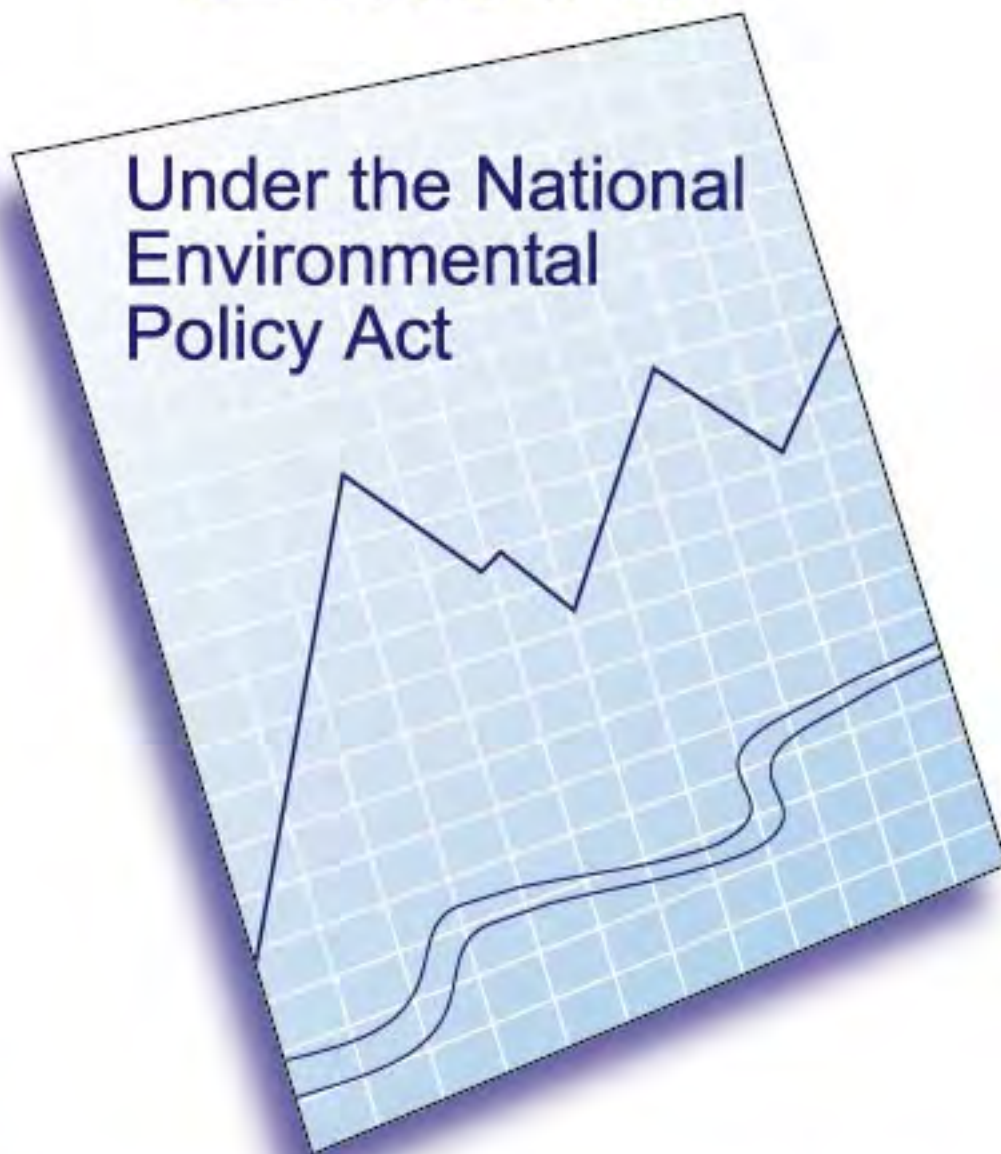
6-607. *Costs.* Unless otherwise provided by law, Federal agencies shall assume the financial costs of complying with this order.

6-608. *General.* Federal agencies shall implement this order consistent with, and to the extent permitted by, existing law.

6-609. *Judicial Review.* This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person. This order shall not be construed to create any right to judicial review involving the compliance or noncompliance of the United States, its agencies, its officers, or any other person with this order.

APPENDIX 19

Considering Cumulative Effects



Council on Environmental Quality
Executive Office of the President

Considering Cumulative Effects Under the National Environmental Policy Act

Council on Environmental Quality

January 1997

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1 INTRODUCTION TO CUMULATIVE EFFECTS ANALYSIS	1
Purpose of Cumulative Effects Analysis	2
Agency Experience with Cumulative Effects Analysis	3
Principles of Cumulative Effects Analysis	7
How Environmental Effects Accumulate	7
Roadmap to the Handbook	10
2 SCOPING FOR CUMULATIVE EFFECTS	11
Identifying Cumulative Effects Issues	11
Bounding Cumulative Effects Analysis	12
Identifying Geographical Boundaries	12
Identifying Time Frames	16
Identifying Past, Present, and Reasonably Foreseeable Future Actions	16
Agency Coordination	20
Scoping Summary	21
3 DESCRIBING THE AFFECTED ENVIRONMENT	23
Components of the Affected Environment	24
Status of Resources, Ecosystems, and Human Communities	26
Characterization of Stress Factors	27
Regulations, Administrative Standards, and Regional Plans	29
Trends	31
Obtaining Data for Cumulative Effects Analysis	31
Affected Environment Summary	34
4 DETERMINING THE ENVIRONMENTAL CONSEQUENCES OF CUMULATIVE EFFECTS	37
Confirming the Resources and Actions to be Included in the Cumulative Effects Analysis	37
Identifying and Describing Cause-and-Effect Relationships for Resources, Ecosystems, and Human Communities	38
Determining the Environmental Changes that Affect Resources	38
Determining the Response of the Resource to Environmental Change	40
Determining the Magnitude and Significance of Cumulative Effects	41
Determining Magnitude	42
Determining Significance	44
Avoiding, Minimizing, and Mitigating Significant Cumulative Effects	45
Addressing Uncertainty Through Monitoring and Adaptive Management	46

5 METHODS, TECHNIQUES, AND TOOLS FOR ANALYZING CUMULATIVE EFFECTS 49
 Literature on Cumulative Effects Analysis Methods 49
 Implementing a Cumulative Effects Analysis Methodology 50

REFERENCES 59

APPENDICES:

- Appendix A. Summaries of Cumulative Effects Analysis Methods
- Appendix B. Acknowledgements

Considering Cumulative Effects Under the National Environmental Policy Act

Council on Environmental Quality

January 1997

PREFACE

This handbook presents the results of research and consultations by the Council on Environmental Quality (CEQ) concerning the consideration of cumulative effects in analyses prepared under the National Environmental Policy Act (NEPA). It introduces the NEPA practitioner and other interested parties to the complex issue of cumulative effects, outlines general principles, presents useful steps, and provides information on methods of cumulative effects analysis and data sources. The handbook does not establish new requirements for such analyses. It is not and should not be viewed as formal CEQ guidance on this matter, nor are the recommendations in the handbook intended to be legally binding.

EXECUTIVE SUMMARY

The Council on Environmental Quality's (CEQ) regulations (40 CFR §§ 1500 - 1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. §§ 4321 *et seq.*), define cumulative effects as

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR § 1508.7).

Although the regulations touch on every aspect of environmental impact analysis, very little has been said about cumulative effects. As a result, federal agencies have independently developed procedures and methods to analyze the cumulative effects of their actions on environmental resources, with mixed results.

The CEQ's "Considering Cumulative Effects Under the National Environmental Policy Act" provides a framework for advancing environmental impact analysis by addressing cumulative effects in either an environmental assessment (EA) or an environmental impact statement (EIS). The handbook presents practical methods for addressing coincident effects (adverse or beneficial) on specific resources, ecosystems, and human communities of all related activities, not just the proposed project or alternatives that initiate the assessment process.

In their environmental analyses, federal agencies routinely address the direct and (to a lesser extent) indirect effects of the proposed

action on the environment. Analyzing cumulative effects is more challenging, primarily because of the difficulty of defining the geographic (spatial) and time (temporal) boundaries. For example, if the boundaries are defined too broadly, the analysis becomes unwieldy; if they are defined too narrowly, significant issues may be missed, and decision makers will be incompletely informed about the consequences of their actions.

The process of analyzing cumulative effects can be thought of as enhancing the traditional components of an environmental impact assessment: (1) scoping, (2) describing the affected environment, and (3) determining the environmental consequences. Generally it is also critical to incorporate cumulative effects analysis into the development of alternatives for an EA or EIS. Only by reevaluating and modifying alternatives in light of the projected cumulative effects can adverse consequences be effectively avoided or minimized. Considering cumulative effects is also essential to developing appropriate mitigation and monitoring its effectiveness.

In many ways, scoping is the key to analyzing cumulative effects; it provides the best opportunity for identifying important cumulative effects issues, setting appropriate boundaries for analysis, and identifying relevant past, present, and future actions. Scoping allows the NEPA practitioner to "count what counts." By evaluating resource impact zones and the life cycle of effects rather than projects, the analyst can properly bound the cumulative effects analysis. Scoping can also facilitate the interagency cooperation needed to identify agency plans and other

actions whose effects might overlap those of the proposed action.

When the analyst describes the affected environment, he or she is setting the environmental baseline and thresholds of environmental change that are important for analyzing cumulative effects. Recently developed indicators of ecological integrity (e.g., index of biotic integrity for fish) and landscape condition (e.g., fragmentation of habitat patches) can be used as benchmarks of accumulated change over time. In addition, remote sensing and geographic information system (GIS) technologies provide improved means to analyze historical change in indicators of the condition of resources, ecosystems, and human communities, as well as the relevant stress factors. Many dispersed local information sources and emerging regional data collection programs are now available to describe the cumulative effects of a proposed action.

Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern. Analysts must tease from the complex networks of possible interactions those that substantially affect the resources. Then, they must describe the response of the resource to this environmental change using modeling, trends analysis, and scenario building when uncertainties are great. The significance of cumulative effects depend on how they compare with the environmental baseline and relevant resource thresholds (such as regulatory standards). Most often, the historical context surrounding the resource is critical to developing these baselines and thresholds and to supporting both imminent and future decision-making.

Undoubtedly, the consequences of human activities will vary from those that were predicted and mitigated. This will be even more problematic because of cumulative effects; therefore, monitoring the accuracy of predictions and

the success of mitigation measures is critical. Adaptive management provides the opportunity to combine monitoring and decision making in a way that will better ensure protection of the environment and attainment of societal goals.

Successfully analyzing cumulative effects ultimately depends on the careful application of individual methods, techniques, and tools to the environmental impact assessment at hand. There is a close relationship between impact assessment and environmental planning, and many of the methods developed for each are applicable to cumulative effects analysis. The unique requirements of cumulative effects analysis (i.e., the focus on resource sustainability and the expanded geographic and time boundaries) must be addressed by developing an appropriate conceptual model. To do this, a suite of primary methods can be used: questionnaires, interviews, and panels; checklists; matrices; networks and system diagrams; modeling; trends analysis; and overlay mapping and GIS. As with project-specific effects, tables and matrices can be used to evaluate cumulative effects (and have been modified specifically to do so). Special methods are also available to address the unique aspects of cumulative effects, including carrying capacity analysis, ecosystem analysis, economic impact analysis, and social impact analysis.

This handbook was developed by reviewing the literature and interviewing practitioners of environmental impact assessment. Most agencies that have recently developed their own guidelines for analyzing cumulative effects recognize cumulative effects analysis as an integral part of the NEPA process, not a separate effort. This handbook is not formal guidance nor is it exhaustive or definitive; it should assist practitioners in developing their own study-specific approaches. CEQ expects that the handbook (and similar agency guidelines) will be updated periodically to reflect additional experience and new methods, thereby, constantly improving the state of cumulative effects analysis.

new methods, thereby, constantly improving the state of cumulative effects analysis.

The handbook begins with an introduction to the cumulative effects problem and its relevance to the NEPA process. The introduction defines eight general principles of cumulative effects analysis and lays out ten specific steps that the NEPA practitioner can use to analyze cumulative effects. The next three chapters parallel the environmental impact assessment process and discuss analyzing cumulative effects while (1) scoping, (2) describing the affected environment, and (3) determining environmental consequences. Each component in the NEPA process is the logical place to complete necessary steps in cumulative effects analysis, but practitioners should remember that analyzing for cumulative effects is an iterative process. Specifically, the results of cumulative effects analysis can and should contribute to refining alternatives and

designing mitigation. Table E-1 illustrates how the principles of cumulative effects analysis can be the focus of each component of the NEPA process. Chapter 5 discusses the methods, techniques, and tools needed to develop a study-specific methodology and actually implement cumulative effects analysis. Appendix A provides summaries of 11 of these methods.

Cumulative effects analysis is an emerging discipline in which the NEPA practitioner can be overwhelmed by the details of the scoping and analytical phases. The continuing challenge of cumulative effects analysis is to focus on important cumulative issues, recognizing that a better decision, rather than a perfect cumulative effects analysis, is the goal of NEPA and environmental impact assessment professionals.

Table E-1. Incorporating principles of cumulative effects analysis (CEA) into the components of environmental impact assessment (EIA)

EIA Components	CEA Principles
Scoping	<ul style="list-style-type: none"> ● Include past, present, and future actions. ● Include all federal, nonfederal, and private actions. ● Focus on each affected resource, ecosystem, and human community. ● Focus on truly meaningful effects.
Describing the Affected Environment	<ul style="list-style-type: none"> ● Focus on each affected resource, ecosystem, and human community. ● Use natural boundaries.
Determining the Environmental Consequences	<ul style="list-style-type: none"> ● Address additive, countervailing, and synergistic effects. ● Look beyond the life of the action. ● Address the sustainability of resources, ecosystems, and human communities.

1

INTRODUCTION TO CUMULATIVE EFFECTS ANALYSIS

Evidence is increasing that the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time.

Some authorities contend that most environmental effects can be seen as cumulative because almost all systems have already been modified, even degraded, by humans. According to the report of the National Performance Review (1994), the heavily modified condition of the San Francisco Bay estuary is a result of activities regulated by a wide variety of government agencies. The report notes that one mile of the delta of the San Francisco Bay may be affected by the decisions of more than 400 agencies (federal, state, and local). William Odum (1982) succinctly described environmental degradation from cumulative effects as "the tyranny of small decisions."

The Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) define cumulative effects as

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions (40 CFR § 1508.7).

The fact that the human environment continues to change in unintended and unwanted ways in spite of improved federal decisionmaking resulting from the implementation of NEPA is largely attributable to this incremental (cumulative) impact. Although past environmental impact analyses have focused primarily on project-specific impacts, NEPA provides the context and carries the mandate to analyze the cumulative effects of federal actions.

NEPA and CEQ's regulations define the cumulative problem in the context of the action, alternatives, and effects. By definition, cumulative effects must be evaluated along with the direct effects and indirect effects (those that occur later in time or farther removed in distance) of each alternative. The range of alternatives considered must include the no-action alternative as a baseline against which to evaluate cumulative effects. The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects. Specifically, NEPA requires that all related actions be addressed in the same analysis. For example, the expansion of an airport runway that will increase the number of passengers traveling must address not only the effects of the runway itself, but also the expansion of the terminal and the extension of roadways to provide access to the expanded terminal. If there are similar actions planned

in the area that will also add traffic or require roadway extensions (even though they are nonfederal), they must be addressed in the same analysis.

The selection of actions to include in the cumulative effects analysis, like any environmental impact assessment, depends on whether they affect the human environment. Throughout this handbook discussion of the environment will focus on resources (entities such as air quality or a trout fishery), ecosystems (local or landscape-level units where nature and humans interact), and human communities (sociocultural settings that affect the quality of life). The term resources will sometimes be used to refer to all three entities. Table 1-1 lists some of the common cumulative

effects situations faced by federal agencies (see Chapter 3 for a list of common cumulative effects issues affecting various resources, ecosystems, and human communities).

PURPOSE OF CUMULATIVE EFFECTS ANALYSIS

Congressional testimony on behalf of the passage of NEPA stated that

...as a result of the failure to formulate a comprehensive national environmental policy... environmental problems are only dealt with when they reach crisis proportions..... Important decisions concerning the use and shape of man's environment continue to be made in small but steady increments which perpetuate requirements.

Table 1-1. Examples of cumulative effects situations faced by federal agencies including both multiple agency actions and other actions affecting the same resource

Federal Agency	Cumulative Effects Situations
Army Corps of Engineers	<ul style="list-style-type: none"> ■ incremental loss of wetlands under the national permit to dredge and fill and from land subsidence
Bureau of Land Management	<ul style="list-style-type: none"> ■ degradation of rangeland from multiple grazing allotments and the invasion of exotic weeds
Department of Defense	<ul style="list-style-type: none"> ■ population declines in nesting birds from multiple training missions and commercial tree harvests within the same land unit
Department of Energy	<ul style="list-style-type: none"> ■ increased regional acidic deposition from emissions trading policies and changing climate patterns
Federal Energy Regulatory Commission	<ul style="list-style-type: none"> ■ blocking of fish passage by multiple hydropower dams and Corps of Engineers reservoirs in the same river basin
Federal Highway Administration	<ul style="list-style-type: none"> ■ cumulative commercial and residential development and highway construction associated with suburban sprawl
Forest Service	<ul style="list-style-type: none"> ■ increased soil erosion and stream sedimentation from multiple timber permits and private logging operations in the same watershed
General Services Administration	<ul style="list-style-type: none"> ■ change in neighborhood sociocultural character resulting from ongoing local development including new federal office construction
National Park Service	<ul style="list-style-type: none"> ■ degraded recreational experience from overcrowding and reduced visibility

Interim guidelines issued in 1970 stated that the effects of many federal decisions about a project or complex of projects can be "individually limited but cumulatively considerable" (35 *Federal Register* 7391, May 12, 1970).

The passage of time has only increased the conviction that cumulative effects analysis is essential to effectively managing the consequences of human activities on the environment. The purpose of cumulative effects analysis, therefore, is to ensure that federal decisions consider the full range of consequences of actions. Without incorporating cumulative effects into environmental planning and management, it will be impossible to move towards sustainable development, i.e., development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development 1987; President's Council on Sustainable Development 1996). To a large extent, the goal of cumulative effects analysis, like that of NEPA itself, is to inject environmental considerations into the planning process as early as needed to improve decisions. If cumulative effects become apparent as agency programs are being planned or as larger strategies and policies are developed then potential cumulative effects should be analyzed at that time.

Cumulative effects analysis necessarily involves assumptions and uncertainties, but useful information can be put on the decision-making table now. Decisions must be supported by the best analysis based on the best data we have or are able to collect. Important research and monitoring programs can be identified that will improve analyses in the future, but their absence should not be used as a reason for not analyzing cumulative effects to the extent possible now. Where substantial uncertainties remain or multiple resource objectives exist, adaptive management provisions for flexible project implementation can be incorporated into the selected alternative.

Sustainable America

President Clinton's Council on Sustainable Development was charged with recommending a national action strategy for sustainable development at a time when Americans are confronted with new challenges that have global ramifications. The Council adopted the Brundtland Commission's definition of sustainable development and articulated the following vision:

Our vision is of a life-sustaining Earth. We are committed to the achievement of a dignified, peaceful, and equitable existence. A sustainable United States will have a growing economy that provides equitable opportunities for satisfying livelihoods and a safe, healthy, high quality of life for current and future generations. Our nation will protect its environment, its natural resource base, and the functions and viability of natural systems on which all life depends.

The Council concluded that in order to meet the needs of the present while ensuring that future generations have the same opportunities, the United States must change by moving from conflict to collaboration and adopting stewardship and individual responsibility as tenets by which to live. This vision is similar to the first environmental policy listed in NEPA—that each generation should fulfill its responsibilities as trustee of the environment for succeeding generations. Analyzing for cumulative effects on the full range of resources, ecosystems, and human communities under NEPA provides a mechanism for addressing sustainable development.

AGENCY EXPERIENCE WITH CUMULATIVE EFFECTS ANALYSIS

Federal agencies make hundreds, perhaps thousands, of small decisions annually. Sometimes a single agency makes decisions on

similar projects; other times project decisions by many different authorities are interrelated. The Federal Energy Regulatory Commission must make licensing decisions on many individual hydropower facilities within the same river basin (Figure 1-1). The Federal Highway Administration and state transportation agencies frequently make decisions on highway projects that may not have significant direct environmental effects, but that may induce indirect and cumulative effects by permitting other development activities that have significant effects on air and water resources at a regional or national scale. The highway and the other development activities can reasonably be foreseen as "connected actions" (40 CFR § 1508.25).

Many times there is a mismatch between the scale at which environmental effects occur and the level at which decisions are made. Such mismatches present an obstacle to cumulative effects analysis. For example, while broad scale decisions are made at the program or policy level (e.g., National Energy Strategy, National Transportation Plan, Base Realignment and Closure Initiative), the environmental effects are generally assessed at the project level (e.g., coal-fired power plant, interstate highway connector, disposal of installation land). Cumulative effects analysis should be the tool for federal agencies to evaluate the implications of even project-level environmental assessments (EAs) on regional resources.

Federal agencies have struggled with preparing cumulative effects analyses since CEQ issued its regulations in 1978. They continue to find themselves in costly and time-consuming administrative proceedings and litigation over the proper scope of the analysis. Court cases throughout the years have affirmed CEQ's requirement to assess cumulative effects of projects but have added little in the way of guidance and direction. To date, there has not been a single, universally accepted conceptual approach, nor even general principles accepted by all scientists and managers. States and

other countries with "little NEPA" laws have experienced similar implementation problems.

A General Accounting Office (GAO) report on coastal pollution noted that state coastal managers raised concerns about the quality of cumulative effects analysis in environmental reviews for proposed federal activities (GAO 1991). In one case study, state coastal managers told GAO that the Environmental Impact Statement (EIS) for rerouting and expanding a highway did not consider that the project as proposed would have a significant growth-inducing effect that would exceed state planning limitations by 100 percent. The Department of Commerce acknowledged the need to provide additional guidance on how to assess the indirect and cumulative effects of proposed actions in the coastal zone and recently published a cumulative impacts assessment protocol for managing cumulative coastal environmental impacts (Vestal et al. 1995).

The increased use of EAs rather than EISs in recent years could exacerbate the cumulative effects problem. Agencies today prepare substantially more EAs than EISs; in a typical year 45,000 EAs are prepared compared to 450 EISs. An agency's decision to prepare an EIS is important because an EIS tends to contain more rigorous analysis and more public involvement than an EA. EAs tend to save time and money because an EA generally takes less time to prepare. They are a cost-effective way to determine whether potentially significant effects are likely and whether a project can mitigate these effects. At the same time, because EAs focus on whether effects are significant, they tend to underestimate the cumulative effects of their projects. Given that so many more EAs are prepared than EISs, adequate consideration of cumulative effects requires that EAs address them fully. One study analyzed 89 EAs announced in the *Federal Register* between January 1, 1992, and June 30, 1992, to determine the extent to which treatment of cumulative effects met CEQ's requirements (Figure 1-2). Only 35 EAs (39%) mentioned cumulative

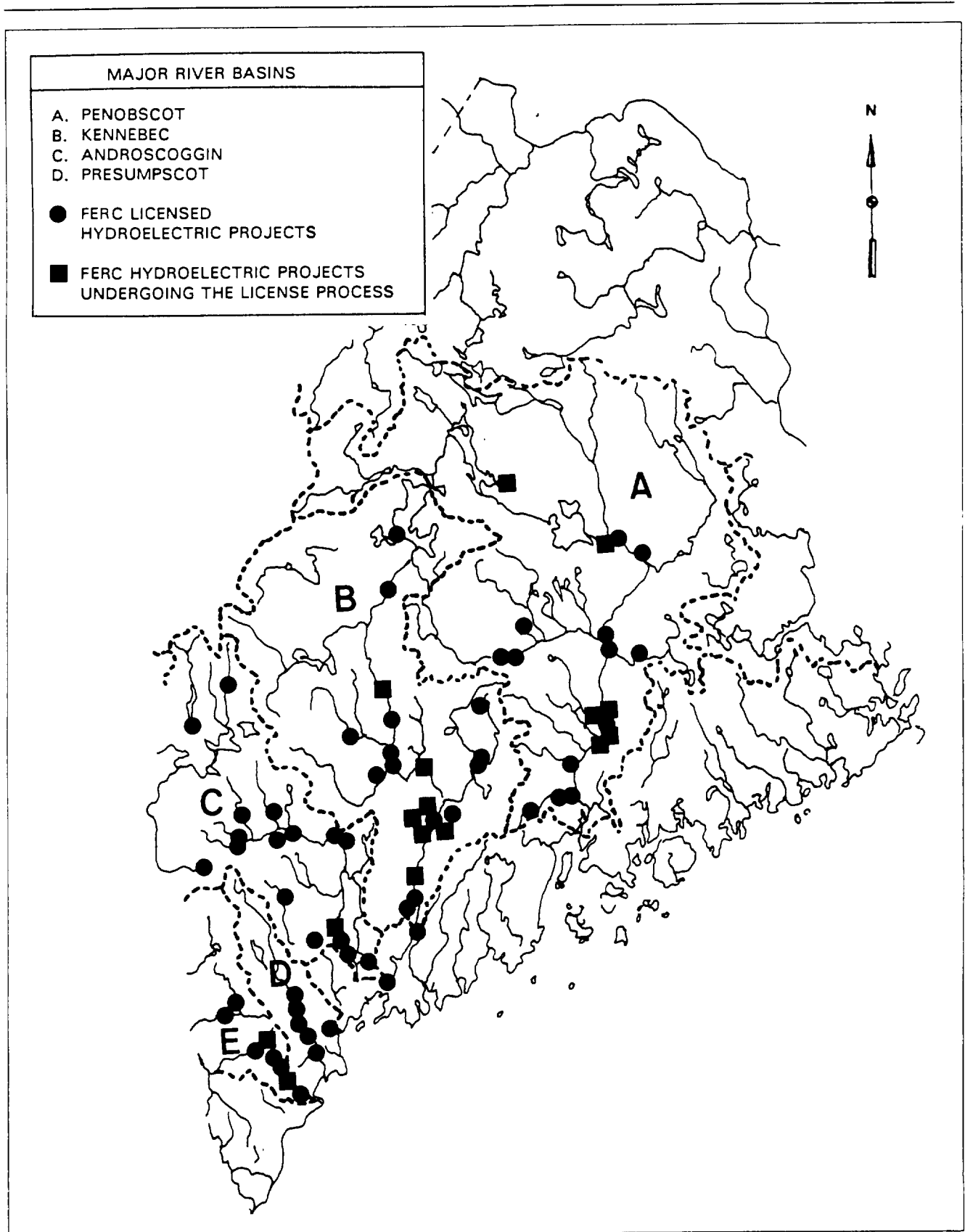
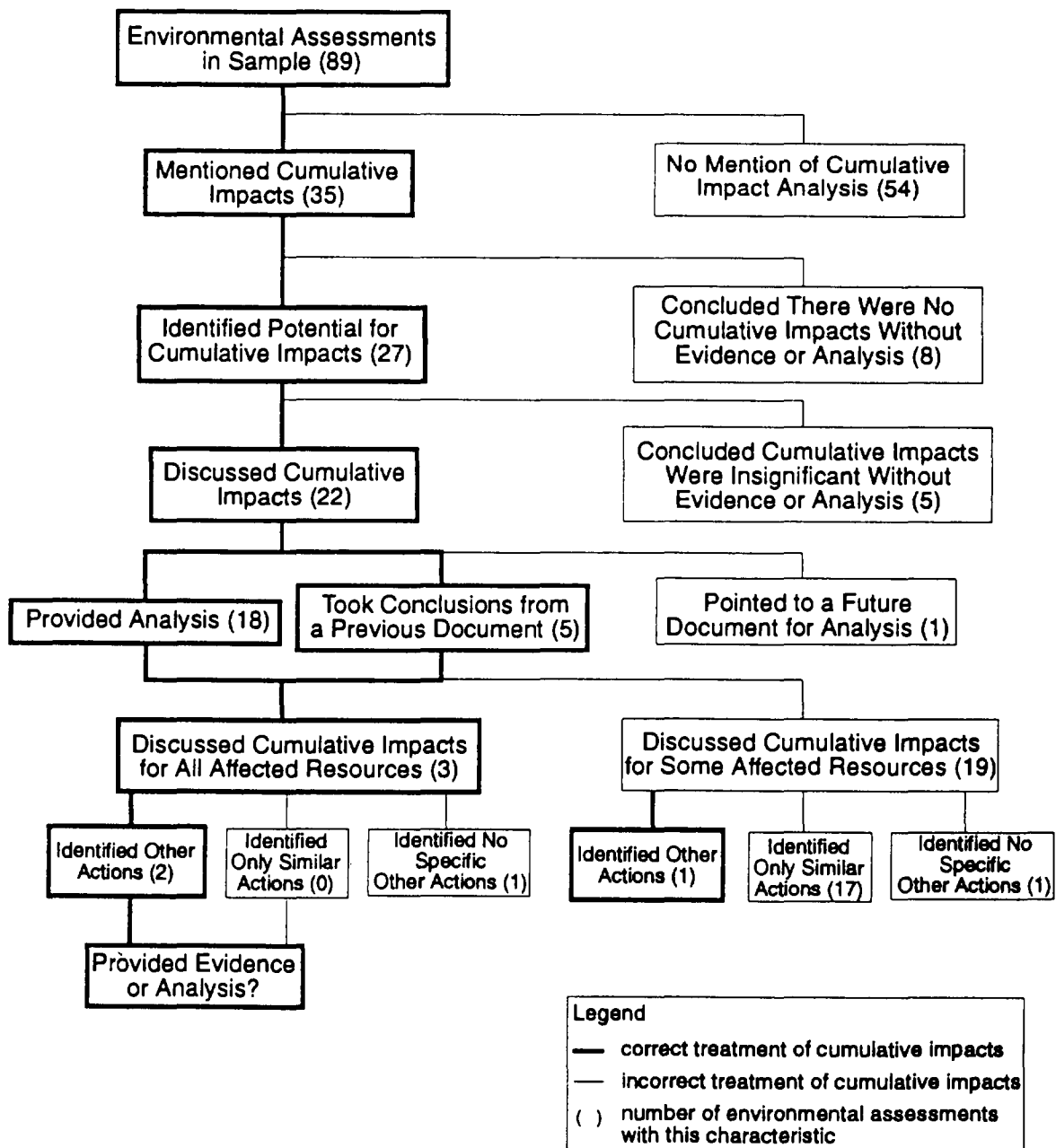


Figure 1-1. River basins and associated FERC related hydroelectric projects in Maine (undated)



For the 22 environmental assessments (EAs) that discussed cumulative impacts, the three treatments are not mutually exclusive. One EA in the sample provided analysis for some resources, took the conclusions from a previous document for one resource, and pointed to a future document for another resource. For this reason, the numbers in the boxes sum to 24 instead of 22.

Figure 1-2. Consideration of cumulative effects in environmental assessments (McCold and Holman 1995)

effects. Nearly half of those failed to present evidence to support their conclusions concerning cumulative effects (McCold and Holman 1995).

PRINCIPLES OF CUMULATIVE EFFECTS ANALYSIS

Increasingly, decisionmakers are recognizing the importance of looking at their projects in the context of other development in the community or region (i.e., of analyzing the cumulative effects). Direct effects continue to be most important to decisionmakers, in part because they are more certain. Nonetheless, the importance of acid rain, climate change, and other cumulative effects problems has resulted in many efforts to undertake and improve the analysis of cumulative effects. Although no universally accepted framework for cumulative effects analysis exists, general principles have gained acceptance (Table 1-2).

Each of these eight principles illustrates a property of cumulative effects analysis that differentiates it from traditional environmental impact assessment. By applying these principles to environmental analysis of all kinds, cumulative effects will be better considered, and the analysis will be complete. A critical principle states that cumulative effects analysis should be conducted within the context of resource, ecosystem, and human community thresholds—levels of stress beyond which the desired condition degrades. The magnitude and extent of the effect on a resource depends on whether the cumulative effects exceed the capacity of the resource to sustain itself and remain productive. Similarly, the natural ecosystem and the human community have maximum levels of cumulative effects that they can

withstand before the desired conditions of ecological functioning and human quality of life deteriorate.

Determining the threshold beyond which cumulative effects significantly degrade a resource, ecosystem, and human community is often problematic. Without a definitive threshold, the NEPA practitioner should compare the cumulative effects of multiple actions with appropriate national, regional, state, or community goals to determine whether the total effect is significant. These thresholds and desired conditions can best be defined by the cooperative efforts of agency officials, project proponents, environmental analysts, non-governmental organizations, and the public through the NEPA process. Ultimately, cumulative effects analysis under NEPA should be incorporated into the agency's overall environmental planning and the regional planning of other federal agencies and stakeholders.

HOW ENVIRONMENTAL EFFECTS ACCUMULATE

Cumulative effects result from spatial (geographic) and temporal (time) crowding of environmental perturbations. The effects of human activities will accumulate when a second perturbation occurs at a site before the ecosystem can fully rebound from the effect of the first perturbation. Many researchers have used observations or environmental change theory to categorize cumulative effects into different types. The diversity of sources, processes, and effects involved has prevented the research and assessment communities from agreeing on a standard typology. Nonetheless, it is useful to review the eight scenarios for accumulating effects shown in Table 1-3.

Table 1-2. Principles of cumulative effects analysis

1. Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions.

The effects of a proposed action on a given resource, ecosystem, and human community include the present and future effects added to the effects that have taken place in the past. Such cumulative effects must also be added to effects (past, present, and future) caused by all other actions that affect the same resource.

2. Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken, no matter who (federal, nonfederal, or private) has taken the actions.

Individual effects from disparate activities may add up or interact to cause additional effects not apparent when looking at the individual effects one at a time. The additional effects contributed by actions unrelated to the proposed action must be included in the analysis of cumulative effects.

3. Cumulative effects need to be analyzed in terms of the specific resource, ecosystem, and human community being affected.

Environmental effects are often evaluated from the perspective of the proposed action. Analyzing cumulative effects requires focusing on the resource, ecosystem, and human community that may be affected and developing an adequate understanding of how the resources are susceptible to effects.

4. It is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.

For cumulative effects analysis to help the decisionmaker and inform interested parties, it must be limited through scoping to effects that can be evaluated meaningfully. The boundaries for evaluating cumulative effects should be expanded to the point at which the resource is no longer affected significantly or the effects are no longer of interest to affected parties.

5. Cumulative effects on a given resource, ecosystem, and human community are rarely aligned with political or administrative boundaries.

Resources typically are demarcated according to agency responsibilities, county lines, grazing allotments, or other administrative boundaries. Because natural and sociocultural resources are not usually so aligned, each political entity actually manages only a piece of the affected resource or ecosystem. Cumulative effects analysis on natural systems must use natural ecological boundaries and analysis of human communities must use actual sociocultural boundaries to ensure including all effects.

6. Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects.

Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects.

7. Cumulative effects may last for many years beyond the life of the action that caused the effects.

Some actions cause damage lasting far longer than the life of the action itself (e.g., acid mine drainage, radioactive waste contamination, species extinctions). Cumulative effects analysis needs to apply the best science and forecasting techniques to assess potential catastrophic consequences in the future.

8. Each affected resource, ecosystem, and human community must be analyzed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.

Analysts tend to think in terms of how the resource, ecosystem, and human community will be modified given the action's development needs. The most effective cumulative effects analysis focuses on what is needed to ensure long-term productivity or sustainability of the resource.

Type	Main characteristics	Example
1. Time crowding	Frequent and repetitive effects on an environmental system	Forest harvesting rate exceeds regrowth
2. Time lags	Delayed effects	Exposure to carcinogens
3. Space crowding	High spatial density of effects on an environmental system	Pollution discharges into streams from nonpoint sources
4. Cross-boundary	Effects occur away from the source	Acidic precipitation
5. Fragmentation	Change in landscape pattern	Fragmentation of historic district
6. Compounding effects	Effects arising from multiple sources or pathways	Synergism among pesticides
7. Indirect effects	Secondary effects	Commercial development following highway construction
8. Triggers and thresholds	Fundamental changes in system behavior or structure	Global climate change

In simplest terms, cumulative effects may arise from single or multiple actions and may result in additive or interactive effects. Interactive effects may be either countervailing—where the net adverse cumulative effect is less than the sum of the individual effects—or

synergistic—where the net adverse cumulative effect is greater than the sum of the individual effects. This combination of two kinds of actions with two kinds of processes leads to four basic types of cumulative effects (Table 1-3; see Peterson et al. 1987 for a similar typology).

	Additive Process	Interactive Process
Single Action	<p>Type 1 — Repeated “additive” effects from a single proposed project.</p> <p>Example: Construction of a new road through a national park, resulting in continual draining of road salt onto nearby vegetation.</p>	<p>Type 2 — Stressors from a single source that interact with receiving biota to have an “interactive” (nonlinear) net effect.</p> <p>Example: Organic compounds, including PCBs, that biomagnify up food chains and exert disproportionate toxicity on raptors and large mammals.</p>
Multiple Actions	<p>Type 3 — Effects arising from multiple sources (projects, point sources, or general effects associated with development) that affect environmental resources additively.</p> <p>Example: Agricultural irrigation, domestic consumption, and industrial cooling activities that all contribute to drawing down a groundwater aquifer.</p>	<p>Type 4 — Effects arising from multiple sources that affect environmental resources in an interactive (i.e., countervailing or synergistic) fashion.</p> <p>Example: Discharges of nutrients and heated water to a river that combine to cause an algal bloom and subsequent loss of dissolved oxygen that is greater than the additive effects of each pollutant.</p>

ROADMAP TO THE HANDBOOK

The chapters that follow discuss the incorporation of cumulative effects analysis into the components of environmental impact assessment: scoping (Chapter 2), describing the affected environment (Chapter 3), and determining the environmental consequences (Chapter 4). Although cumulative effects analysis is an iterative process, basic steps that

to be accomplished can be identified in each component of the NEPA process; each chapter focuses on its constituent steps (Table 1-4). The last chapter of this report discusses developing a cumulative effects analysis methodology that draws upon existing methods, techniques, and tools to analyze cumulative effects. Appendix A provides brief descriptions of 11 cumulative effects analysis methods.

Table 1-5. Steps in cumulative effects analysis (CEA) to be addressed in each component of environmental impact assessment (EIA)	
EIA Components	CEA Steps
Scoping	<ol style="list-style-type: none"> 1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals. 2. Establish the geographic scope for the analysis. 3. Establish the time frame for the analysis. 4. Identify other actions affecting the resources, ecosystems, and human communities of concern.
Describing the Affected Environment	<ol style="list-style-type: none"> 5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stresses. 6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds. 7. Define a baseline condition for the resources, ecosystems, and human communities.
Determining the Environmental Consequences	<ol style="list-style-type: none"> 8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities. 9. Determine the magnitude and significance of cumulative effects. 10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects. 11. Monitor the cumulative effects of the selected alternative and adapt management.

2

SCOPING FOR CUMULATIVE EFFECTS

PRINCIPLES

- Include past, present, and future actions.
- Include all federal, nonfederal, and private actions.
- Focus on each affected resource, ecosystem, and human community.
- Focus on truly meaningful effects.

Expanding environmental impact assessment to incorporate cumulative effects can only be accomplished by the enlightened use of the scoping process. The purpose of scoping for cumulative effects is to determine (1) whether the resources, ecosystems, and human communities of concern have already been affected by past or present activities and (2) whether other agencies or the public have plans that may affect the resources in the future. This is best accomplished as an iterative process, one that goes beyond formal scoping meetings and consultations to include creative interactions with all the stakeholders. Scoping should be used in both the planning and project development stage (i.e., whenever information on cumulative effects will contribute to a better decision).

Scoping information may come from agency consultations, public comments, the analyst's own knowledge and experience, planning activities, the proponent's statements of purpose and need, underlying studies in support of the project proposal, expert opinion,

or other NEPA analyses. This information supports all the steps in cumulative effects analysis, including identifying data for establishing the environmental baseline (see Chapter 3) and identifying information related to impact significance (see Chapter 4). Most importantly, however, scoping for cumulative effects should include the following steps:

Step 1

Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

Step 2

Establish the geographic scope for the analysis.

Step 3

Establish the time frame for the analysis.

Step 4

Identify other actions affecting the resources, ecosystems, and human communities of concern.

IDENTIFYING CUMULATIVE EFFECTS ISSUES

Identifying the major cumulative effects issues of a project involves defining the following:

- the direct and indirect effects of the proposed action,
- which resources, ecosystems, and human communities, are affected, and
- which effects on these resources are important from a cumulative effects perspective.

The proposed action may affect several resources either directly or indirectly. Resources can be elements of the physical environment, species, habitats, ecosystem parameters and functions, cultural resources, recreational opportunities, human community structure, traffic patterns, or other economic and social conditions. In a broad sense, all the impacts on affected resources are probably cumulative; however, the role of the analyst is to narrow the focus of the cumulative effects analysis to important issues of national, regional, or local significance. This narrowing can occur only after thorough scoping. The analyst should ask basic questions such as whether the proposed action will have effects similar to other actions in the area and whether the resources have been historically affected by cumulative actions (Table 2-1). Many significant cumulative effects issues are well known. Public interest groups, natural resource and land management agencies, and regulatory agencies regularly deal with cumulative effects. Newspapers and scientific journals frequently publish letters and comments dealing with these issues.

Not all potential cumulative effects issues identified during scoping need to be included in an EA or an EIS. Some may be irrelevant or inconsequential to decisions about the proposed action and alternatives. Cumulative effects analysis should "count what counts", not produce superficial analyses of a long laundry list of issues that have little relevance to the effects of the proposed action or the eventual decisions. Because cumulative effects can result from the activities of other agencies or persons, they may have already been analyzed by others and the importance of the issue determined. For instance, an agency proposing an action with minor effects on wetlands should not unilaterally decide that cumulative effects on wetlands is not an important issue. Cumulative effects analysis should consider the concerns of agencies managing and regulating wetlands,

as well as the regional history of cumulative wetland losses and degradation, and the presence of other proposals that would produce future wetland losses or degradation.

BOUNDING CUMULATIVE EFFECTS ANALYSIS

Once the study goals of the cumulative effects analysis are established, the analyst must decide on the specific content of the study that will meet those requirements. Analyzing cumulative effects differs from the traditional approach to environmental impact assessment because it requires the analyst to expand the geographic boundaries and extend the time frame to encompass additional effects on the resources, ecosystems, and human communities of concern.

Identifying Geographic Boundaries

For a project-specific analysis, it is often sufficient to analyze effects within the immediate area of the proposed action. When analyzing the contribution of this proposed action to cumulative effects, however, the geographic boundaries of the analysis almost always should be expanded. These expanded boundaries can be thought of as differences in hierarchy or scale. Project-specific analyses are usually conducted on the scale of counties, forest management units, or installation boundaries, whereas cumulative effects analysis should be conducted on the scale of human communities, landscapes, watersheds, or airsheds. Choosing the appropriate scale to use is critical and will depend on the resource or system. Figure 2-1 illustrates the utility of using the ecologically relevant watershed boundary of the Anacostia River basin rather than the political boundaries of local governments to develop restoration plans.

A useful concept in determining appropriate geographic boundaries for a cumulative effects analysis is the **project impact zone**.

Table 2-1. Identifying potential cumulative effects issues related to a proposed action

1. What is the value of the affected resource or ecosystem? Is it:
 - protected by legislation or planning goals?
 - ecologically important?
 - culturally important?
 - economically important?
 - important to the well-being of a human community?
2. Is the proposed action one of several similar past, present, or future actions in the same geographic area? (Regions may be land management units, watersheds, regulatory regions, states, ecoregions, etc.) *Examples: timber sales in a national forest; hydropower development on a river; incinerators in a community.*
3. Do other activities (whether governmental or private) in the region have environmental effects similar to those of the proposed action? *Example: release of oxidizing pollutants to a river by a municipality, an industry, or individual septic systems.*
4. Will the proposed action (in combination with other planned activities) affect any natural resources; cultural resources; social or economic units; or ecosystems of regional, national, or global public concern? *Examples: release of chlorofluorocarbons to the atmosphere; conversion of wetland habitat to farmland located in a migratory waterfowl flyway.*
5. Have any recent or ongoing NEPA analyses of similar actions or nearby actions identified important adverse or beneficial cumulative effect issues? *Examples: National Forest Plan EIS; Federal Energy Regulatory Commission Basinwide EIS or EA.*
6. Has the impact been historically significant, such that the importance of the resource is defined by past loss, past gain, or investments to restore resources? *Example: mudflat and salt-marsh habitats in San Francisco Bay.*
7. Might the proposed action involve any of the following cumulative effects issues?
 - long range transport of air pollutants resulting in ecosystem acidification or eutrophication
 - air emissions resulting in degradation of regional air quality
 - release of greenhouse gases resulting in climate modification
 - loading large water bodies with discharges of sediment, thermal, and toxic pollutants
 - reduction or contamination of groundwater supplies
 - changes in hydrological regimes of major rivers and estuaries
 - long-term containment and disposal of hazardous wastes
 - mobilization of persistent or bioaccumulated substances through the food chain
 - decreases in the quantity and quality of soils
 - loss of natural habitats or historic character through residential, commercial, and industrial development
 - social, economic, or cultural effects on low-income or minority communities resulting from ongoing development
 - habitat fragmentation from infrastructure construction or changes in land use
 - habitat degradation from grazing, timber harvesting, and other consumptive uses
 - disruption of migrating fish and wildlife populations
 - loss of biological diversity

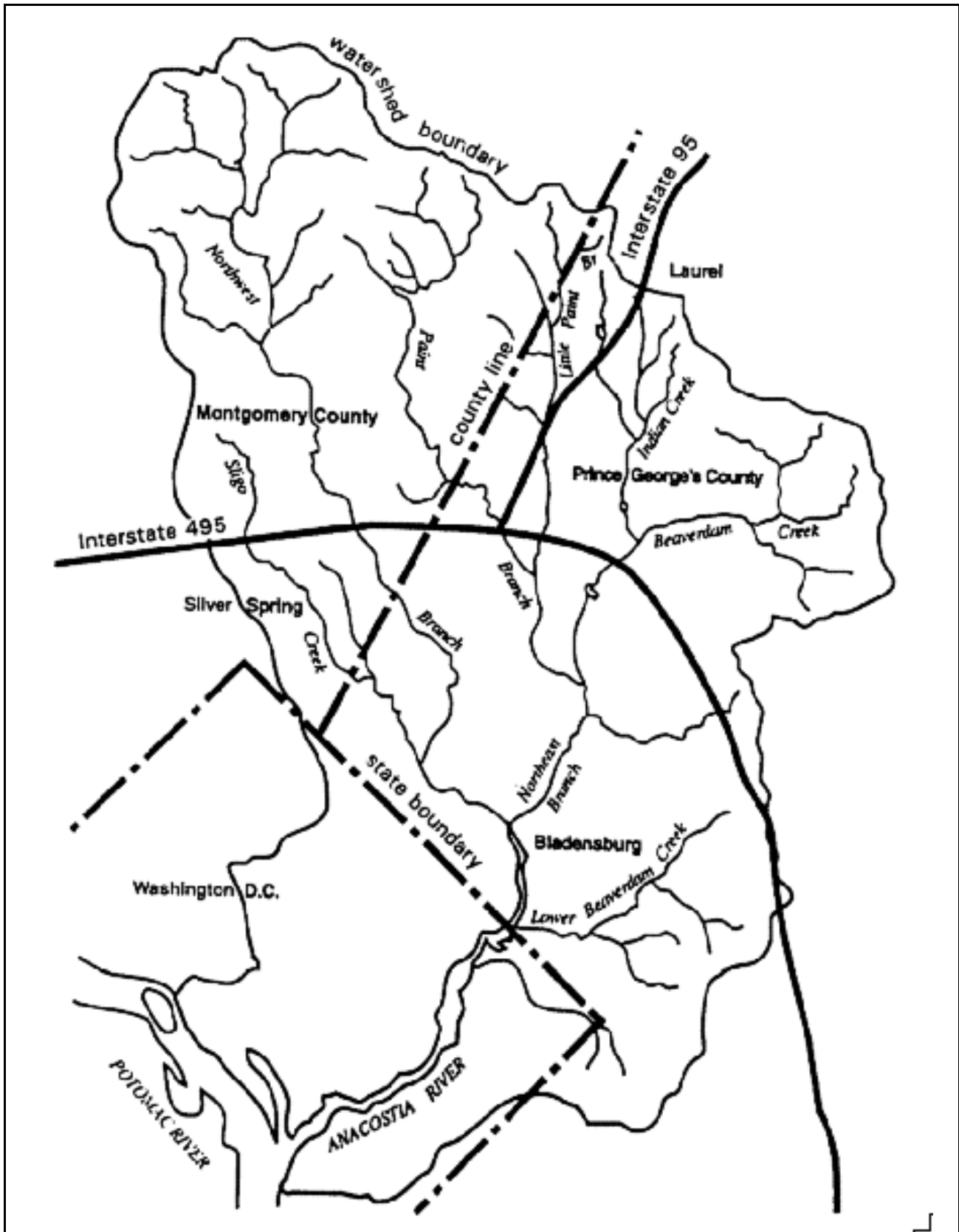


Figure 2-1. Juxtaposition of natural and political boundaries surrounding the Anacostia River

For a proposed action or reasonable alternative, the analysts should

- Determine the area that will be affected by that action. That area is the project impact zone.
- Make a list of the resources within that zone that could be affected by the proposed action.
- Determine the geographic areas occupied by those resources outside of the project impact zone. In most cases, the largest of these areas will be the appropriate area for the analysis of cumulative effects.
- Determine the affected institutional jurisdictions, both for the proposing agency and other agencies or groups.

Project impact zones for a proposed action are likely to vary for different resources and environmental media. For water, the project impact zone would be limited to the hydrologic system that would be affected by the proposed action. For air, the zone may be the physiographic basin in which the proposed action would be located. Land-based effects may occur within some set distance from the proposed action. In addition, the boundaries for an individual resource should be related to the resource's dependence on different environmental media. Table 2-2 provides some possible geographic boundaries for different resources. This list is *not* inclusive. The applicable geographic scope needs to be defined case by case.

Table 2-2. Geographic areas that could be used in a cumulative effects analysis	
Resource	Possible Geographic Areas for Analysis
Air quality	Metropolitan area, airshed, or global atmosphere
Water quality	Stream, watershed, river basin, estuary, aquifer, or parts thereof
Vegetative resources	Watershed, forest, range, or ecosystem
Resident wildlife	Species habitat or ecosystem
Migratory wildlife	Breeding grounds, migration route, wintering areas, or total range of affected population units
Fishery resources	Stream, river basin, estuary, or parts thereof; spawning area and migration route
Historic resources	Neighborhood, rural community, city, state, tribal territory, known or possible historic district
Sociocultural resources	Neighborhood, community, distribution of low-income or minority population, or culturally valued landscape
Land use	Community, metropolitan area, county, state, or region
Coastal zone	Coastal region or watershed
Recreation	River, lake, geographic area, or land management unit
Socioeconomics	Community, metropolitan area, county, state, or country

One way to evaluate geographic boundaries is to consider the distance an effect can travel. For instance, air emissions can travel substantial distances and are an important part of regional air quality. Air quality regions are defined by the EPA, and these regions are an appropriate boundary for assessment of the cumulative effects of releases of pollutants to the atmosphere. For water resources, an appropriate regional boundary may be a river basin or parts thereof. Watershed boundaries are useful for cumulative effects analysis because (1) pollutants and material released in the watershed may travel downstream to be mingled with other pollutants and materials; (2) migratory fish may travel up and down the river system during their life cycle; and (3) resource agencies may have basin-wide management and planning goals. For land-based effects, an appropriate regional boundary may be a "forest or range," a watershed, an ecological region (ecoregion), or socioeconomic region (for evaluating effects on human communities). Which boundary is the most appropriate depends both on the accumulation characteristics of the effects being assessed and an evaluation of the management or regulatory interests of the agencies involved.

Identifying Time Frames

The time frame of the project-specific analysis should also be evaluated to determine its applicability to the cumulative effects analysis. This aspect of the cumulative effects analysis may at first seem the most troublesome to define. CEQ's regulations define cumulative effects as the "incremental effect of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR § 1508.7). In determining how far into the future to analyze cumulative effects, the analyst should first consider the time frame of the project-specific analysis. If the effects of the proposed action are projected to last five years, this time frame may be the most appropriate for

the cumulative effects analysis. The analyst should attempt to identify actions that could reasonably be expected to occur within that period.

There may be instances when the time frame of the project-specific analysis will need to be expanded to encompass cumulative effects occurring further into the future (Figure 2-2). For instance, even though the effects of a proposed action may linger or decrease slowly through time, the time frame for the project-specific analysis usually does not extend beyond the time when project-specific effects drop below a level determined to be significant. These project-specific effects, however, may combine with the effects of other actions beyond the time frame of the proposed action and result in significant cumulative effects that must be considered.

IDENTIFYING PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

As described above, identifying past, present, and future actions is critical to establishing the appropriate geographic and time boundaries for the cumulative effects analysis. Identifying boundaries and actions should be iterative within the scoping process.

A schematic diagram showing the area in which the proposed action is located, the location of resources, and the location of other facilities (existing or planned), human communities, and disturbed areas can be useful for identifying actions to be included in the cumulative effects analysis (Figure 2-3). A geographic information system (GIS) or a manual map overlay system can be used to depict this information (see Appendix A for a description of map overlays and GIS). Such a diagram is useful for determining project-specific impact zones and their overlap with areas affected by other nonproject actions.

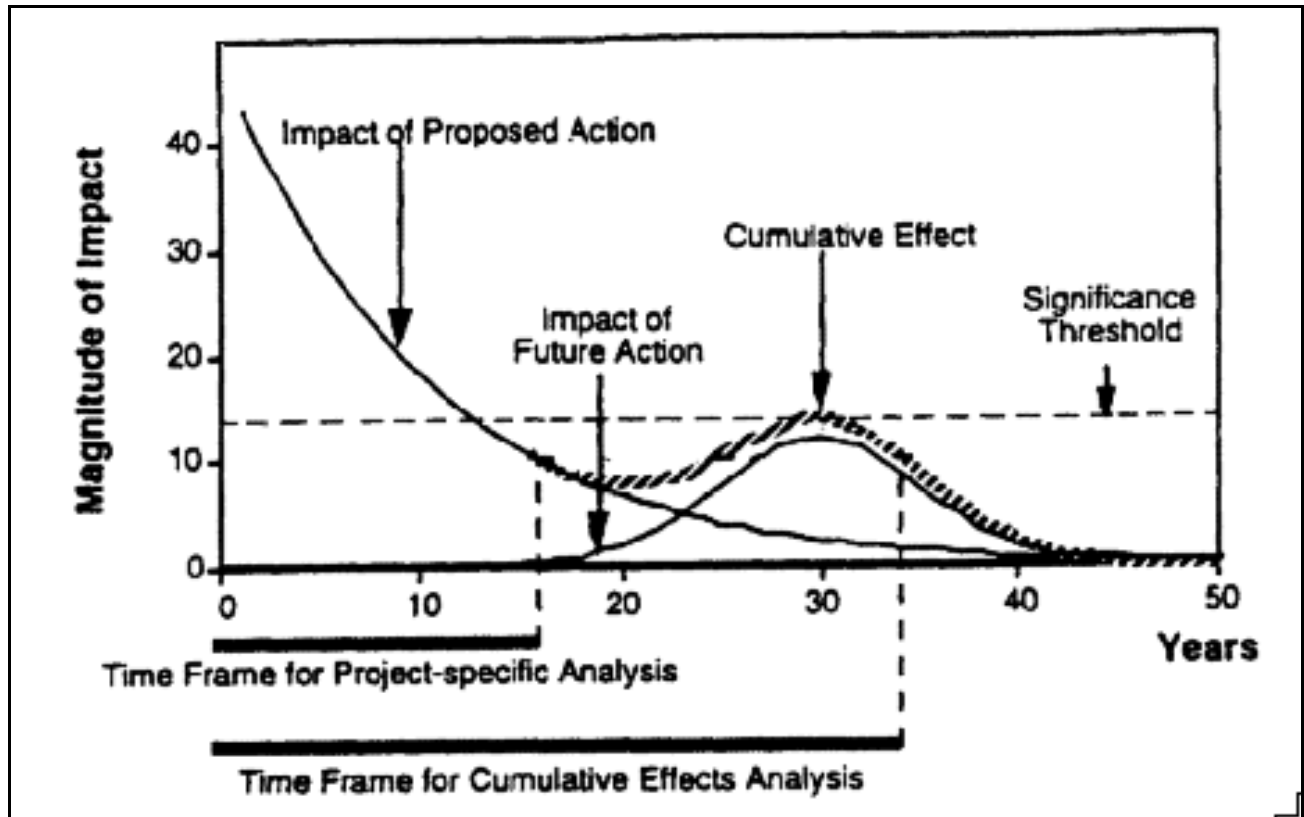


Figure 2-2. Time frames for project-specific and cumulative effects analyses

By examining the overlap of impact zones on the areas occupied by resources, it should be possible to refine the list of projects or activities (past, present, or future) to be included in the analysis. Proximity of actions may not be sufficient justification to include them in the analysis. In the example shown in Figure 2-3, the cumulative effects analysis for trout should consider the effects of the existing mine and the planned logging activity, because these activities would have either present or future effects on the trout spawning area below the proposed power plant facility. Although an agricultural area is nearby, it can be excluded from the analysis because its sediment loading effects occur downstream of the trout spawning area. Proximity of other actions to the proposed action is not the decisive factor for including these actions in an analysis; these actions must have some influence on the resources affected by the proposed action. In other words, these other actions should be included in analysis when

their impact zones overlap areas occupied by resources affected by the proposed action.

Completing the geographic or schematic diagram depending on applying cause-and-effect models that link human actions and the resources or ecosystems. This too is an iterative process. Identifying other activities contributing to cumulative effects could result in the addition of new effect pathways to the cause-and-effect model. In the example, addition of an existing mine to the cumulative effects analysis could require adding a pathway for the effects of chemical pollution on trout. Chapters 4 and 5 and Appendix A discuss cause-and-effect modeling and network analysis.

The availability of data often determines how far back past effects are examined. Although certain types of data (e.g., forest cover) may be available for extensive periods in the past (i.e., several decades), other data (e.g., water quality data) may be available only for

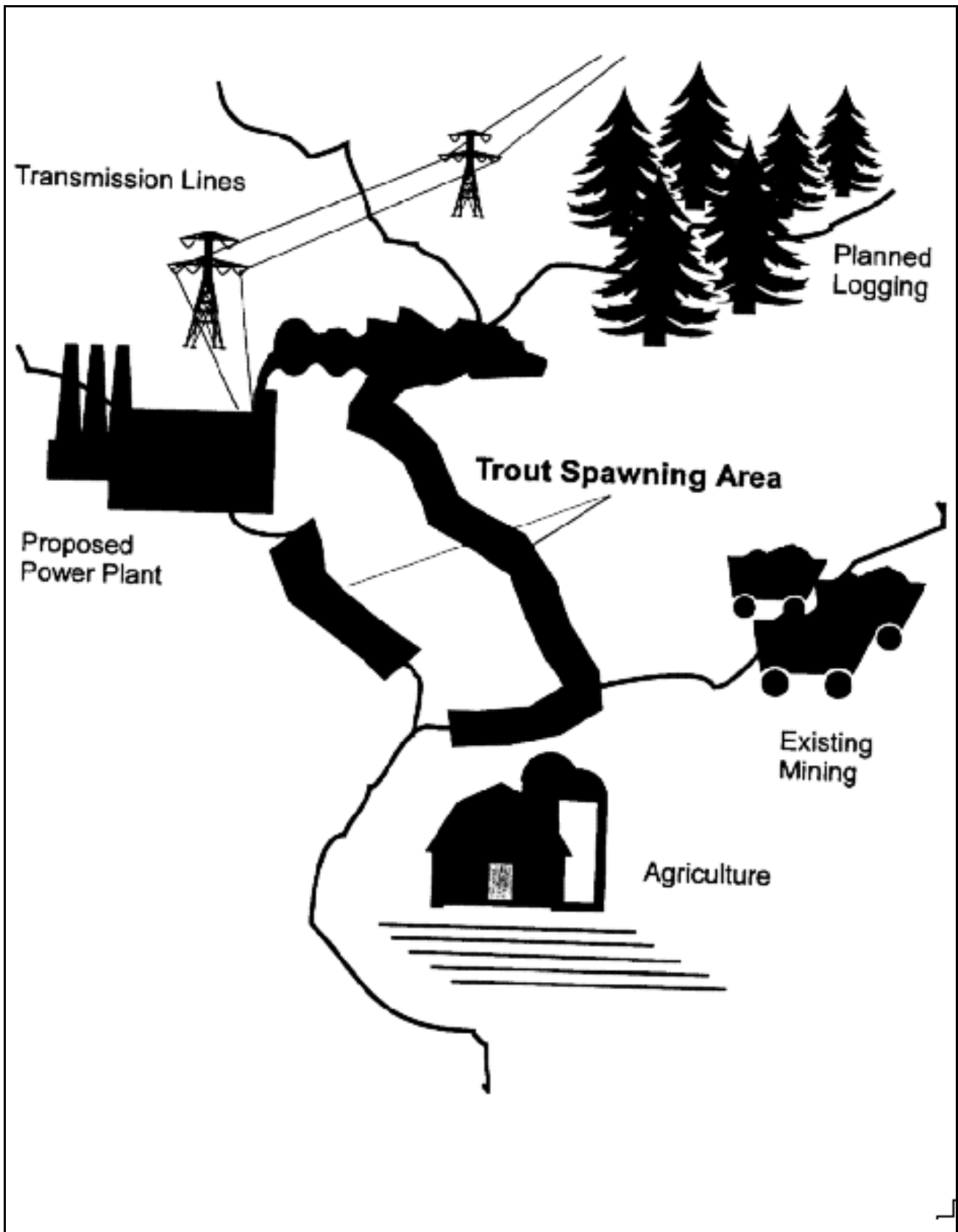


Figure 2-3. Impact zones of proposed and existing development relative to a trout population

much shorter periods. Because the data describing past conditions are usually scarce, the analysis of past effects is often qualitative.

Identifying similar actions presently underway is easier than identifying past or future actions, but it is by no means simple. Because most of the analytical effort in an environmental impact assessment deals with the proposed action, the actions of other agencies and private parties are usually less well known. Effective cumulative effects analysis requires close coordination among agencies to ensure that even all present actions, much less past and future actions, are considered.

The first step in identifying future actions is to investigate the plans of the proponent agency and other agencies in the area. Commonly, analysts only include those plans for actions which are funded or for which other NEPA analysis is being prepared. This approach does not meet the letter or intent of CEQ's regulations. It underestimates the number of future projects, because many viable actions may be in the early planning stage. On the other hand, some actions in the planning, budgeting, or execution phase may not go forward. To include all proposals ever considered as other actions would most likely overestimate the future effects of cumulative effects on the resources, ecosystems, and human communities; therefore, the analyst should develop guidelines as to what constitutes "reasonably foreseeable future actions" based on the planning process within each agency. Specifically, the analyst should use the best available information to develop scenarios that predict which future actions might reasonably be expected as a result of the proposal. Such scenarios are generally based on experience obtained from similar projects located elsewhere in the region. Including future actions in the study is much easier if an agency has already developed a planning document that identifies proposed future actions and has communicated these plans to other federal agencies and governmental bodies in the affected region.

When identifying future actions to include in the cumulative effects analysis, reasonably

foreseeable actions by private organizations or individuals are usually more difficult to identify than those of federal or other governmental entities. In many cases, local government planning agencies can provide useful information on the likely future development of the region, such as master plans. Local zoning requirements, water supply plans, economic development plans, and various permitting records will help in identifying reasonably foreseeable private actions (see Chapter 3 for other sources of information). In addition, some private landowners or organizations may be willing to share their plans for future development or land use. These plans can be considered in the analysis, but it is important to indicate in the NEPA analysis whether these plans were presented by the private party responsible for originating the action. Whenever speculative projections of future development are used, the analyst should provide an explicit description of the assumptions involved. If the analyst is uncertain whether to include future actions, it may be appropriate to bound the problem by developing several scenarios with different assumptions about future actions.

In general, future actions can be excluded from the analysis of cumulative effects if

- the action is outside the geographic boundaries or time frame established for the cumulative effects analysis;
- the action will not affect resources that are the subject of the cumulative effects analysis; or
- including of the action would be arbitrary.

At the same time, NEPA litigation [*Scientists' Institute for Public Information, Inc., v. Atomic Energy Commission* (481 F.2d 1079 D.C. Cir.1073)] has made it clear that "reasonable forecasting" is implicit in NEPA and that it is the responsibility of federal agencies to predict the environmental effects of proposed actions before they are fully known. CEQ's regulations provide for including these uncertainties in the environmental impact assessment where the

foreseeable future action is not planned in sufficient detail to permit complete analysis. Specifically, CEQ's regulations state

[w]hen an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, ... [that] cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,... the agency shall include... the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community (40 CFR § 1502.22).

Even when the decisionmaker does not select the environmentally preferable alternative, including the cumulative effects of future actions in the analysis serves the important NEPA function of informing the public and potentially influencing future decisions.

AGENCY COORDINATION

Because the actions of other agencies are part of cumulative effects analysis, greater emphasis should be placed on consulting with other agencies than is commonly practiced. Fortunately, when federal agencies adopt the ecosystem approach to management (espoused by the Interagency Ecosystem Management Task Force) such consultation probably will be enhanced (see box). During scoping, periodic coordination with other agencies may enhance the cumulative effects analysis process. As described above, a cumulative effects analysis might

- include an assessment of another agency's proposed action,
- include an assessment of the effects of another agency's completed actions,
- evaluate another agency's resource management practices and goals, or

- evaluate another agency's future plans.

Ecosystem Management

Vice President Gore's National Performance Review called for the agencies of the federal government to adopt "a proactive approach to ensuring a sustainable economy and a sustainable environment through ecosystem management." The Interagency Ecosystem Management Task Force (IEMTF 1995) was established to carry out this mandate. The ecosystem approach espoused by IEMTF and a wide range of government, industry, and private interest groups is a method for sustaining or restoring natural systems in the face of the cumulative effects of many human actions. In addition to using the best science, the ecosystem approach to management is based on a collaboratively developed vision of desired future conditions that integrates ecological, economic, and social factors. Achieving this shared vision requires developing partnerships with nonfederal stakeholders and improving communication between federal agencies and the public. Many ecosystem management initiatives are underway across the United States. The lessons learned from these experiences should be incorporated into the scoping process under NEPA to address cumulative effects more effectively. The IEMTF specifically recommends that agencies develop regional ecosystem plans to coordinate their review activities under NEPA. These ecosystem plans can provide a framework for evaluating the environmental status quo and the combined cumulative effects of individual projects.

The success of any of these activities is enhanced by coordination with the affected agency. At a minimum, the analyst should establish an ongoing process of periodic consultation and coordination with other agencies early in the scoping process whenever there are significant cumulative effects issues. Where appropriate, the lead agency should pursue cooperating agency status for affected agencies to facilitate reviewing drafts, supplying information, writing sections of the document, and using the

document to support more than one agency's programs.

SCOPING SUMMARY

Scoping for cumulative effects analysis is a proactive and iterative process. It involves a thorough evaluation of the proposed action and its environmental context. During the scoping process, the analyst should

- consult with agencies and other interested persons concerning cumulative effects issues;
- evaluate the agency's planning as well as the proposed action and reasonable alternatives (including the no-action alternative) to identify potential cumulative effects;
- evaluate the importance of the cumulative effects issues associated with a proposed action to identify additional resources, ecosystems, and human communities that should be included in the EA or EIS;
- identify the geographic boundaries for analysis of the cumulative effects on each resource, ecosystem, and human community;

- identify a time frame for the analysis of the cumulative effects on each resource, ecosystem, and human community; and
- determine which other actions should be included in the analysis and agree among interested parties on the scope of the data to be gathered, the methods to be used, the way the process will be documented, and how the results will be reviewed.

At the end of the scoping process, there should be a list of cumulative effects issues to be assessed, a geographic boundary and time frame assigned for each resource analysis, and a list of other actions contributing to each cumulative effects issue. In addition, during scoping the analyst should obtain information and identify data needs related to the affected environment (Chapter 3) and environmental consequences (Chapter 4) of cumulative effects, including resource capabilities, thresholds, standards, guidelines, and planning goals.

3

DESCRIBING THE AFFECTED ENVIRONMENT

PRINCIPLES

- Use natural boundaries.
- Focus on each affected resource, ecosystem, and human community.

Characterizing the affected environment in a NEPA analysis that addresses cumulative effects requires special attention to defining baseline conditions. These baseline conditions provide the context for evaluating environmental consequences and should include historical cumulative effects to the extent feasible. The description of the affected environment relies heavily on information obtained through the scoping process (Chapter 2) and should include all potentially affected resources, ecosystems, and human communities. Determining the cumulative environmental consequences based on the baseline conditions will be discussed in Chapter 4. The affected environment section serves as a "bridge" between the identification during scoping of cumulative effects that are likely to be important and the analysis of the magnitude and significance of these cumulative effects. Specifically, describing the environment potentially affected by

cumulative effects should include the following steps:

Step 5

Characterize the resources, ecosystems, and human communities identified during scoping in terms of their response to change and capacity to withstand stresses.

Step 6

Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.

Step 7

Define a baseline condition for the resources, ecosystems, and human communities.

Describing the affected environment when considering cumulative effects does not differ greatly from describing the affected environment as part of project-specific analyses; however, analyses and supporting data should be extended in terms of geography, time, and the potential for resource or system interactions. In project-specific NEPA analysis, the description of the affected environment is based on a list of resources that may be directly or indirectly affected by the proposed project. In cumulative effects analysis, the analyst must attempt to identify and characterize effects of other actions on these same resources. The affected environment for a cumulative effects analysis,

therefore, may require wider geographic boundaries and a broader time frame to consider these actions (see the discussion on bounding cumulative effects analysis in Chapter 2).

COMPONENTS OF THE AFFECTED ENVIRONMENT

To address cumulative effects adequately, the description of the affected environment should contain four types of information:

- data on the **status** of important natural, cultural, social, or economic **resources and systems**;
- data that characterize important environmental or social **stress factors**;
- a description of pertinent **regulations, administrative standards, and development plans**; and
- data on environmental and socioeconomic **trends**.

The analyst should begin by evaluating the existing resources likely to be cumulatively affected, including one or more of the following: soils, geology and geomorphology, climate and rainfall, vegetative cover, fish and wildlife water quality and quantity, recreational uses, cultural resources, and human community structure within the area of expected project effects. The analyst should also review social and economic data (including past and present land uses) closely associated with the status of the resources, ecosystems, and human communities of concern. The description of the affected environment should focus on how the existing conditions of key resources, ecosystems, and human communities have been altered by human activities. This historical context should include important human stress factors and pertinent environmental regulations and standards. Where possible, trends in the condition of resources, ecosystems, and human communities should be identified. The

description of the affected environment will not only provide the baseline needed to evaluate environmental consequences, but also it will help identify other actions contributing to cumulative effects. While describing the affected environment, the analyst should pay special attention to common natural resource and socioeconomic issues that arise as a result of cumulative effects. The following list describes many issues but is by no means exhaustive:

Air

- Human health hazards and poor visibility from the cumulative effects of emissions that lower ambient air quality by elevating levels of ozone, particulates, and other pollutants.
- Regional and global atmospheric alterations from cumulative additions of pollutants that contribute to global warming, acidic precipitation, and reduced ultraviolet radiation absorption following stratospheric ozone depletion.

Surface Water

- Water quality degradation from multiple point-source discharges.
- Water quality degradation from land uses that result in nonpoint-source pollution within the watershed.
- Sediment delivery to a stream or estuary from multiple sources of soil erosion caused by road construction, forestry practices, and agriculture.
- Water shortages from unmanaged or unmonitored allocations of the water supply that exceed the capacity of the resource.
- Deterioration of recreational uses from nonpoint-source pollution, competing uses for the water body, and overcrowding.

Ground Water

- Water quality degradation from nonpoint- and multiple-point sources of pollution that infiltrate aquifers.
- Aquifer depletion or salt water intrusion following the overdraught of ground-water for numerous uncoordinated uses.

Lands and Soils

- Diminished land fertility and productivity through chemical leaching and salinization resulting from unsustainable agricultural practices.
- Soil loss from multiple, uncoordinated activities such as agriculture on excessive gradients, overharvesting in forestry, and highway construction.

Wetlands

- Habitat loss and diminished flood control capacity resulting from dredging and filling individual tracts of wetlands.
- Toxic sediment contamination and reduced wetlands functioning resulting from irrigation and urban runoff.

Ecological Systems

- Habitat fragmentation from the cumulative effects of multiple land clearing activities, including logging, agriculture, and urban development.
- Degradation of sensitive ecosystems (e.g., old growth forests) from incremental stresses of resource extraction, recreation, and second-home development.
- Loss of fish and wildlife populations from the creation of multiple barriers to migration (e.g., dams and highways).

Historic and Archaeological Resources

- Cultural site degradation resulting from streambank erosion, construction, plowing and land leveling, and vandalism.

- Fragmentation of historic districts as a result of uncoordinated development and poor zoning.

Socioeconomics

- Over-burdened social services due to sudden, unplanned population changes as a secondary effect of multiple projects and activities.
- Unstable labor markets resulting from changes in the pool of eligible workers during "boom" and "bust" phases of development.

Human Community Structure

- Disruption of community mobility and access as a result of infrastructure development.
- Change in community dynamics by incremental displacement of critical community members as part of unplanned commercial development projects.
- Loss of neighborhoods or community character, particularly those valued by low-income and minority populations, through incremental development.

The cumulative effects analyst should determine if the resources, ecosystems, and human communities identified during scoping include all that could potentially be affected when cumulative effects are considered. This means reviewing the list of selected resources in terms of their expanded geographic boundaries and time frames. It also requires evaluating the system interactions that may identify additional resources subject to potential cumulative effects. If scoping addresses a limited set of resources and fails to consider those with which they interact, the analyst should evaluate the need to consider additional resources. The analyst should return to the list of resources frequently and be willing to modify it as necessary; furthermore, the analyst should be able to identify and discuss conflicts between

the resources (such as competition for regulated instream flows between fishery interests and the whitewater boating community).

Status of Resources, Ecosystems, and Human Communities

Determining the status of the affected environment depends on obtaining data about the resources, ecosystems, and human communities of concern. The availability of information continues to vary, but the number of useful indicators of ecological condition has increased greatly in recent years. In particular, indicators of the health or integrity of biological communities are in widespread use by water resource management agencies (Southerland and Stribling 1995). The concept of "indices of biotic integrity" (Karr et al. 1986; Karr 1991) is a powerful tool for evaluating the cumulative effects on natural systems, because biological communities act as integrators of multiple stresses over time. By using biological indicators in conjunction with reference or minimally affected sites, investigators have described the baseline conditions of entire regions. This approach has been applied to many freshwater and estuarine environments. Figure 3-1 describes the status of benthic communities of estuarine organisms in the Chesapeake Bay (Ranasinghe et al. 1994). This kind of information can be used to describe the baseline conditions at both the site and regional scales.

A second major innovation in indicators of resource or ecosystem condition is the development of landscape metrics. The discipline of landscape ecology recognizes that critical ecological processes such as habitat fragmentation require a set of indicators (e.g., habitat pattern shape, dominance, connectivity, configuration) at the landscape scale (Forman and Godron 1986; Risser et al. 1984). Investigators at the Oak Ridge National Laboratory and elsewhere have developed several indicators that can be used in conjunction with remote sensing and GIS technologies to describe the environmental baseline for sites or regions (O'Neill et al. 1988, 1994). The comprehensive spatial coverage and

multiple characterizations over time available from remote sensing make linking these measures to known environmental conditions one of the most promising approaches for assessing status and trends in resources and ecosystems.

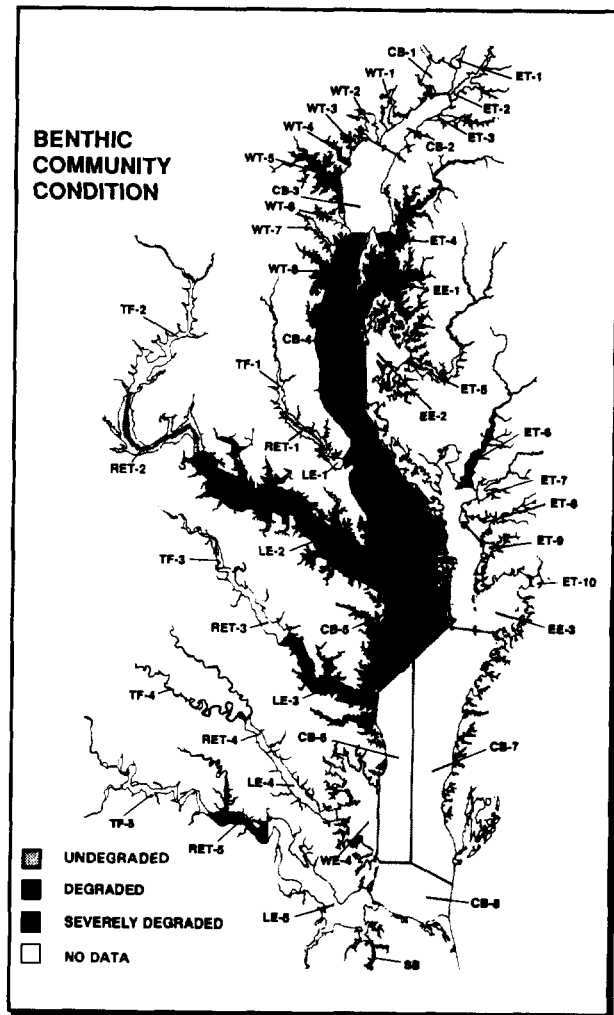


Figure 3-1. Status of benthic communities as a baseline of ecological conditions in the Chesapeake Bay (Ranasinghe et al. 1994)

Indicators have also been developed to gauge the well-being of human communities. Concern about human health and environmental conditions in minority and low-income communities has resulted in directives and guidelines for addressing environmental justice (see box). The structure, or societal setting, of human communities is analogous to the

structure of a natural ecosystem. Human communities are integrated entities with characteristic compositions, structures, and functioning. The community profile draws upon indicators of these aspects to describe the integrity of the community (FHWA 1996). Community indicators can range from general variables such as "social service provision" to specific indicators such as "distance to nearest hospital." Indicators can also be composites of different factors. For example, the familiar "quality of life" indicator is an attempt to merge key economic,

cultural, and environmental factors into an overall characterization of community well-being.

Characterization of Stress Factors

Environmental impact assessment is an attempt to characterize the relationship between human activities and the resultant environmental and social effects; therefore, the next step in describing the affected environment is to compile data on stress factors pertaining to each resource, ecosystem, and human community. Table 3-1 lists 26 activities (both existing and proposed), in addition to the proposed action, that may cumulatively affect resources of concern for the Castle Mountain Mining Project (U.S. BLM 1990). For each activity in this example, anticipated cumulative effects are identified for each of 12 resource issues. The primary locations of expected effects are also listed. The analyst should use this kind of stress information to summarize the overall adverse effect on the environment. Analogously, other activities that benefit the environment (e.g., restoration projects) should be included to determine the overall net (adverse or beneficial) effect on the environment. Where activities contributing to cumulative effects are less well defined, a general stress level can be described. For instance, the affected environment discussion need not address every farm in the watershed, but it should note the presence of substantial agricultural activity.

Two types of information should be used to describe stress factors contributing to cumulative effects. First, the analyst should identify the types, distribution, and intensity of key social and economic activities within the region. Data on these socioeconomic "driving variables" can identify cumulative effects problems in the project area (McCabe et al. 1991). For example, population growth is strongly associated with habitat loss. A federal proposal that would contribute to substantial population growth in a specific region (e.g., a highway project traversing a remote area) should be viewed as a likely driving variable for environmental effects.

Environmental Justice

In 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requiring federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations. In an accompanying memorandum, the President emphasizes that existing laws, including NEPA, provide opportunities for federal agencies to address this issue. The U.S. EPA has stated that addressing environmental justice concerns is entirely consistent with NEPA and that disproportionately high and adverse human health or environmental effects on minority or low-income populations should be analyzed with the same tools currently intrinsic to the NEPA process. Specifically, the analysis should focus on smaller areas or communities within the affected area to identify significant effects that may otherwise have been diluted by an examination of a larger population or area. Demographic, geographic, economic, and human health and risk factors all contribute to whether the populations of concern face disproportionately high and adverse effects. Public involvement is particularly important for identifying the aspects of minority and low-income communities that need to be addressed. Early and sustained communications with the affected community throughout the NEPA process is an essential aspect of environmental justice.

Table 3-1. Other activities (existing and proposed) that may cumulatively affect resources of concern for the Castle Mountain Mining Project (U.S. BLM 1990)

Description/Responsible Agency	Status	Anticipated Environmental Issues That Could Be Cumulative	Primary Impact Location
Utilities/Services			
1 AT&T Communication cable upgrading (BLMN)	E,P	4,1	IV
2 PacBell microwave sites (BLMN)	E,P	4,1	IV
3 Bio Gen power plant (SBC)	E	2	IV
4 Additional utility lines (1-15 corridor) (BLMN)	P	4,4	IV
5 Whiskey Pete's airstrip/waterline (BLMN)	P	4	IV
6 Solid waste landfill (UP Tracks near state line) (BLMN)	P	4,12	IV
7 Waste water ponds (Ivanpah Lake) (BLMN)	E	4,9	IV
8 Nipton waste site (BLMN)	P	4,9	IV
9 LA-Las Vegas bullet train (BLMN)	P	4,9,10	IV
Commercial and Residential			
10 Nipton land exchange (BLMN)	P	4,6,12	IV
11 Scattered residential units (BLMN)	E,P	--	LV
Recreation			
12 Ivanpah Lake landsailing (BLMN)	E	4,5,10	IV
13 Barstow to Vegas ORV race (BLMN)	E	4,5,10	IV
14 East Mojave Heritage Trail use (BLMN)	E	4,5,10	IV,LV,PV
15 Mojave Road use (BLMN)	E	4,5,10	IV,LV,PV
16 Clark Country Road A68P use (BLMS,CC)	E	4,5,10	PV
Mining			
17 Proposed Action/Alternative - precious metals (BLMN)	P	3,4,5,8,9	LV
18 Colosseum Mine - precious metals (BLMN)	E	3,4,5,8,9	IV
19 Caltrans borrow pits - aggregates (BLMN)	E	4,5	IV
20 Morning Star Mine - precious metals (BLMN)	E	3,4,5,8,9	IV
21 Vanderbilt - precious metals mill site (BLMN)	E	3,4,5,8,9	IV
22 Golden Quail Mine - precious metals (BLMN)	E	3,4,5,8,9	LV
23 Hart District Clay Pits (BLMN)	E	4,9	LV
24 Mountain Pass Mine - rare earth materials (BLMN)	E	3,4,5,8,9	IV
25 Exploratory activities (BLMN, BLMS)	E,P	4,5,9	LV,PV
Grazing			
26 Grazing leases (BLMN, BLMS)	E	4,5	IV,V,PV
Source of Information BLMN: BLM Needles BLMS: BLM Stateline SBC: San Bernardino County, Planning Department CC: Clark County, Planning Department	Status E: Existing P: Proposed	Issues 1 Earth 2 Air 3 Water 4 Wildlife 5 Vegetation 6 Transportation 7 Public Service/Utilities 8 Health/Safety 9 Visual Resources 10 Recreation 11 Cultural Resources 12 Land Use	Location PV: Piute Valley IV: Ivanpah Valley LV: Lanfair Valley

Second, the analyst should look for individual indicators of stress on specific resources, ecosystems, and human communities. Like the familiar "canary in the coal mine," changes in certain resources can serve as an early warning of impending environmental or social degradation (Reid et al. 1991). Indicators of environmental stress can be either exposure-oriented (e.g., contamination levels) or effects-oriented (e.g., loss or degradation of a fishery). High sediment loads and the loss of stable stream banks are both common indicators of cumulative effects from urbanization.

The goal of characterizing stresses is to determine whether the resources, ecosystems, and human communities of concern are approaching conditions where additional stresses will have an important cumulative effect. Simple maps (Figure 3-2) of existing and planned activities can indicate likely cumulative effects, as in the example of Seattle's Southwest Harbor (USACE et al. 1994). Regulatory, administrative, and planning information can also help define the condition of the region and the development pressures occurring within it. Lastly, trends analysis of change in the extent and magnitude of stresses is critical for projecting the future cumulative effect.

Regulations, Administrative Standards, and Regional Plans

Government regulations and administrative standards (e.g., air and water quality criteria) can play an important role in characterizing the regional landscape. They often influence developmental activity and the resultant cumulative stress on resources, ecosystems, and human communities. They also shape the manner in which a project may be operated, the amount of air or water emissions that can be released, and the limits on resource harvesting or extraction. For example, designation of a "Class I" air quality area can restrict some types of development in a region because the Prevention of Significant Deterioration (PSD) requirement establishes a threshold of cumulative air quality degradation.

In the United States, agencies at many different levels of government share responsibilities for resource use and environmental protection. In general, the federal government is charged with functions such as national standard-setting, whereas state governments manage implementation by issuing permits and monitoring compliance with regulatory standards. Each of the states handles environmental regulation and resource management in its own way. Most states have chartered specific agencies for environmental protection, resource management, or both. This information, along with contact names, can be obtained from the Council of State Governments (Brown and Marshall 1993). States usually have discretion under federal law to set standards more stringent than national ones. Land-use decisions are usually made by local governments. Local control may take the form of authority to adopt comprehensive land use plans; to enact zoning ordinances and subdivision regulations; or to restrict shoreline, floodplain, and wetland development. Data on local government issues and programs can be obtained through relevant local government agencies.

The affected environment section of a NEPA analysis should include as many regulations, criteria, and plans as are relevant to the cumulative effects problems at hand. Federal, state, and local resource and comprehensive plans guiding development activities should be reviewed and, where relevant, used to complete characterization of the affected environment. Agencies' future actions and plans pertaining to the identified resources of concern should be included if they are based on authorized plans or permits issued by a federal, state, or other governmental agency; highly speculative actions should not be included. Agency or regional planning documents can provide the analyst with a reasonable projection of future activities and their modes of operation. How project effects fit within the goals of governmental regulations and planning is an important measure of cumulative effects on the resources, ecosystems, and human communities of the region.

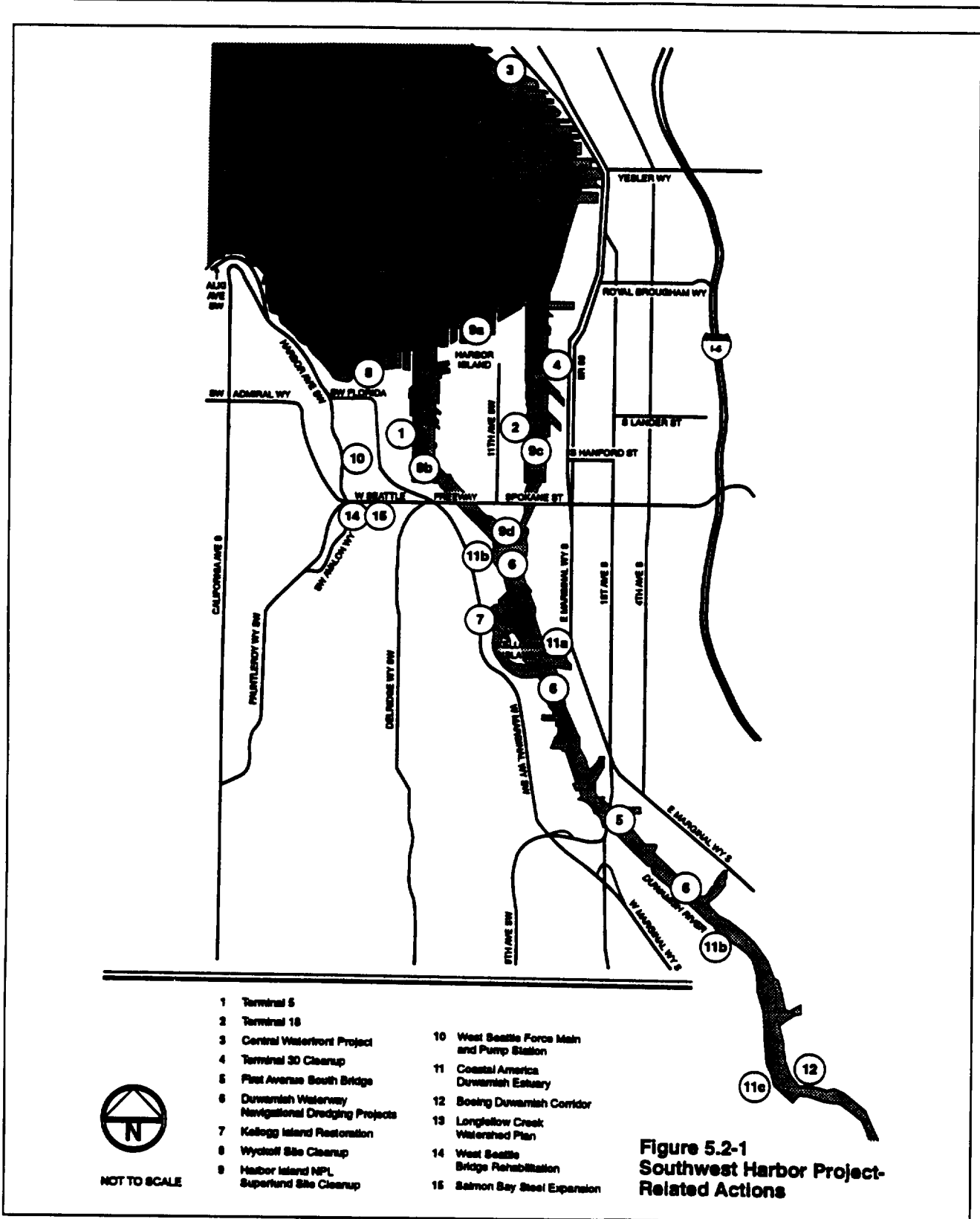


Figure 3-2. Regional map of projects and activities contributing to cumulative effects in Seattle's Southwest Harbor (USACE et al. 1994)

Trends

Cumulative effects occur through the accumulation of effects over varying periods of time. For this reason, an understanding of the historical context of effects is critical to assessing the direct, indirect, and cumulative effects of proposed actions. Trends data can be used in three ways: (1) to establish the baseline for the affected environment more accurately (i.e., by incorporating variation over time), (2) to evaluate the significance of effects relative to historical degradation (i.e., by helping to estimate how close the resource is to a threshold of degradation), and (3) to predict the effects of the action (i.e., by using the model of cause and effects established by past actions).

The ability to identify trends in conditions of resources or in human activities depends on available data. Although data on existing conditions can sometimes be obtained for cumulative effects analysis, analysts can rarely go back in time to collect data (in some cases, lake sediment cores or archaeological excavations can reconstruct relevant historical conditions). Improved technologies for cost-effectively accessing and analyzing data that have been collected in the recent past, however, have been developed. Historical photographs and remotely sensed satellite information can be efficiently analyzed on geographic information systems to reveal trends. The analyst may use these tools to characterize the condition of a resource before contemporary human influences, or the condition at the period when resource degradation was first identified. As shown in Figure 3-3, remote sensing imagery was used to record the change in the condition of the Jemez Mountains, New Mexico (Allen 1994). The 1935 map (left) shows the location of railroads, dirt roads, and primitive roads in the landscape surrounding the Bandelier National Monument. By 1981 (right) the increase in roads and the appearance of several townsites is striking.

This 12-fold increase in total road length is an effective measure of cumulative environmental degradation resulting from the accompanying fire suppression, motorized disturbance of wildlife, creation of habitat edge in forest interiors, and introduction of weedy species along road corridors. The U.S. Forest Service has been using this landscape-scale GIS and remotely sensed information in planning efforts for the Bandelier's headwaters area to ensure that desired forest conditions are maintained (e.g., area and distribution of old growth and densities of snags).

OBTAINING DATA FOR CUMULATIVE EFFECTS ANALYSIS

Obtaining information on cumulative effects issues is often the biggest challenge for the analyst. Gathering data can be expensive and time consuming. Analysts should identify which data are needed for their specific purpose and which are readily available. In some cases, federal agencies or the project proponent will have adequate data; in other cases, local or regional planning agencies may be the best source of information. Public involvement can often direct the analyst to useful information or, itself, serve as an invaluable source of information, especially about the societal setting, which is critical for evaluating effects on human communities. In any case, when information is not available from traditional sources, analysts must be resourceful in seeking alternative sources. Table 3-2 lists some of the possible types and sources of information that may be of use for cumulative effects analysis.

Although most information needed to describe the affected environment must be obtained from regional and local sources, several national data centers are important. Census Bureau publications and statistical abstracts are commonly used for addressing demographic, housing, and general socioeconomic issues, as are several commercial business databases. Currently, an extensive inventory of environmental data coordinated by

The Nature Conservancy through state Natural Heritage Programs (NHPs) and Conservation Data Centers (CDCs) provides the most comprehensive information available about the abundance and distribution of rare species and communities (Jenkins 1988). NHPs and CDCs are continually updated, computer-assisted inventories of the biological and ecological features (i.e., biodiversity elements) of the region in which they are located. These data centers are designed to assist in conservation planning, natural resource management, and environmental impact assessment. Another promising source of data is the U.S. Geological Survey's Biological Resources Division, created

by the consolidation of biological research, inventory and monitoring, and information transfer programs of seven Department of Interior bureaus. The mission of the Division is to gather, analyze, and disseminate the biological information necessary to support sound management of the nation's resources. The U.S. Geological Survey itself was originally created in response to the demands of industry and conservationists for accurate baseline data. Although substantial information can already be obtained from USGS, the implementation of the National Biodiversity Information Infrastructure (NAS 1993) may provide even greater access to comprehensive biological data.

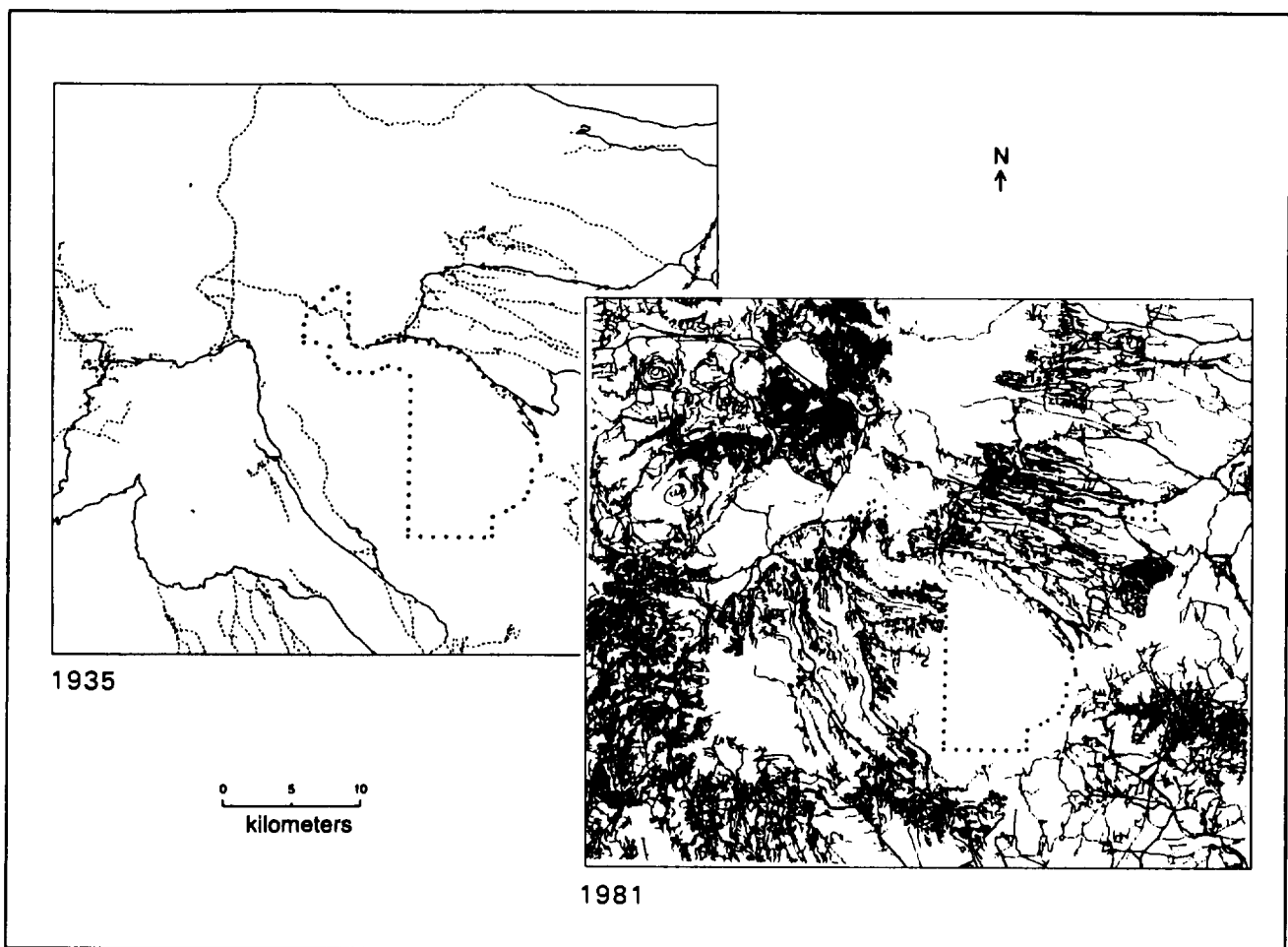


Figure 3-3. Remote sensing imagery illustrating the cumulative increase in roads between 1935 and 1981 across the same 187,858 ha of the Jemez Mountains, New Mexico. The crosshatched line is a railroad; the solid lines are dirt roads; the thin dashed lines are primitive roads' and dotted lines show the current boundary of Bandelier National Monument (Allen 1994).

Table 3-2. Possible sources of existing data for cumulative effects analysis	
Individuals	<ul style="list-style-type: none"> ▪ former and present landholders ▪ long-time residents ▪ long-time resource users ▪ long-time resource managers
Historical societies	Local, state, and regional societies provide: <ul style="list-style-type: none"> ▪ personal journals ▪ photos ▪ newspapers ▪ individual contacts
Schools and universities	<ul style="list-style-type: none"> ▪ central libraries ▪ natural history or cultural resources collections or museums ▪ field stations ▪ faculty in history and natural and social sciences
Other collections	Private, city, state, or federal collections in : <ul style="list-style-type: none"> ▪ archaeology ▪ botany ▪ zoology ▪ natural history
Natural history surveys	<ul style="list-style-type: none"> ▪ private ▪ state ▪ national
Private organizations	<ul style="list-style-type: none"> ▪ land preservation ▪ habitat preservation ▪ conservation ▪ cultural resources history ▪ religious institutions ▪ chambers of commerce ▪ voluntary neighborhood organizations
Government agencies	<ul style="list-style-type: none"> ▪ local park districts ▪ local planning agencies ▪ local records-keeping agencies ▪ state and federal land management agencies ▪ state and federal fish, wildlife, and conservation agencies ▪ state and federal regulatory agencies ▪ state planning agencies ▪ state and federal records-keeping agencies ▪ state and federal surveys ▪ state and federal agricultural and forestry agencies ▪ state historic preservation offices ▪ Indian tribal government planning, natural resource, and cultural resource offices
Project proponent	<ul style="list-style-type: none"> ▪ project plans and supporting environmental documentation

Although federal data sources are critical for compiling baseline data, they have substantial limitations. For the most part, federal environmental data programs have evolved to support a specific agency's missions. They are not designed to capture the interconnections among environmental variables or generate information needed for analyses that cut across sectorial and disciplinary lines. The fact that federal databases are often generated by monitoring programs designed to track progress in meeting regulatory goals further inhibits

integration of data (Irwin and Rodes 1992). The only comprehensive effort to develop estimates of baseline ecological conditions across the United States has been the Environmental Monitoring and Assessment Program (EMAP). EMAP has successfully developed indicators for many resources and has applied them in regional demonstration programs to provide statistically rigorous estimates of the condition of ecosystems. Fully implemented, this program would be invaluable for analyzing cumulative effects (see box).

Defining Baseline Ecological Conditions Through EMAP

Over the last decade, EPA has led a multiagency effort to assess the condition of the nation's ecological resources (Masser et al. 1991). The Environmental Monitoring and Assessment Program (EMAP)'s goal is to identify the extent and magnitude of environmental problems on regional and national scales and to provide information that policy makers, scientists, and the public need to evaluate the success of environmental policies and programs (Thornton et al. 1994). EMAP has developed a scientifically rigorous monitoring design (Overton et al. 1990) within which appropriate indicators (Barber 1994) can be sampled to provide the types of information required to address these questions. EMAP has successfully field tested many of the indicators, sampling protocols, and assessment methods required to evaluate the condition of individual ecological resources (Larsen and Christie 1993; Summers et al. 1993; Weisberg et al. 1993; Lewis and Cankling 1994). Although estimates of the condition of certain resources have been developed for certain regions, EMAP has not yet been implemented on a large scale.

EMAP differs from other monitoring programs in the following ways:

- EMAP focuses on assessing ecological condition by measuring biological indicators. Biological indicators provide integrated measures of response to natural and human-induced stress that cannot be obtained from traditional chemical and physical indicators of environmental stresses such as pollutants and habitat modification. The program maintains a core set of indicators that are implemented nationally with uniform methodology and quality control.
- EMAP uses a statistically rigorous sampling design. By measuring indicators within a network of probability samples rather than from sites selected using subjective criteria, EMAP produces unbiased estimates of the status of and changes in indicators of ecological condition with known confidence.
- EMAP takes an ecosystem-oriented approach to monitoring by sampling several ecological resources. EMAP maintains monitoring efforts in agricultural lands, rangelands, forests, estuaries, and surface waters (i.e., lakes and streams). It also maintains cross-cutting activities in landscape characterization, indicator development, and atmospheric deposition.

These attributes make EMAP uniquely suited to addressing cumulative effects. Where regional estimates of ecological condition have been developed, they can be used as baseline conditions for evaluating the effects of new projects. Although EMAP monitoring is currently limited to a few regions of the country, the EMAP approach is being applied to state monitoring efforts that will establish baseline conditions (see Southerland and Weisberg 1995 for application to Maryland streams).

AFFECTED ENVIRONMENT SUMMARY

The description of the affected environment helps the decisionmaker understand the current conditions and the historical context of the important resources, ecosystems, and human communities. The analyst uses this phase of the NEPA process to characterize the region and determine the methodological complexity required to adequately address cumulative

effects. In describing the affected environment, the cumulative effects analyst should

- identify common cumulative effects issues within the region;
- characterize the current status of the resources, ecosystems, and human communities identified during scoping;
- identify socioeconomic driving variables and indicators of stress on these resources;

-
- characterize the regional landscape in terms of historical and planned development and the constraints of governmental regulations and standards; and
 - define a baseline condition for the resources using historical trends.

The affected environment section should include data on resources, ecosystems, and human communities; environmental and socioeconomic stress factors; governmental regulations, standards, and plans; and environmental and social trends. This information will provide the analyst with the baseline and historical context needed to evaluate the environmental consequences of cumulative effects (Chapter 4).

4

DETERMINING THE ENVIRONMENTAL CONSEQUENCES OF CUMULATIVE EFFECTS

PRINCIPLES

- Address additive, countervailing, and synergistic effects.
- Look beyond the life of the action.
- Address the sustainability of resources, ecosystems, and human communities.

The diversity of proposed federal actions and the environments in which they occur make it difficult to develop or recommend a single method or approach to cumulative effects analysis. In this chapter, we attempt to provide insight into and general guidelines for performing analyses needed to determine the environmental consequences of cumulative effects. We assume the analysis has already been scoped, including stipulating geographic and time boundaries (see Chapter 2), and that appropriate data have been gathered for the resources, ecosystems, and human communities of concern (see Chapter 3). Reference is made, when appropriate, to specific cumulative effects analysis methods described in Chapter 5 and Appendix A.

The analyst must ensure that the resources identified during scoping encompass all those needed for an analysis of cumulative effects. The analyst must also ensure that the relevant past, present, and reasonably foreseeable future

actions have been identified. As an iterative process, cumulative effects analysis often identifies additional resources or actions involved in cumulative effects during the analysis phase. In addition to confirming the resources and actions to be considered, the analyst should complete the following specific steps to determine the environmental consequences of the cumulative effects:

Step 8

Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.

Step 9

Determine the magnitude and significance of cumulative effects.

Step 10

Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

Step 11

Monitor the cumulative effects of the selected alternative and adapt management.

CONFIRMING THE RESOURCES AND ACTIONS TO BE INCLUDED IN THE CUMULATIVE EFFECTS ANALYSIS

Even though scoping has identified likely important cumulative effects, the analyst should include other important cumulative effects that arise from more detailed consider-

ation of environmental consequences. In addition, as the proposed action is modified or other alternatives are developed (usually to avoid or minimize adverse effects), additional or different cumulative effects issues may arise. Specifically, the proposed action and reasonable alternatives (including the no-action alternative) could affect different resources and could affect them in different ways. For instance, hydroelectric facilities primarily affect aquatic resources by blocking fish migration routes, altering thermal regimes, and eroding stream channels as releases fluctuate. Reasonable alternatives for proposed hydroelectric facilities often include various types of power generating facilities that affect the environment in different ways. For example, the effects of coal-fired electric plants are most often related to coal-mining activities, the release of heated water to nearby water bodies in the cooling process, and the release of a variety of pollutants (including greenhouse gases) to the air during combustion. Nuclear plants also release heated water but they release radioactive materials to the air instead of greenhouse gases. Other past, present, or future actions also should be included in the analysis if evaluation of the cause-and-effect relationships identifies additional stresses affecting resources, ecosystems, and human communities of concern.

IDENTIFYING AND DESCRIBING CAUSE-AND-EFFECT RELATIONSHIPS FOR RESOURCES, ECOSYSTEMS, AND HUMAN COMMUNITIES

In preparing any assessment, the analyst should gather information about the cause-and-effect relationships between stresses and resources. The relationship between the percent of fine sediment in a stream bed and the emergence of salmon fry (Figure 4-1) is an example of a model of cause and effect that can be useful for identifying the cumulative effects on a selected resource. Such a model describes the response of the resource to a change in its environment. To determine the consequences of

the proposed action on the resource, the analyst must determine which cumulative environmental changes (e.g., higher sediment load) will result from the proposed action and other actions.

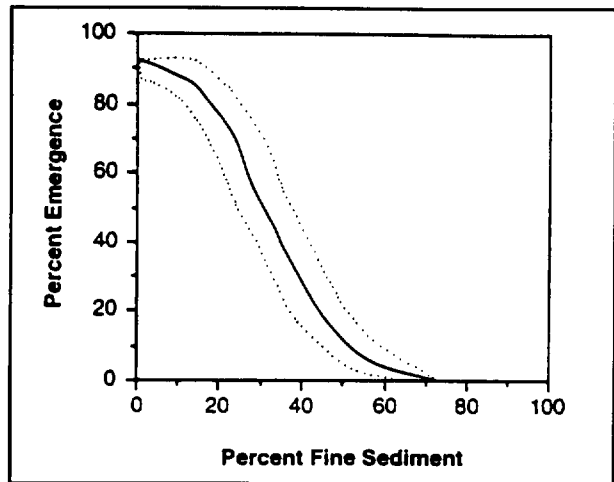


Figure 4-1. Empirical cause and effect relationship between emergence of salmon fry and percent of fine sediment in the stream bottom (Stowell et al. 1983)

Determining the Environmental Changes that Affect Resources

Using information gathered to describe the affected environment, the factors that affect resources (i.e., the causes in the cause-and-effect relationships) can be identified and a conceptual model of cause and effect developed. Networks and system diagrams are the preferred methods of conceptualizing cause-and-effect relationships (see Appendix A). The analyst can develop this model without knowing precisely how the resource responds to environmental change (i.e., the mechanism of the cause-and-effect relationship). If all pathways are identified, the model will be quite complex (Figure 4-2). Such a complex model can seldom be fully analyzed because sufficient data usually are not available to quantify each pathway. Because of this, the model should be simplified to include only important relationships that can be supported by information (Figure 4-3).

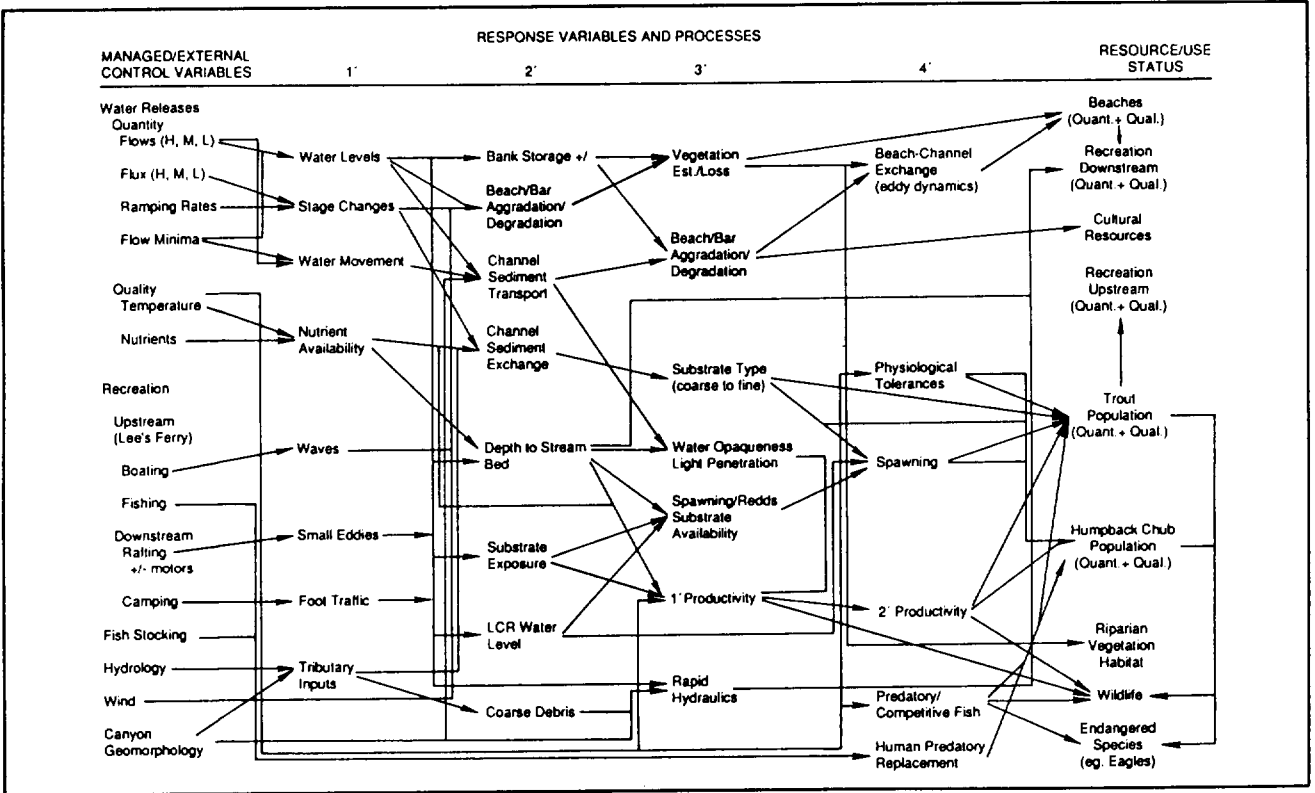


Figure 4-2. Example of a complex model of cause and effect

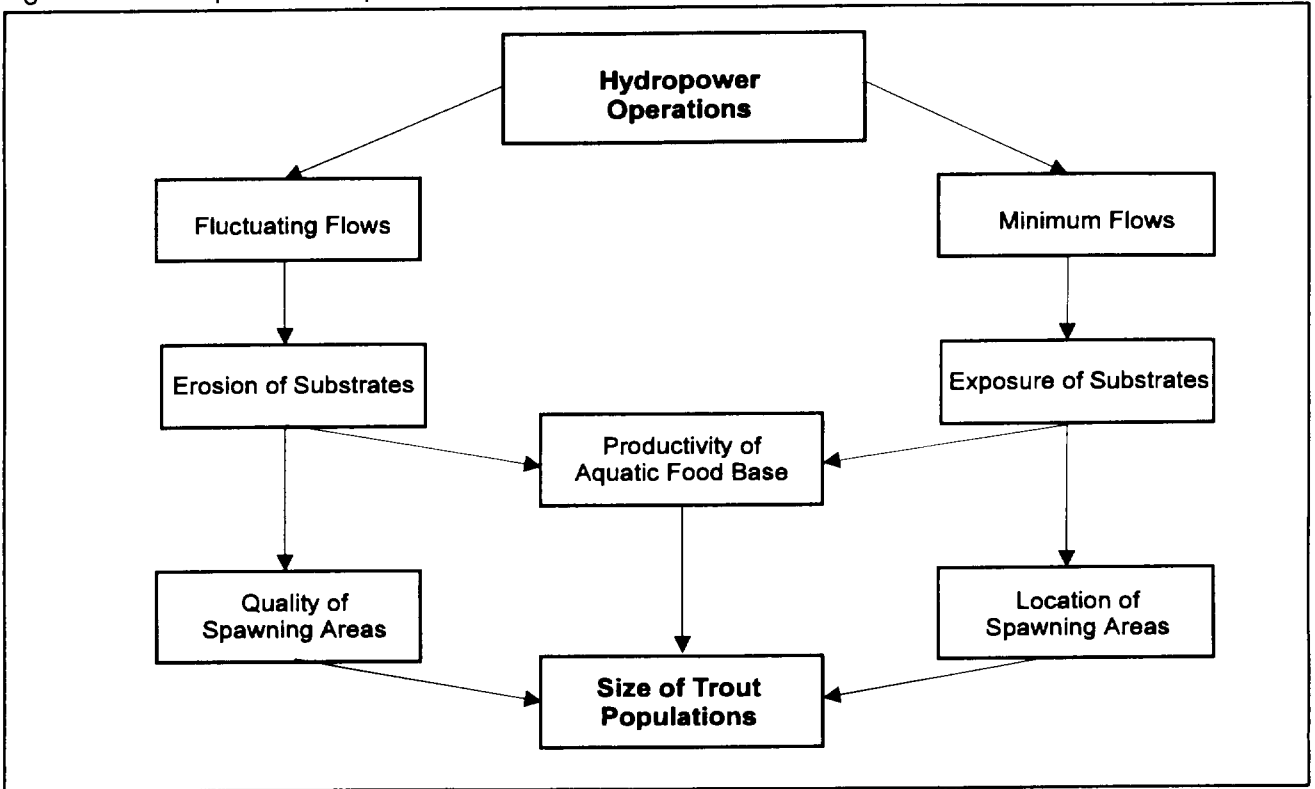


Figure 4-3. Example of a simplified model of cause and effect

The cause-and-effect model can aid in the identification of past, present, and future actions that should be considered in the analysis. In the example shown in Figure 4-3, the analyst should determine if there are other projects in the area that would affect any of the cause-and-effect pathways. The cause-and-effect model for the cumulative effects analysis will often include pathways that would not be needed for a project-specific analysis. Thus, as in defining boundaries, analyzing the consequences of cumulative effects requires broader thinking about the interactions among the activities and resources that affect environmental change.

Determining the Response of the Resource to Environmental Change

Once all of the important cause-and-effect pathways are identified, the analyst should determine how the resource responds to environmental change (i.e., what the effect is). The cause-and-effect relationships for each resource are used to determine the magnitude of the cumulative effect resulting from all actions included in the analysis.

Cause-and-effect relationships can be simple or complex. The magnitude of an effect on a species may depend simply on the amount of habitat that is disturbed. Similarly, effects on archaeological sites may be quantified by enumerating the sites that are disturbed. Other responses may be more complex. The example shown in Figure 4-1 demonstrated that the successful hatching of salmon eggs depends on the percentage of fine particles in the stream bottom in a complex but predictable fashion. Socio-economic models can be applied in a similar way to determine the effects of changes in immigration and emigration rates on the financial condition of a human community.

A wide variety of cause-and-effect evaluation techniques have been described in the literature (see Chapter 5). Techniques for evaluating ecological resources include the set of Habitat Suitability Index Models (HSI;

Schamberger et al. 1982; Hayes 1989) developed by the U.S. Fish and Wildlife Service for its Habitat Evaluation Procedures (HEP; U.S. Fish and Wildlife Service 1980). These models use cause-and-effect relationships for several key environmental variables to determine the suitability of different habitats for a variety of species. The change in number of habitat units (i.e., the ability of an area to support a species) as a result of multiple actions is a useful measure of cumulative effects. Species habitat models also drive the Habitat Evaluation System of the U.S. Army Corps of Engineers (1980). For wetland habitat designations, the Wetland Evaluation Technique is often used (Adamus et al. 1987). Other methods for linking measures of environmental change to effects on resources include developing relationships between loss in wetland area and functions such as flood storage, water quality, and life support (Preston and Bedford 1988; Leibowitz et al. 1992) and linking hydrology first to vegetation and then to wildlife habitat (Nestler 1992).

Nonlinear cause-and-effect relationships among several environmental changes pose an additional challenge for the analyst. A common example is the synergistic effect on fish populations that results from the combination of direct mortality losses to hydropower turbines and increased predation losses that occur as predators are attracted to dead and stunned fish. The analyst may also have to predict additional fish mortality from disease as a result of reductions in immune responses caused by toxic contamination. A third example of a common cumulative cause-and-effect problem is the combined effect on dissolved oxygen levels of excessive algal growth resulting from both increased nutrient loading and higher temperatures.

One of the most useful approaches for determining the likely response of the resource, ecosystem, and human community to environmental change is to evaluate the historical effects of activities similar to those under consideration. In the case of road construction through a

forest, the effects of similar past actions such as the construction of pipelines and power lines may provide a basis for predicting the likely effects of the proposed road construction. The residual effects of constructing and operating these linear facilities include fragmentation of forest tracts and the creation of homogeneous vegetation in the rights-of-way. Trends analysis (see Appendix A) can be used to model the effects of linear facilities over time and extrapolate the effects of a road construction project into the future.

If cause-and-effect relationships cannot be quantified, or if quantification is not needed to adequately characterize the consequences of each alternative, qualitative evaluation procedures can be used. The analyst may categorize the magnitude of effects into a set number of classes (e.g., high, medium, or low) or provide a descriptive narrative of the types of effects that may occur. Often, the analyst will be limited to qualitative evaluations of effects because cause-and-effect relationships are poorly understood or because few site-specific data are available. Even when the analyst cannot quantify cumulative effects, a useful comparison of relative effects can enable a decisionmaker to choose among alternatives.

DETERMINING THE MAGNITUDE AND SIGNIFICANCE OF CUMULATIVE EFFECTS

The analyst's primary goal is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative effects of other past, present, and future actions. To accomplish this, the analyst must use a conceptual model of the important resources, actions, and their cause-and-effect relationships. The critical element in this conceptual model is defining an appropriate baseline or threshold condition of the resource, ecosystem, and human community beyond which adverse or beneficial change would cause significant degradation or enhancement of the resource, respectively.

The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process. The no-action alternative is an effective construct for this purpose, but its characterization is often inadequate for analyzing cumulative effects. Much of the environment has been greatly modified by human activities, and most resources, ecosystems, and human communities are in the process of change as a result of cumulative effects. The analyst must determine the realistic potential for the resource to sustain itself in the future and whether the proposed action will affect this potential; therefore, the baseline condition of the resource of concern should include a description of how conditions have changed over time and how they are likely to change in the future without the proposed action.

The potential for a resource, ecosystem, and human community to sustain its structure and function depends on its resistance to stress and its ability to recover (i.e., its resilience). Determining whether the condition of the resource is within the range of natural variability or is vulnerable to rapid degradation is frequently problematic. Ideally, the analyst can identify a threshold beyond which change in the resource condition is detrimental. More often, the analyst must review the history of that resource and evaluate whether past degradation may place it near such a threshold. For example, the loss of 50% of historical wetlands within a watershed may indicate that further losses would significantly affect the capacity of the watershed to withstand floods. It is often the case that when a large proportion of a resource is lost, the system nears collapse as the surviving portion is pressed into service to perform more functions.

The baseline condition should also include other present (ongoing) actions. For example, the National Ambient Air Quality Standards (NAAQS) inventory represents the universe of

present actions used in air quality analyses to determine whether new emission sources will exceed air quality standards. The NAAQS inventory includes all existing emission sources, sources with Prevention of Significant Deterioration (PSD) permits that have not yet begun to operate, and applicants for whom a PSD permit has not yet been issued. The NAAQS analysis requires explicitly modeling all existing nearby sources (as far away as 50 kilometers) be for air quality effects. In the analysis of the cause-and-effect relationships related to the anticipated impacts, each source represents a cause, and their combined emissions create an effect on air quality, the significance of which can be determined by comparing the concentration of pollutants emitted to threshold concentrations specified in the NAAQS. The NAAQS thresholds are concentrations known to cause significant human health or other environmental effects.

The historical context and full suite of ongoing actions are not only critical for evaluating cumulative effects, but also for developing potential restoration as well. The first step in developing a river restoration plan is to understand how past actions (e.g., contributions of contaminants to the watershed) have contributed to the current condition of the water body. The historical trends in resource condition and its current potential for sustained structure and function are an essential frame of reference for developing mitigation and enhancement measures.

Determining Magnitude

Initially, the analyst will usually determine the separate effects of past actions, present actions, the proposed action (and reasonable alternatives), and other future actions. Once each group of effects is determined, cumulative effects can be calculated. The cumulative effects on a specific resource, however, will not necessarily be the sum of the effects of all

actions. Knowing how a particular resource responds to environmental change (i.e., the cause-and-effect relationship) is essential for determining the cumulative effect of multiple actions. Will the effects of two or more actions be additive, i.e., if one project would result in the death of 25% of a trout population (within a given level of uncertainty) and another the death of 10% of the trout, would the two projects together result in the loss of 35% of the trout? Although this is sometimes the case, there are often instances where the cause-and-effect relationship is more complex, i.e., the cumulative effect of two projects may be greater than the sum of the effects of each (in the trout example, more than 35% of the trout would die) or less than their sum (less than 35% of the trout would die). In some cases, the resource may better withstand additional adverse effects as stress increases, while in others, the resource may crash once a threshold is reached.

Once effects are identified using one of the methodologies described in Chapter 5, a table can be used to itemize effects into categories of past, present, proposed, and future actions. Tables 4-1, 4-2, and 4-3 show how these tables can be constructed using the results from different types of analyses. Regardless of the degree of quantification used, such tables are useful tools for putting the effects of the proposed action and alternatives into proper context. Table 4-1 illustrates the net cumulative effects of combining fish population increases from the proposed action with population losses from past and future actions. The table could be expanded to include the countervailing effect of sulfate aerosols on global warming (because they compensate for greenhouse gases) at the same time they are degrading ambient air quality. A series of such tables (one for each alternative) enables the analyst to compare alternatives meaningfully.

Table 4-1. Example table using quantitative description of effects (within a given level of uncertainty) on various resources

Resource	Past Actions	Present Actions	Proposed Action	Future Actions	Cumulative Effect
Air Quality	No effect on SO ₂	20% increase in SO ₂	10% increase in SO ₂	5% increase in SO ₂	35% increase in SO ₂
Fish	50% of 1950 population lost	2% of fish population lost	5% increase in fish population	1% of fish population lost	48% of 1950 fish population lost
Wetlands	78% of presettlement wetlands lost	1% of existing wetlands lost annually for 5 years	0.5% of existing wetlands lost	1.5% of existing wetlands lost annually for 10 years	95% of presettlement wetlands lost in 10 years

The separation of effects into those attributable to the proposed action or a reasonable alternative versus those attributable to past and future actions also allows the analyst to determine the incremental contribution of each alternative. Situations can arise where an incremental effect that exceeds the threshold of concern for cumulative effects results, not from the proposed action, but from reasonably foreseeable but still uncertain future actions. Although this situation is generally unexplored, the decisionmaker is faced with determining whether to forgo or modify the proposed action to permit other future actions. Identifying incremental effects, therefore, is an important part of informing the decisionmaker.

Most cumulative effects analyses will identify varying levels of beneficial and adverse effects depending on the resource and the individual action. Aquatic species will experience entirely different effects from terrestrial ones. A warm water fishery (e.g., largemouth bass) may benefit from a change that is detrimental to a cold water fishery (e.g., trout), and effects that are beneficial to the well being of a human community (e.g., provision of social services) may be detrimental to natural systems (e.g., wetlands lost during construction of a hospital).

Because of this mixture of beneficial and adverse effects, the decisionmaker is often hard pressed to determine which alternative is environmentally preferred. To overcome this problem, indices of overall cumulative effect can be developed. Some of the matrix methods used in cumulative effects analysis were developed specifically to address this need. These methods use unitless measures of effect (e.g., scales or ranks) to get around the problem of combining results from a variety of resources.

Presentation of overall cumulative effects can be controversial. Intentional or unintentional manipulation of assumptions can dramatically alter the results of aggregated indices (Bisset 1983), and experience indicates that complex quantitative methods for evaluating cumulative effects make it more difficult for the public to understand and accept the results. Effects on resources are usually presented separately, and professional judgment is used in determining the reasonable alternative with the greatest net positive cumulative effect. The U.S. EPA has developed guidelines for addressing specific kinds of risks (including cancer risks and the risks posed by chemical mixtures) and for comparing disparate kinds of risks (U.S. EPA 1993).

Table 4-2. Example table using qualitative description of effects on various resources, with impact ranks assigned a value from 1 to 5 (least to greatest)

Resource	Past Actions	Present Actions	Proposed Action	Future Actions	Cumulative Effect
Air Quality	1	2	1	1	2
Fish	3	2	1	1	4
Wetlands	4	1	1	1	4

Table 4-3. Example table using narrative description of effects on various resources

Resource	Past Actions	Present Actions	Proposed Action	Future Actions	Cumulative Effect
Air Quality	Impacts dissipated	Noticeable deterioration in visibility during summer, but standards met	Visibility affected during operations, but standards met	Increase in auto emissions expected	Standards possibly violated
Fish	Decrease in numbers and species diversity	Occasional documented fish kills	Increase in number of fish kills	Loss of cold-water species due to change in temperature	Significant decline in numbers and species diversity
Wetlands	Large reduction in acreage of wetlands	Loss of small amount of wetland annually	Disturbance of a 5 acre wetland	Continued loss of wetlands	Significant cumulative loss of wetlands

Determining Significance

The significance of effects should be determined based on context and intensity. In its implementing regulations for NEPA, CEQ states that "the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality" (40 CFR § 1508.27). Significance may vary with the setting of the proposed action.

Intensity refers to the severity of effect (40 CFR § 1508.27). Factors that have been used to define the intensity of effects include the

magnitude, geographic extent, duration, and frequency of the effects. As discussed above, the **magnitude** of an effect reflects relative size or amount of an effect. **Geographic extent** considers how widespread the effect might be. **Duration and frequency** refers to whether the effect is a one-time event, intermittent, or chronic. Where a quantitative evaluation is possible, specific criteria for significance should be explicitly identified and described. These criteria should reflect the resilience of the resource, ecosystem, and human community to the effects that are likely to occur.

Thresholds and criteria (i.e., levels of acceptable change) used to determine the significance of effects will vary depending on the type of resource being analyzed, the condition of the resource, and the importance of the resource as an issue (as identified through scoping). Criteria can be quantitative units of measure such as those used to determine threshold values in economic impact modeling, or qualitative units of measure such as the perceptions of visitors to a recreational area. No matter how the criteria are derived, they should be directly related to the relevant cause-and-effect relationships. The criteria used, including quantitative thresholds if appropriate, should be clearly stated in the assessment document.

Determinations of significance in an EA or an EIS are the focus of analysis because they lead to additional (more costly) analysis or to inclusion of additional mitigation (or a detailed justification for not implementing mitigation). The significance of adverse cumulative effects is a sensitive issue because the means to modify contributing actions are often outside the purview of the proponent agency. Currently, agencies are attempting to deal with this difficult issue by improving their analysis of historical trends in resource and ecosystem condition. Even where cumulative effects are not deemed to be significant, better characterization of historical changes in the resource can lead to improved designs for resource enhancement. Where projected adverse effects remain highly uncertain, agencies can implement adaptive management—flexible project implementation that increases or decreases mitigation based on monitoring results.

AVOIDING, MINIMIZING, AND MITIGATING SIGNIFICANT CUMULATIVE EFFECTS

If it is determined that significant cumulative effects would occur as a result of a proposed action, the project proponent should avoid,

minimize, or mitigate adverse effects by modifying or adding alternatives. The proponent should not overlook opportunities to enhance resources when adverse cumulative effects are not significant. The separation of responsibilities for actions contributing to cumulative effects makes designing appropriate mitigation especially difficult. In the case of the Lackawanna Industrial Highway, the Federal Highway Administration and Pennsylvania Department of Transportation sponsored development of a comprehensive plan for the valley that provides a mechanism for ensuring that secondary development accompanying construction of the highway would protect valued resources, ecosystems, and human communities (see box).

By analyzing the cause-and-effect relationships resulting in cumulative effects, strategies to mitigate effects or enhance resources can be developed. For each resource, ecosystem, and human community of concern, the key to developing constructive mitigation strategies is determining which of the cause-and-effect pathways results in the greatest effect. Mitigation and enhancement strategies that focus on those pathways will be the most effective for reducing cumulative effects.

It is sometimes more cost-effective to mitigate significant effects after they occur. This might involve containing and cleaning up a spill, or restoring a wetland after it has been degraded. In most cases, however, avoidance or minimization are more effective than remediating unwanted effects. For example, attempting to remove contaminants from air or water is much less effective than preventing pollution discharges into an airshed or watershed. Although such preventative approaches can be the most (or only) effective means of controlling cumulative effects, they may require extensive coordination at the regional or national scale (e.g., federal pollution control statutes).

Mitigating the Secondary and Cumulative Effects of the Lackawanna Valley Industrial Highway

Cumulative effects analysis conducted as part of the EIS for construction of a 16-mile-long, multi-lane, limited access highway in the Lackawanna Valley of Pennsylvania predicted substantial secondary environmental consequences from the expected (and desired) economic development in the valley. Specifically, additional industrial, commercial, and housing development would accompany the economic activity, producing higher demands on the valley's circulation system as well as on central water and sewer services and on other types of community services as well. To ensure that the development occurring as a result of the highway's construction would take place in an environmentally-sensitive manner, the Lackawanna Valley Corridor Plan was developed. This plan was a cooperative study sponsored by the Federal Highway Administration, Pennsylvania Department of Transportation, Pennsylvania Department of Community Affairs, and Lackawanna County through the Lackawanna County Regional Planning Commission (1996). The study produced an overall framework for the future development of the valley, including a Land Use Plan and a Circulation Plan, and a series of land development regulations that may be implemented by valley municipalities to ensure that new development protects community values and environmental resources. By undertaking the Lackawanna Valley Corridor Plan as part of the environmental decisionmaking process for the Lackawanna Valley Industrial Highway, the responsible federal and state agencies provided a concrete mechanism to avoid, minimize, and mitigate potentially adverse cumulative effects from secondary actions beyond their direct control.

ADDRESSING UNCERTAINTY THROUGH MONITORING AND ADAPTIVE MANAGEMENT

The complexity of cumulative effects problems ensures that even rigorous analyses will contain substantial uncertainties about predicted environmental consequences (Carpenter 1995a). Risk assessment methods offer effective ways of presenting the uncertainties to decisionmakers (Carpenter 1995b), and increased scientific knowledge and improved analytical capabilities using modern computers and GIS can help reduce this uncertainty. Nonetheless, both researchers and practitioners generally agree that monitoring is critical to assess the accuracy of predictions of effects and ensure the success of mitigations (Canter 1993). Monitoring provides the means to identify the need for modifying (increasing or decreasing) mitigation, and adaptive management provides the flexible program for achieving these changes. An efficient, cost-effective approach to adaptive management is to sequentially implement mitigation measures so that the measures can be changed as needed (Carpenter 1995c).

It is important to remember that the goal of the NEPA process is to reduce adverse environmental effects (or maximize the net beneficial effect), including cumulative effects. Cumulative effects analysis, therefore, should be an iterative process in which consequences are assessed repeatedly following incorporation of avoidance, minimization, and mitigation measures into the alternatives. In this way, monitoring is the last step in determining the cumulative effects that ultimately result from the action. Important components of a monitoring program for assessing cumulative effects include the following:

- measurable indicators of the magnitude and direction of ecological and social change,
- appropriate timeframe,

-
- appropriate spatial scale,
 - means of assessing causality,
 - means of measuring mitigation efficacy, and
 - provisions for adaptive management.

ENVIRONMENTAL CONSEQUENCES SUMMARY

Although cumulative effects analysis is similar in many ways to the analysis of project-specific effects, there are key differences. To determine the environmental, social, and economic consequences of cumulative effects, the analyst should

- Select the resources, ecosystems, and human communities considered in the project-specific analysis to be those that could be affected cumulatively.
- Identify the important cause-and-effect relationships between human activities and resources of concern using a network or systems diagram that focuses on the important cumulative effects pathways.
- Adjust the geographic and time boundaries of the analysis based on cumulative cause-and-effect relationships.
- Incorporate additional past, present, and reasonably foreseeable actions into the analysis as indicated by the cumulative cause-and-effect relationships.

- Determine the magnitude and significance of cumulative effects based on context and intensity and present tables comparing the effects of the proposed action and alternatives to facilitate decisionmaking.
- Modify or add alternatives to avoid, minimize, or mitigate cumulative effects based on the cause-and-effect pathways that contribute most to the cumulative effect on a resource.
- Determine cumulative effects of the selected alternative with mitigation and enhancement measures.
- Explicitly address uncertainty in communicating predictions to decisionmakers and the public, and reduce uncertainty as much as possible through monitoring and adaptive management.

Determining the environmental consequences entails describing the cause-and-effect relationships producing cumulative effects and summarizing the total effect of each alternative. These activities require developing a cumulative effects analysis methodology (Chapter 5) from available methods, techniques, and tools of analysis (Appendix A).

4

DETERMINING THE ENVIRONMENTAL CONSEQUENCES OF CUMULATIVE EFFECTS

PRINCIPLES

- Address additive, countervailing, and synergistic effects.
- Look beyond the life of the action.
- Address the sustainability of resources, ecosystems, and human communities.

The diversity of proposed federal actions and the environments in which they occur make it difficult to develop or recommend a single method or approach to cumulative effects analysis. In this chapter, we attempt to provide insight into and general guidelines for performing analyses needed to determine the environmental consequences of cumulative effects. We assume the analysis has already been scoped, including stipulating geographic and time boundaries (see Chapter 2), and that appropriate data have been gathered for the resources, ecosystems, and human communities of concern (see Chapter 3). Reference is made, when appropriate, to specific cumulative effects analysis methods described in Chapter 5 and Appendix A.

The analyst must ensure that the resources identified during scoping encompass all those needed for an analysis of cumulative effects. The analyst must also ensure that the relevant past, present, and reasonably foreseeable future

actions have been identified. As an iterative process, cumulative effects analysis often identifies additional resources or actions involved in cumulative effects during the analysis phase. In addition to confirming the resources and actions to be considered, the analyst should complete the following specific steps to determine the environmental consequences of the cumulative effects:

Step 8

Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.

Step 9

Determine the magnitude and significance of cumulative effects.

Step 10

Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

Step 11

Monitor the cumulative effects of the selected alternative and adapt management.

CONFIRMING THE RESOURCES AND ACTIONS TO BE INCLUDED IN THE CUMULATIVE EFFECTS ANALYSIS

Even though scoping has identified likely important cumulative effects, the analyst should include other important cumulative effects that arise from more detailed consider-

ation of environmental consequences. In addition, as the proposed action is modified or other alternatives are developed (usually to avoid or minimize adverse effects), additional or different cumulative effects issues may arise. Specifically, the proposed action and reasonable alternatives (including the no-action alternative) could affect different resources and could affect them in different ways. For instance, hydroelectric facilities primarily affect aquatic resources by blocking fish migration routes, altering thermal regimes, and eroding stream channels as releases fluctuate. Reasonable alternatives for proposed hydroelectric facilities often include various types of power generating facilities that affect the environment in different ways. For example, the effects of coal-fired electric plants are most often related to coal-mining activities, the release of heated water to nearby water bodies in the cooling process, and the release of a variety of pollutants (including greenhouse gases) to the air during combustion. Nuclear plants also release heated water but they release radioactive materials to the air instead of greenhouse gases. Other past, present, or future actions also should be included in the analysis if evaluation of the cause-and-effect relationships identifies additional stresses affecting resources, ecosystems, and human communities of concern.

IDENTIFYING AND DESCRIBING CAUSE-AND-EFFECT RELATIONSHIPS FOR RESOURCES, ECOSYSTEMS, AND HUMAN COMMUNITIES

In preparing any assessment, the analyst should gather information about the cause-and-effect relationships between stresses and resources. The relationship between the percent of fine sediment in a stream bed and the emergence of salmon fry (Figure 4-1) is an example of a model of cause and effect that can be useful for identifying the cumulative effects on a selected resource. Such a model describes the response of the resource to a change in its environment. To determine the consequences of

the proposed action on the resource, the analyst must determine which cumulative environmental changes (e.g., higher sediment load) will result from the proposed action and other actions.

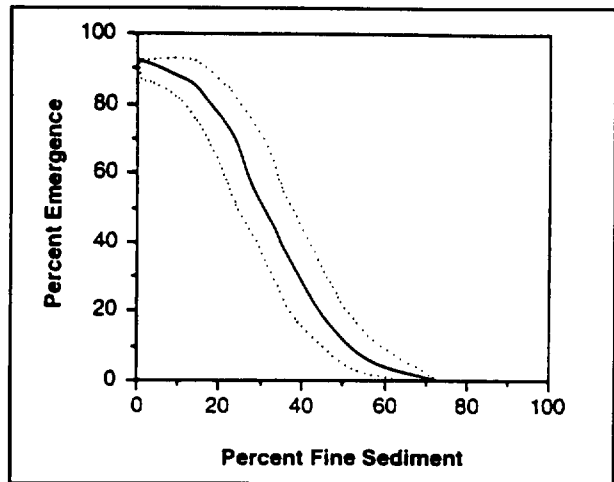


Figure 4-1. Empirical cause and effect relationship between emergence of salmon fry and percent of fine sediment in the stream bottom (Stowell et al. 1983)

Determining the Environmental Changes that Affect Resources

Using information gathered to describe the affected environment, the factors that affect resources (i.e., the causes in the cause-and-effect relationships) can be identified and a conceptual model of cause and effect developed. Networks and system diagrams are the preferred methods of conceptualizing cause-and-effect relationships (see Appendix A). The analyst can develop this model without knowing precisely how the resource responds to environmental change (i.e., the mechanism of the cause-and-effect relationship). If all pathways are identified, the model will be quite complex (Figure 4-2). Such a complex model can seldom be fully analyzed because sufficient data usually are not available to quantify each pathway. Because of this, the model should be simplified to include only important relationships that can be supported by information (Figure 4-3).

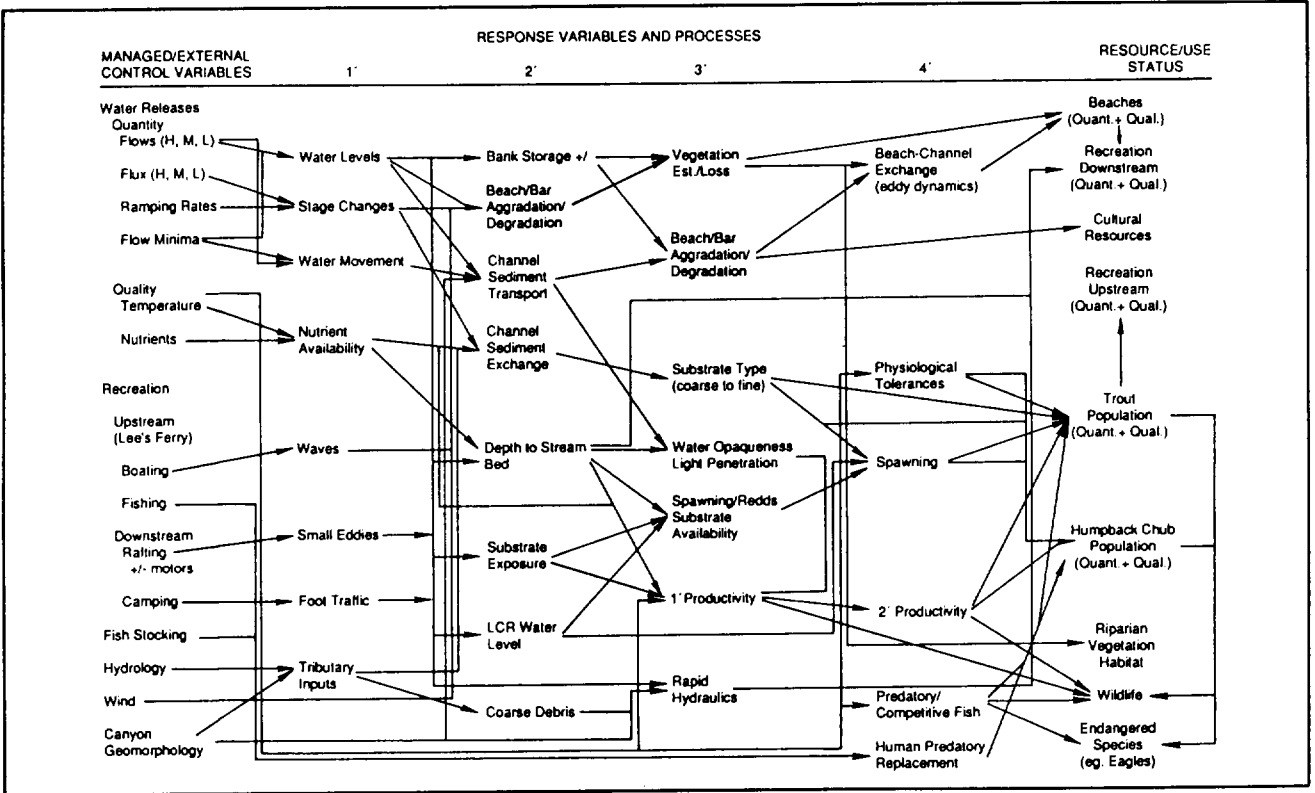


Figure 4-2. Example of a complex model of cause and effect

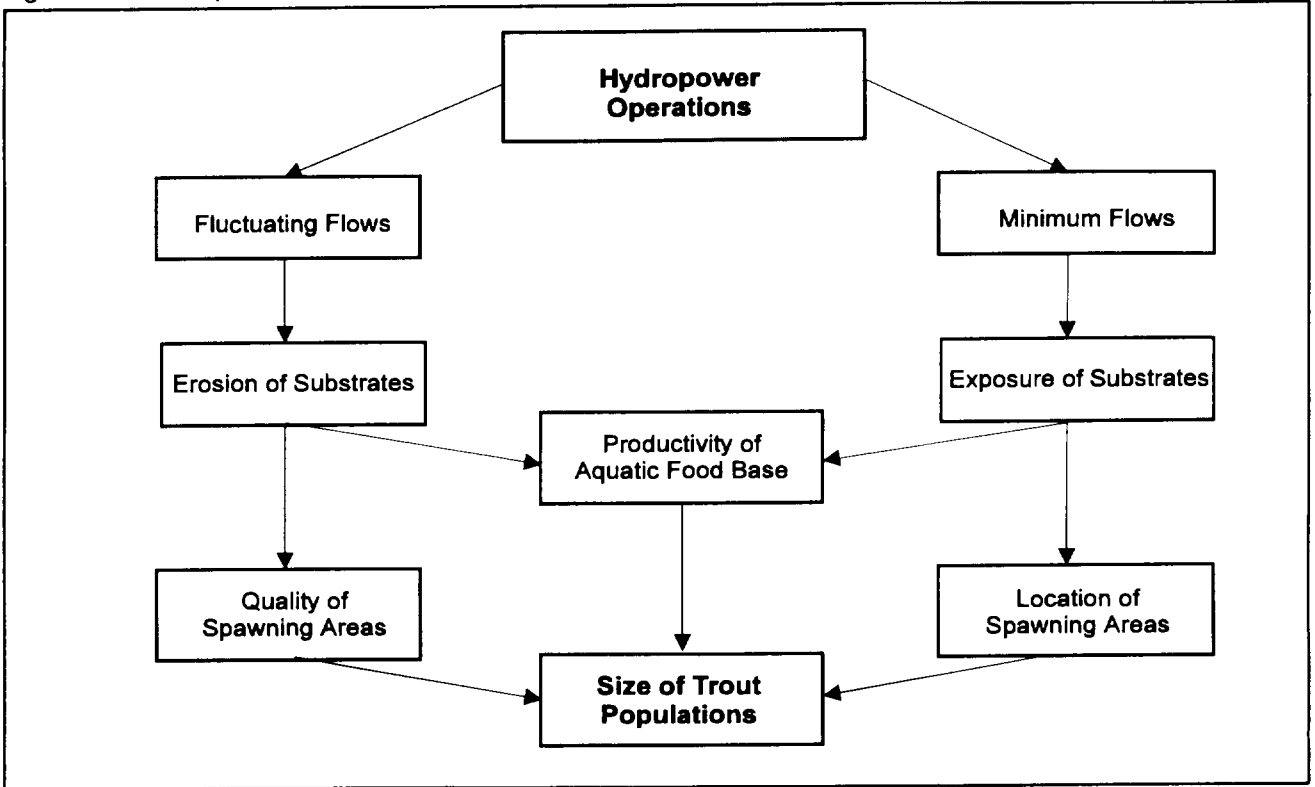


Figure 4-3. Example of a simplified model of cause and effect

The cause-and-effect model can aid in the identification of past, present, and future actions that should be considered in the analysis. In the example shown in Figure 4-3, the analyst should determine if there are other projects in the area that would affect any of the cause-and-effect pathways. The cause-and-effect model for the cumulative effects analysis will often include pathways that would not be needed for a project-specific analysis. Thus, as in defining boundaries, analyzing the consequences of cumulative effects requires broader thinking about the interactions among the activities and resources that affect environmental change.

Determining the Response of the Resource to Environmental Change

Once all of the important cause-and-effect pathways are identified, the analyst should determine how the resource responds to environmental change (i.e., what the effect is). The cause-and-effect relationships for each resource are used to determine the magnitude of the cumulative effect resulting from all actions included in the analysis.

Cause-and-effect relationships can be simple or complex. The magnitude of an effect on a species may depend simply on the amount of habitat that is disturbed. Similarly, effects on archaeological sites may be quantified by enumerating the sites that are disturbed. Other responses may be more complex. The example shown in Figure 4-1 demonstrated that the successful hatching of salmon eggs depends on the percentage of fine particles in the stream bottom in a complex but predictable fashion. Socio-economic models can be applied in a similar way to determine the effects of changes in immigration and emigration rates on the financial condition of a human community.

A wide variety of cause-and-effect evaluation techniques have been described in the literature (see Chapter 5). Techniques for evaluating ecological resources include the set of Habitat Suitability Index Models (HSI;

Schamberger et al. 1982; Hayes 1989) developed by the U.S. Fish and Wildlife Service for its Habitat Evaluation Procedures (HEP; U.S. Fish and Wildlife Service 1980). These models use cause-and-effect relationships for several key environmental variables to determine the suitability of different habitats for a variety of species. The change in number of habitat units (i.e., the ability of an area to support a species) as a result of multiple actions is a useful measure of cumulative effects. Species habitat models also drive the Habitat Evaluation System of the U.S. Army Corps of Engineers (1980). For wetland habitat designations, the Wetland Evaluation Technique is often used (Adamus et al. 1987). Other methods for linking measures of environmental change to effects on resources include developing relationships between loss in wetland area and functions such as flood storage, water quality, and life support (Preston and Bedford 1988; Leibowitz et al. 1992) and linking hydrology first to vegetation and then to wildlife habitat (Nestler 1992).

Nonlinear cause-and-effect relationships among several environmental changes pose an additional challenge for the analyst. A common example is the synergistic effect on fish populations that results from the combination of direct mortality losses to hydropower turbines and increased predation losses that occur as predators are attracted to dead and stunned fish. The analyst may also have to predict additional fish mortality from disease as a result of reductions in immune responses caused by toxic contamination. A third example of a common cumulative cause-and-effect problem is the combined effect on dissolved oxygen levels of excessive algal growth resulting from both increased nutrient loading and higher temperatures.

One of the most useful approaches for determining the likely response of the resource, ecosystem, and human community to environmental change is to evaluate the historical effects of activities similar to those under consideration. In the case of road construction through a

forest, the effects of similar past actions such as the construction of pipelines and power lines may provide a basis for predicting the likely effects of the proposed road construction. The residual effects of constructing and operating these linear facilities include fragmentation of forest tracts and the creation of homogeneous vegetation in the rights-of-way. Trends analysis (see Appendix A) can be used to model the effects of linear facilities over time and extrapolate the effects of a road construction project into the future.

If cause-and-effect relationships cannot be quantified, or if quantification is not needed to adequately characterize the consequences of each alternative, qualitative evaluation procedures can be used. The analyst may categorize the magnitude of effects into a set number of classes (e.g., high, medium, or low) or provide a descriptive narrative of the types of effects that may occur. Often, the analyst will be limited to qualitative evaluations of effects because cause-and-effect relationships are poorly understood or because few site-specific data are available. Even when the analyst cannot quantify cumulative effects, a useful comparison of relative effects can enable a decisionmaker to choose among alternatives.

DETERMINING THE MAGNITUDE AND SIGNIFICANCE OF CUMULATIVE EFFECTS

The analyst's primary goal is to determine the magnitude and significance of the environmental consequences of the proposed action in the context of the cumulative effects of other past, present, and future actions. To accomplish this, the analyst must use a conceptual model of the important resources, actions, and their cause-and-effect relationships. The critical element in this conceptual model is defining an appropriate baseline or threshold condition of the resource, ecosystem, and human community beyond which adverse or beneficial change would cause significant degradation or enhancement of the resource, respectively.

The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process. The no-action alternative is an effective construct for this purpose, but its characterization is often inadequate for analyzing cumulative effects. Much of the environment has been greatly modified by human activities, and most resources, ecosystems, and human communities are in the process of change as a result of cumulative effects. The analyst must determine the realistic potential for the resource to sustain itself in the future and whether the proposed action will affect this potential; therefore, the baseline condition of the resource of concern should include a description of how conditions have changed over time and how they are likely to change in the future without the proposed action.

The potential for a resource, ecosystem, and human community to sustain its structure and function depends on its resistance to stress and its ability to recover (i.e., its resilience). Determining whether the condition of the resource is within the range of natural variability or is vulnerable to rapid degradation is frequently problematic. Ideally, the analyst can identify a threshold beyond which change in the resource condition is detrimental. More often, the analyst must review the history of that resource and evaluate whether past degradation may place it near such a threshold. For example, the loss of 50% of historical wetlands within a watershed may indicate that further losses would significantly affect the capacity of the watershed to withstand floods. It is often the case that when a large proportion of a resource is lost, the system nears collapse as the surviving portion is pressed into service to perform more functions.

The baseline condition should also include other present (ongoing) actions. For example, the National Ambient Air Quality Standards (NAAQS) inventory represents the universe of

present actions used in air quality analyses to determine whether new emission sources will exceed air quality standards. The NAAQS inventory includes all existing emission sources, sources with Prevention of Significant Deterioration (PSD) permits that have not yet begun to operate, and applicants for whom a PSD permit has not yet been issued. The NAAQS analysis requires explicitly modeling all existing nearby sources (as far away as 50 kilometers) be for air quality effects. In the analysis of the cause-and-effect relationships related to the anticipated impacts, each source represents a cause, and their combined emissions create an effect on air quality, the significance of which can be determined by comparing the concentration of pollutants emitted to threshold concentrations specified in the NAAQS. The NAAQS thresholds are concentrations known to cause significant human health or other environmental effects.

The historical context and full suite of ongoing actions are not only critical for evaluating cumulative effects, but also for developing potential restoration as well. The first step in developing a river restoration plan is to understand how past actions (e.g., contributions of contaminants to the watershed) have contributed to the current condition of the water body. The historical trends in resource condition and its current potential for sustained structure and function are an essential frame of reference for developing mitigation and enhancement measures.

Determining Magnitude

Initially, the analyst will usually determine the separate effects of past actions, present actions, the proposed action (and reasonable alternatives), and other future actions. Once each group of effects is determined, cumulative effects can be calculated. The cumulative effects on a specific resource, however, will not necessarily be the sum of the effects of all

actions. Knowing how a particular resource responds to environmental change (i.e., the cause-and-effect relationship) is essential for determining the cumulative effect of multiple actions. Will the effects of two or more actions be additive, i.e., if one project would result in the death of 25% of a trout population (within a given level of uncertainty) and another the death of 10% of the trout, would the two projects together result in the loss of 35% of the trout? Although this is sometimes the case, there are often instances where the cause-and-effect relationship is more complex, i.e., the cumulative effect of two projects may be greater than the sum of the effects of each (in the trout example, more than 35% of the trout would die) or less than their sum (less than 35% of the trout would die). In some cases, the resource may better withstand additional adverse effects as stress increases, while in others, the resource may crash once a threshold is reached.

Once effects are identified using one of the methodologies described in Chapter 5, a table can be used to itemize effects into categories of past, present, proposed, and future actions. Tables 4-1, 4-2, and 4-3 show how these tables can be constructed using the results from different types of analyses. Regardless of the degree of quantification used, such tables are useful tools for putting the effects of the proposed action and alternatives into proper context. Table 4-1 illustrates the net cumulative effects of combining fish population increases from the proposed action with population losses from past and future actions. The table could be expanded to include the countervailing effect of sulfate aerosols on global warming (because they compensate for greenhouse gases) at the same time they are degrading ambient air quality. A series of such tables (one for each alternative) enables the analyst to compare alternatives meaningfully.

Table 4-1. Example table using quantitative description of effects (within a given level of uncertainty) on various resources

Resource	Past Actions	Present Actions	Proposed Action	Future Actions	Cumulative Effect
Air Quality	No effect on SO ₂	20% increase in SO ₂	10% increase in SO ₂	5% increase in SO ₂	35% increase in SO ₂
Fish	50% of 1950 population lost	2% of fish population lost	5% increase in fish population	1% of fish population lost	48% of 1950 fish population lost
Wetlands	78% of presettlement wetlands lost	1% of existing wetlands lost annually for 5 years	0.5% of existing wetlands lost	1.5% of existing wetlands lost annually for 10 years	95% of presettlement wetlands lost in 10 years

The separation of effects into those attributable to the proposed action or a reasonable alternative versus those attributable to past and future actions also allows the analyst to determine the incremental contribution of each alternative. Situations can arise where an incremental effect that exceeds the threshold of concern for cumulative effects results, not from the proposed action, but from reasonably foreseeable but still uncertain future actions. Although this situation is generally unexplored, the decisionmaker is faced with determining whether to forgo or modify the proposed action to permit other future actions. Identifying incremental effects, therefore, is an important part of informing the decisionmaker.

Most cumulative effects analyses will identify varying levels of beneficial and adverse effects depending on the resource and the individual action. Aquatic species will experience entirely different effects from terrestrial ones. A warm water fishery (e.g., largemouth bass) may benefit from a change that is detrimental to a cold water fishery (e.g., trout), and effects that are beneficial to the well being of a human community (e.g., provision of social services) may be detrimental to natural systems (e.g., wetlands lost during construction of a hospital).

Because of this mixture of beneficial and adverse effects, the decisionmaker is often hard pressed to determine which alternative is environmentally preferred. To overcome this problem, indices of overall cumulative effect can be developed. Some of the matrix methods used in cumulative effects analysis were developed specifically to address this need. These methods use unitless measures of effect (e.g., scales or ranks) to get around the problem of combining results from a variety of resources.

Presentation of overall cumulative effects can be controversial. Intentional or unintentional manipulation of assumptions can dramatically alter the results of aggregated indices (Bisset 1983), and experience indicates that complex quantitative methods for evaluating cumulative effects make it more difficult for the public to understand and accept the results. Effects on resources are usually presented separately, and professional judgment is used in determining the reasonable alternative with the greatest net positive cumulative effect. The U.S. EPA has developed guidelines for addressing specific kinds of risks (including cancer risks and the risks posed by chemical mixtures) and for comparing disparate kinds of risks (U.S. EPA 1993).

Table 4-2. Example table using qualitative description of effects on various resources, with impact ranks assigned a value from 1 to 5 (least to greatest)

Resource	Past Actions	Present Actions	Proposed Action	Future Actions	Cumulative Effect
Air Quality	1	2	1	1	2
Fish	3	2	1	1	4
Wetlands	4	1	1	1	4

Table 4-3. Example table using narrative description of effects on various resources

Resource	Past Actions	Present Actions	Proposed Action	Future Actions	Cumulative Effect
Air Quality	Impacts dissipated	Noticeable deterioration in visibility during summer, but standards met	Visibility affected during operations, but standards met	Increase in auto emissions expected	Standards possibly violated
Fish	Decrease in numbers and species diversity	Occasional documented fish kills	Increase in number of fish kills	Loss of cold-water species due to change in temperature	Significant decline in numbers and species diversity
Wetlands	Large reduction in acreage of wetlands	Loss of small amount of wetland annually	Disturbance of a 5 acre wetland	Continued loss of wetlands	Significant cumulative loss of wetlands

Determining Significance

The significance of effects should be determined based on context and intensity. In its implementing regulations for NEPA, CEQ states that "the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality" (40 CFR § 1508.27). Significance may vary with the setting of the proposed action.

Intensity refers to the severity of effect (40 CFR § 1508.27). Factors that have been used to define the intensity of effects include the

magnitude, geographic extent, duration, and frequency of the effects. As discussed above, the **magnitude** of an effect reflects relative size or amount of an effect. **Geographic extent** considers how widespread the effect might be. **Duration and frequency** refers to whether the effect is a one-time event, intermittent, or chronic. Where a quantitative evaluation is possible, specific criteria for significance should be explicitly identified and described. These criteria should reflect the resilience of the resource, ecosystem, and human community to the effects that are likely to occur.

Thresholds and criteria (i.e., levels of acceptable change) used to determine the significance of effects will vary depending on the type of resource being analyzed, the condition of the resource, and the importance of the resource as an issue (as identified through scoping). Criteria can be quantitative units of measure such as those used to determine threshold values in economic impact modeling, or qualitative units of measure such as the perceptions of visitors to a recreational area. No matter how the criteria are derived, they should be directly related to the relevant cause-and-effect relationships. The criteria used, including quantitative thresholds if appropriate, should be clearly stated in the assessment document.

Determinations of significance in an EA or an EIS are the focus of analysis because they lead to additional (more costly) analysis or to inclusion of additional mitigation (or a detailed justification for not implementing mitigation). The significance of adverse cumulative effects is a sensitive issue because the means to modify contributing actions are often outside the purview of the proponent agency. Currently, agencies are attempting to deal with this difficult issue by improving their analysis of historical trends in resource and ecosystem condition. Even where cumulative effects are not deemed to be significant, better characterization of historical changes in the resource can lead to improved designs for resource enhancement. Where projected adverse effects remain highly uncertain, agencies can implement adaptive management—flexible project implementation that increases or decreases mitigation based on monitoring results.

AVOIDING, MINIMIZING, AND MITIGATING SIGNIFICANT CUMULATIVE EFFECTS

If it is determined that significant cumulative effects would occur as a result of a proposed action, the project proponent should avoid,

minimize, or mitigate adverse effects by modifying or adding alternatives. The proponent should not overlook opportunities to enhance resources when adverse cumulative effects are not significant. The separation of responsibilities for actions contributing to cumulative effects makes designing appropriate mitigation especially difficult. In the case of the Lackawanna Industrial Highway, the Federal Highway Administration and Pennsylvania Department of Transportation sponsored development of a comprehensive plan for the valley that provides a mechanism for ensuring that secondary development accompanying construction of the highway would protect valued resources, ecosystems, and human communities (see box).

By analyzing the cause-and-effect relationships resulting in cumulative effects, strategies to mitigate effects or enhance resources can be developed. For each resource, ecosystem, and human community of concern, the key to developing constructive mitigation strategies is determining which of the cause-and-effect pathways results in the greatest effect. Mitigation and enhancement strategies that focus on those pathways will be the most effective for reducing cumulative effects.

It is sometimes more cost-effective to mitigate significant effects after they occur. This might involve containing and cleaning up a spill, or restoring a wetland after it has been degraded. In most cases, however, avoidance or minimization are more effective than remediating unwanted effects. For example, attempting to remove contaminants from air or water is much less effective than preventing pollution discharges into an airshed or watershed. Although such preventative approaches can be the most (or only) effective means of controlling cumulative effects, they may require extensive coordination at the regional or national scale (e.g., federal pollution control statutes).

Mitigating the Secondary and Cumulative Effects of the Lackawanna Valley Industrial Highway

Cumulative effects analysis conducted as part of the EIS for construction of a 16-mile-long, multi-lane, limited access highway in the Lackawanna Valley of Pennsylvania predicted substantial secondary environmental consequences from the expected (and desired) economic development in the valley. Specifically, additional industrial, commercial, and housing development would accompany the economic activity, producing higher demands on the valley's circulation system as well as on central water and sewer services and on other types of community services as well. To ensure that the development occurring as a result of the highway's construction would take place in an environmentally-sensitive manner, the Lackawanna Valley Corridor Plan was developed. This plan was a cooperative study sponsored by the Federal Highway Administration, Pennsylvania Department of Transportation, Pennsylvania Department of Community Affairs, and Lackawanna County through the Lackawanna County Regional Planning Commission (1996). The study produced an overall framework for the future development of the valley, including a Land Use Plan and a Circulation Plan, and a series of land development regulations that may be implemented by valley municipalities to ensure that new development protects community values and environmental resources. By undertaking the Lackawanna Valley Corridor Plan as part of the environmental decisionmaking process for the Lackawanna Valley Industrial Highway, the responsible federal and state agencies provided a concrete mechanism to avoid, minimize, and mitigate potentially adverse cumulative effects from secondary actions beyond their direct control.

ADDRESSING UNCERTAINTY THROUGH MONITORING AND ADAPTIVE MANAGEMENT

The complexity of cumulative effects problems ensures that even rigorous analyses will contain substantial uncertainties about predicted environmental consequences (Carpenter 1995a). Risk assessment methods offer effective ways of presenting the uncertainties to decisionmakers (Carpenter 1995b), and increased scientific knowledge and improved analytical capabilities using modern computers and GIS can help reduce this uncertainty. Nonetheless, both researchers and practitioners generally agree that monitoring is critical to assess the accuracy of predictions of effects and ensure the success of mitigations (Canter 1993). Monitoring provides the means to identify the need for modifying (increasing or decreasing) mitigation, and adaptive management provides the flexible program for achieving these changes. An efficient, cost-effective approach to adaptive management is to sequentially implement mitigation measures so that the measures can be changed as needed (Carpenter 1995c).

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Although cumulative effects analysis is similar in many ways to the analysis of project-specific effects, there are key differences. To determine the environmental, social, and economic consequences of cumulative effects, the analyst should

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- Determine the magnitude and significance of cumulative effects based on context and intensity and present tables comparing the effects of the proposed action and alternatives to facilitate decisionmaking.
- Modify or add alternatives to avoid, minimize, or mitigate cumulative effects based on the cause-and-effect pathways that contribute most to the cumulative effect on a resource.
- Determine cumulative effects of the selected alternative with mitigation and enhancement measures.
- Explicitly address uncertainty in communicating predictions to decisionmakers and the public, and reduce uncertainty as much as possible through monitoring and adaptive management.

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5

METHODS, TECHNIQUES, AND TOOLS FOR ANALYZING CUMULATIVE EFFECTS

Analyzing cumulative effects under NEPA is conceptually straightforward but practically difficult. Fortunately, the methods, techniques, and tools available for environmental impact assessment can be used in cumulative effects analysis. These methods are valuable in all phases of analysis and can be used to develop the conceptual framework for evaluating the cumulative environmental consequences, designing appropriate mitigations or enhancements, and presenting the results to the decisionmaker.

This chapter introduces the reader to the literature on cumulative effects analysis and discusses the incorporation of individual methods into an analytical methodology. Appendix A provides summaries of 11 methods for analyzing cumulative effects. The research and environmental impact assessment communities continue to make important contributions to the field. In addition to methods developed explicitly for environmental impact assessment, valuable new approaches to solving cumulative effects problems are being put forth by practitioners of ecological risk assessment (Suter 1993; U.S. EPA 1992; U.S. EPA 1996), regional risk assessment (Hunsaker et al. 1990), and environmental planning (Williamson 1993; Vestal et al. 1995). Analysts should use this chapter and Appendix A as a starting point for further research into methods, techniques, and tools that can be applied to their projects.

LITERATURE ON CUMULATIVE EFFECTS ANALYSIS METHODS

Several authors have reviewed the wide variety of methods for analyzing cumulative effects that have been developed over the last 25 years (see Horak et al. 1983; Witmer et al. 1985; Granholm et al. 1987; Lane and Wallace 1988; Williamson and Hamilton 1989; Irwin and Rodes 1992; Leibowitz et al. 1992; Hochberg et al. 1993; Burris 1994; Canter and Kamath 1995; Cooper 1995; Vestal et al. 1995). In a review of 90 individual methods, Granholm et al. (1987) determined that none of even the 12 most promising methods met all of the criteria for cumulative effects analysis. Most of the methods were good at describing or defining the problem, but they were poor at quantifying cumulative effects. No one method was deemed appropriate for all types or all phases of cumulative effects analysis. In general, these authors grouped existing cumulative effects analysis methods into the following categories:

- those that describe or model the cause-and-effect relationships of interest, often through matrices or flow diagrams (see Bain et al. 1986; Armour and Williamson 1988; Emery 1986; Patterson and Whillans 1984);

- those that analyze the trends in effects or resource change over time (see Contant and Ortolano 1985; Gosselink et al. 1990); and
- those that overlay landscape features to identify areas of sensitivity, value, or past losses (see McHarg 1969; Bastedo et al. 1984; Radbruch-Hall et al. 1987; Canters et al. 1991).

These methods address important aspects of considering multiple actions and multiple effects on resources of concern, but they do not constitute a complete approach to cumulative effects analysis. General analytical frameworks for analysis have been developed for the U.S. Army Corp of Engineers (Stakhiv 1991), U.S. Fish and Wildlife Service (Horak et al. 1983), Department of Energy (Stull et al. 1987), U.S. Environmental Protection Agency (Bedford and Preston 1988), and the Canadian Government (Lane and Wallace 1988). In addition, the U.S. EPA and the National Oceanic and Atmospheric Administration have developed two specific approaches to address the problems of cumulative wetlands loss (Leibowitz et al. 1992; Vestal et al. 1995).

These methods usually take one of two basic approaches to addressing cumulative effects (Spaling and Smit 1993; Canter 1994):

- **Impact assessment approach**, which analytically evaluates the cumulative effects of combined actions relative to thresholds of concern for resources or ecosystems.
- **Planning approach**, which optimizes the allocation of cumulative stresses on the resources or ecosystems within a region.

The first approach views cumulative effects analysis as an extension of environmental impact assessment (e.g., Bronson et al. 1991; Conover et al. 1985); the second approach regards cumulative effects analysis as a correlate of regional or comprehensive planning

(e.g., Bardecki 1990; Hubbard 1990; Stakhiv 1988; 1991). Although the impact assessment approach more closely parallels current NEPA practice, an optimizing approach based on a community-derived vision of future conditions may be preferable in the absence of reliable thresholds for the resources, ecosystems, and human communities of concern. In fact, the planning approach to cumulative effects analysis is becoming more common within agencies and intergovernmental bodies as they embrace the principles of ecosystem management (IEMTF 1995) and sustainable development. These two approaches are complementary and together constitute a more complete cumulative effects analysis methodology, one that satisfies the NEPA mandate to merge environmental impact assessment with the planning process.

IMPLEMENTING A CUMULATIVE EFFECTS ANALYSIS METHODOLOGY

Although the NEPA practitioner must draw from the available methods, techniques, and tools it is important to understand that a study-specific methodology is necessary. Designing a study-specific methodology entails using a variety of methods to develop a conceptual framework for the analysis. The conceptual framework should constitute a general causal model of cumulative effects that incorporates information on the causes, processes, and effects involved. A set of primary methods can be used to describe the cumulative effects study in terms of multiple causation, interactive processes, and temporally and spatially variable effects.

The **primary methods** for developing the conceptual causal model for a cumulative effects study are

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Questionnaires, interviews, and panels to gather information about the wide range of actions and effects needed for a cumulative effects analysis.

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Checklists to identify potential cumulative effects by reviewing important human activities and potentially affected resources.

- 3 **Matrices** to determine the cumulative effects on resources, ecosystems, and human communities by combining individual effects from different actions.
- 4 **Networks and system diagrams** to trace the multiple, subsidiary effects of various actions that accumulate upon resources, ecosystems, and human communities.
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After developing the conceptual framework, the analyst must choose a method to determine and evaluate the cumulative effects of project actions. This method must provide a procedure for aggregating information across multiple resources and projects in order to draw conclusions or recommendations. The simplest method is the comparison of project (or program) alternatives qualitatively or quantitatively in tabular form.

Tables and matrices use columns and rows to organize effects and link activities (or alternatives) with resources, ecosystems, and human communities of concern. The relative effects of various activities can be determined by comparing the values in the cells of a table. The attributes of each cell can be descriptive or numerical. Tables are commonly used to present proposed actions and reasonable alternatives (including no-action) and their respective effects on resources of concern. Tables can be used to organize the full range of environmental, economic, and social effects. Depending on how the table is constructed, a cell may

represent a combination of activities and, therefore, be cumulative, or it may include a separate column for cumulative effects.

Cumulative effects are increasingly appearing as a separate column in EISs. In the case of the cumulative mining effects in the Yukon-Charley Rivers National Preserve, Alaska (National Park Service 1990), the estimated effect of the proposed mining actions on each resource (e.g., riparian wildlife habitat) was evaluated both as a direct effect and as a cumulative effect in combination with past mining losses. Quantitative short-term and long-term effects (in acres) were calculated (Table 5-1). In the case of the Pacific yew (U.S. Forest Service 1993), the potential direct, indirect, and cumulative effects on the genetic resource of the Pacific yew were summarized qualitatively (e.g., risk of genetic erosion at edge of range; Table 5-2).

Some tables are designed explicitly to aggregate effects across resources (including weighting different effects). Grand indices that combine effects include the Environmental Evaluation System (Dee et al. 1973) and ecological rating systems for wildlife habitat and other natural areas (e.g., Helliwell 1969, 1973). Such approaches have been relatively unsuccessful because intentional or unintentional manipulation of assumptions can dramatically alter the results of aggregated indices (Bisset 1983), and because complex quantitative methods for evaluating cumulative effects make it more difficult for the public to understand and accept the results. Westman (1985) concluded that aggregation and weighting of effects should be rejected in favor of providing information in a qualitative, disaggregated form. Although it may not be possible to combine highly disparate resource effects, different resource effects that cumulatively affect interconnected systems must be addressed in combination. In any case, greater efforts need to be made to present the full suite of adverse and beneficial effects to the decisionmaker so that comparisons are clear and understandable.

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	Premining	Existing (% Premining)	Past Mining Loss	Alternative A Loss	Cumulative Loss	Alternative A Loss	Cumulative Loss
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Table 5-2. Cumulative effects on the genetic resources of the Pacific yew (U.S. Forest Service 1993)

Alternative	Direct Effects on Existing Levels of Genetic Variation	Indirect Effects on Levels of Genetic Variation in Future Generations	Cumulative Effects
A	Risk of losing small populations at edge of range, thereby reducing existing levels.	Risk of losing small populations at edge of range, thereby reducing future levels.	Risk of genetic erosion at edge of range.
B	None.	None.	Would negate risk to small populations and halt genetic erosion.
C	Risk of slightly reducing levels within population for some populations. No effect on overall variation.	Risk of slightly reducing some populations. No effect on overall variation or values.	Would enhance gene variation.
D	Within population levels could be reduced more than in Alt. C. No effect on overall genetic variation.	Could be reduced more than in Alt. C. for some populations. No overall effect.	Same as Alt. C.
F	Within population levels could be reduced more than in Alt. D. Overall levels of variation would be reduced slightly.	Could be reduced more than in Alt. D. Potential significant reduction in adaptability of some populations and some reduction in values.	Same as Alt. C.
G 1	Same as Alt. D.	Same as Alt. D.	Same as Alt. C
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Although tables and matrices are the most common method for evaluating the cumulative effect of alternatives, map overlays and modeling can be used to summarize and evaluate cumulative effects.

In general, the standard environmental impact assessment methods described above can be combined effectively to address cumulative effects (Figure 5-1). Two aspects of cumulative effects analysis, however, warrant special analysis methods: (1) the need to address resource sustainability, and (2) the need to focus on integrated ecosystems and human communities. By definition, cumulative effects analysis involves comparing the combined effect with the capacity of the resource, ecosystem, and human community to

withstand stress. **Carrying capacity analysis** has been applied to a wide range of resources to address cumulative effects. Cumulative effects are a more complex problem for whole ecosystems, because ecosystems are subject to the widest possible range of direct and indirect effects. Analyzing the cumulative effects on ecosystems requires a better understanding of the interworkings of ecological systems and a more holistic perspective. Specifically, **ecosystem analysis** entails new indicators of ecological conditions including landscape-scale measures. In addition to these two special methods, analyzing cumulative effects on human communities requires specific **economic impact analysis** and **social impact analysis methods**.

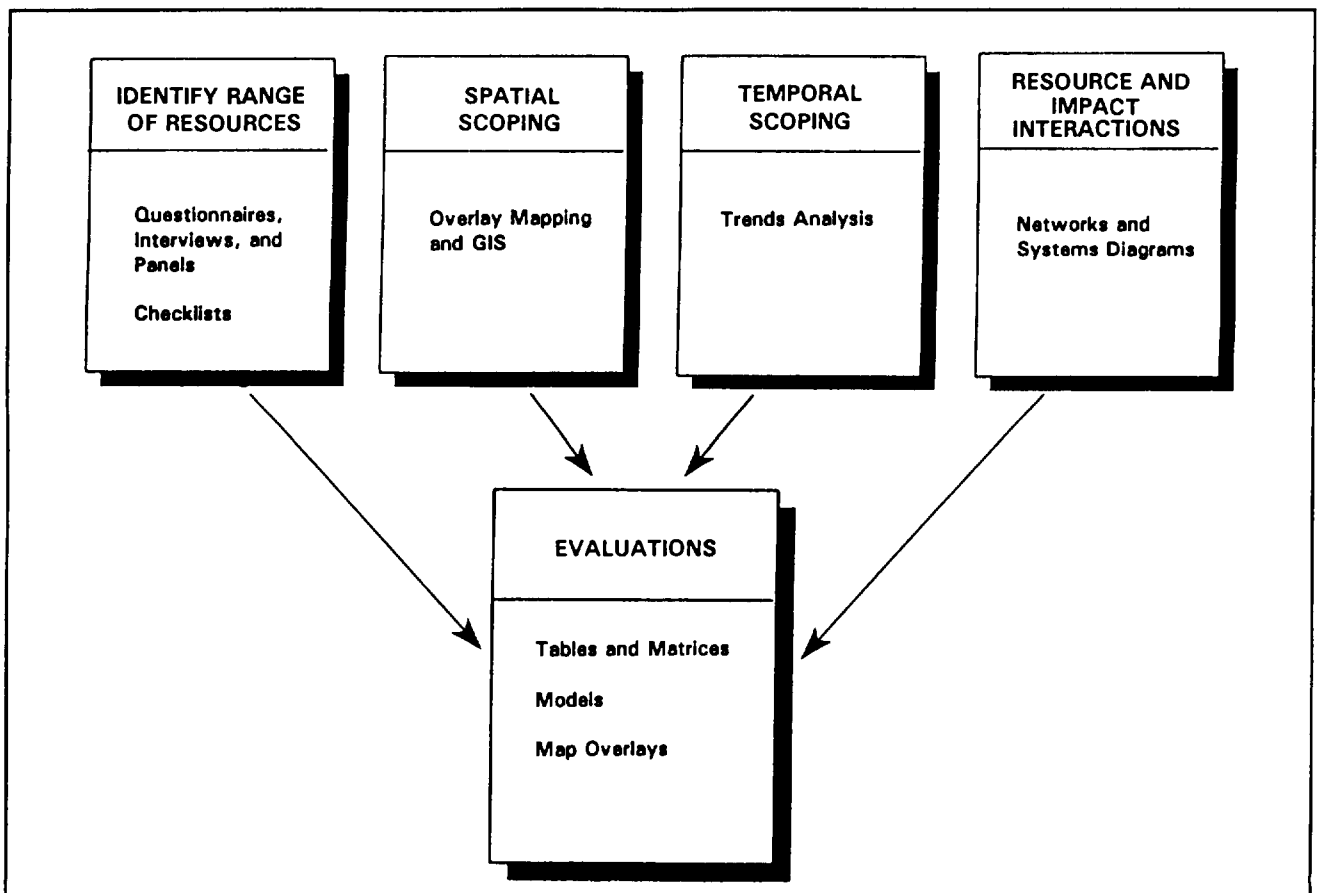


Figure 5-1. Conceptual model for combining primary methods into a cumulative effects analysis

In addition to the primary and special methods discussed above, there are several tools that can be used to conduct or illustrate cumulative effects analysis. The most important are modern computers with capabilities for storing, manipulating, and displaying large amounts of data. Although simple tables, graphs, and hand-drawn maps are adequate for many analyses, powerful computers can facilitate the use of multidimensional matrices and sophisticated models that require solving complex equations or conducting simulations. General tools for illustrating cumulative effects include dose-response curves, cumulative frequency distributions, maps, and videography. Video simulation, wherein an existing site is captured through imagery and electronically altered to show how the site will look after a proposed action is implemented, is a promising new technology for analyzing effects and communicating them to the public (Marlatt et al. 1993).

Most importantly, **geographic information systems (GIS)** can manipulate and display the location-specific data needed for cumulative effects analysis. GIS can be used to manage large data sets, overlay data and analyze development and natural resource patterns, analyze trends, use mathematical models of effect with locational data, perform habitat analysis, perform aesthetic analysis, and improve public consultation (Eedy 1995). GIS can incorporate a statistically reliable locational component into virtually any cumulative effects analysis. Unlike manual mapping systems, the scale can be adjusted and the data layers easily updated. Once a GIS has been developed, it can drastically reduce the effort needed to analyze the effects of future projects, i.e., each new development proposal can be readily overlain on existing data layers to evaluate cumulative effects (Johnston et al. 1988).

Effective use of the increased analytical and presentation capabilities of computers and GIS requires large amounts of data. Fortunately, available **remote sensing** technologies can provide locational information at varying levels of resolution for virtually all parts of the United States. Remote sensing applications (both photographic and satellite imagery) can help the analyst reveal the past status of environmental resources or ecological processes, determine existing environmental conditions, and quantitatively or qualitatively assess possible future trends in the environment. Although remote sensing is a relatively recent technological development, aerial photography available for most areas of the United States since the 1930s or 1940s, and space-based photographs and satellite imagery have been collected since the 1960s. For example, aerial photography from 1960, 1981, and 1990 (Figure 5-2) show change in the condition of small mountainous tributary streams to the North Fork Hoh River in the Olympic Peninsula. The photo taken in 1960 shows undisturbed old growth Sitka spruce-hemlock forest. The photos of the same location taken in 1981 and 1990 show extensive timber harvest and soil erosion. Each patch of harvested timber was approved under individual logging permits over a 30-year period. As a result of the cumulative timber harvest, the area has experienced severe landsliding and erosion, causing sedimentation in salmon spawning and rearing areas in the Hoh River and in lower portions of the tributary streams.

The combination of remote sensing and GIS has facilitated the development of a suite of landscape-scale indicators of ecosystem status that hold promise for quantifying ecological variables and improving the measurement of cumulative effects (Hunsaker and Carpenter 1990; Noss 1990; O'Neill et al. 1988, 1994).

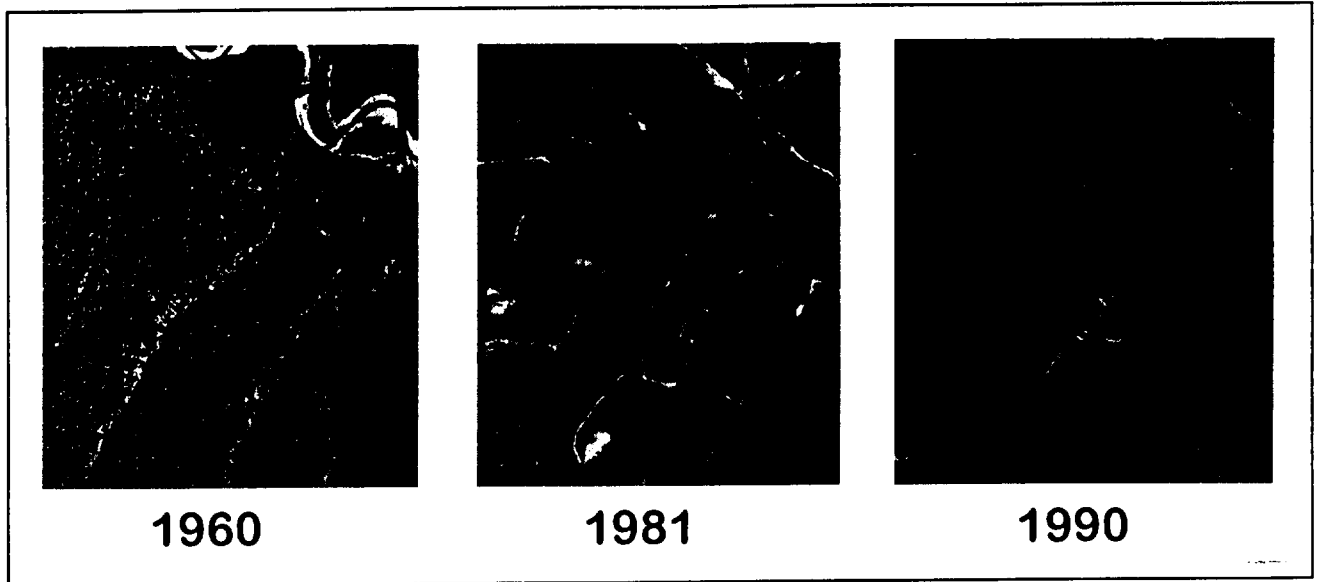


Figure 5-2. Deteriorating trend in watershed condition of the North Fork Hoh River, Washington as illustrated by a time-series of aerial photographs depicting cumulative loss of forest from individual timber sales (Dave Somers, The Tulalip Tribes, personal communication)

Table 5-3 summarizes the 11 important cumulative effects analysis methods discussed above. Appendix A provides standardized descriptions of these methods. Many cumulative effects analysis methods can be adapted for environmental or social impact assessment; the basic analytical frameworks and mathematical operations are often applicable to both social and environmental variables. Each of the 11 methods represents a general category that may contain more specific methods. When and where each method is appropriate for cumulative effects analysis depends on the following criteria:

- 1 Whether the method can assess
 - effects of same and different nature
 - temporal change
 - spatial characteristics
 - structural/functional relationships
 - physical/biological/human interactions

- additive and synergistic interactions
- delayed effects
- persistence of impacts

- 2 Whether the method can
 - quantify effects
 - synthesize effects
 - suggest alternatives
 - serve as a planning or decision-making tool
 - link with other methods, and

- 3 Whether the method is
 - validated
 - flexible
 - reliable and repeatable.

Table 5-3. Primary and special methods for analyzing cumulative effects

Primary Methods	Description	Strengths	Weaknesses
<p>1. Questionnaires, Interviews, and Panels</p>	<p>Questionnaires, interviews, and panels are useful for gathering the wide range of information on multiple actions and resources needed to address cumulative effects. Brainstorming sessions, interviews with knowledgeable individuals, and group consensus building activities can help identify the important cumulative effects issues in the region.</p>	<ul style="list-style-type: none"> ▪ Flexible ▪ Can deal with subjective information 	<ul style="list-style-type: none"> ▪ Cannot quantify ▪ Comparison of alternatives is subjective
<p>2. Checklists</p>	<p>Checklists help identify potential cumulative effects by providing a list of common or likely effects and juxtaposing multiple actions and resources; - potentially dangerous for the analyst that uses them as a shortcut to thorough scoping and conceptualization of cumulative effects problems.</p>	<ul style="list-style-type: none"> ▪ Systematic ▪ Concise 	<ul style="list-style-type: none"> ▪ Can be inflexible ▪ Do not address interactions or cause-effect relationships
<p>3. Matrices</p>	<p>Matrices use the familiar tabular format to organize and quantify the interactions between human activities and resources of concern. Once even relatively complex numerical data are obtained, matrices are well-suited to combining the values in individual cells of the matrix (through matrix algebra) to evaluate the cumulative effects of multiple actions on individual resources, ecosystems, and human communities.</p>	<ul style="list-style-type: none"> ▪ Comprehensive presentation ▪ Comparison of alternatives ▪ Address multiple projects 	<ul style="list-style-type: none"> ▪ Do not address space or time ▪ Can be cumbersome ▪ Do not address cause-effect relationships
<p>4. Networks and System Diagrams</p>	<p>Networks and system diagrams are an excellent method for delineating the cause-and-effect relationships resulting in cumulative effects; they allow the user to analyze the multiple, subsidiary effects of various actions and trace indirect effects to resources that accumulate from direct effects on other resources.</p>	<ul style="list-style-type: none"> ▪ Facilitate conceptualization ▪ Address cause-effect relationships ▪ Identify indirect effects 	<ul style="list-style-type: none"> ▪ No likelihood for secondary effects ▪ Problem of comparable units ▪ Do not address space or time
<p>5. Modeling</p>	<p>Modeling is a powerful technique for quantifying the cause-and-effect relationships leading to cumulative effects, can take the form of mathematical equations describing cumulative processes such as soil erosion, or may constitute an expert system that computes the effect of various project scenarios based on a program of logical decisions.</p>	<ul style="list-style-type: none"> ▪ Can give unequivocal results ▪ Addresses cause-effect relationships ▪ Quantification ▪ Can integrate time and space 	<ul style="list-style-type: none"> ▪ Need a lot of data ▪ Can be expensive ▪ Intractable with many interactions
<p>6. Trends Analysis</p>	<p>Trends analysis assesses the status of a resource, ecosystem, and human community over time and usually results in a graphical projection of past or future conditions. Changes in the occurrence or intensity of stressors over the same time period can also be determined. Trends can help the analyst identify cumulative effects problems, establish appropriate environmental baselines, or project future cumulative effects.</p>	<ul style="list-style-type: none"> ▪ Addresses accumulation over time ▪ Problem identification ▪ Baseline determination 	<ul style="list-style-type: none"> ▪ Need a lot of data in relevant system ▪ Extrapolation of system thresholds is still largely subjective
<p>7. Overlay Mapping and GIS</p>	<p>Overlay mapping and geographic information systems (GIS) incorporate locational information, into cumulative effects analysis and help set the boundaries of the analysis, analyze landscape parameters, and identify areas where effects will be the greatest. Map overlays can be based on either the accumulation of stresses in certain areas or on the suitability of each land unit for development.</p>	<ul style="list-style-type: none"> ▪ Addresses spatial pattern and proximity of effects ▪ Effective visual presentation ▪ Can optimize development options 	<ul style="list-style-type: none"> ▪ Limited to effects based on location ▪ Do not explicitly address indirect effects ▪ Difficult to address magnitude of effects

Table 5-3. Continued

Special Methods	Description	Strengths	Weaknesses
<p>8. Carrying Capacity Analysis</p>	<p>Carrying capacity analysis identifies thresholds (as constraints on development) and provides mechanisms to monitor the incremental use of unused capacity. Carrying capacity in the ecological context is defined as the threshold of stress below which populations and ecosystem functions can be sustained. In the social context, the carrying capacity of a region is measured by the level of services (including ecological services) desired by the populace.</p>	<ul style="list-style-type: none"> ▪ True measure of cumulative effects against threshold ▪ Addresses effects in system context ▪ Addresses time factors 	<ul style="list-style-type: none"> ▪ Rarely can measure capacity directly ▪ May be multiple thresholds ▪ Requisite regional data are often absent
<p>9. Ecosystem Analysis</p>	<p>Ecosystem analysis explicitly addresses biodiversity and ecosystem sustainability. The ecosystem approach uses natural boundaries (such as watersheds and ecoregions) and applies new ecological indicators (such as indices of biotic integrity and landscape pattern). Ecosystem analysis entails the broad regional perspective and holistic thinking that are required for successful cumulative effects analysis.</p>	<ul style="list-style-type: none"> ▪ Uses regional scale and full range of components and interactions ▪ Addresses space and time ▪ Addresses ecosystem sustainability 	<ul style="list-style-type: none"> ▪ Limited to natural systems ▪ Often requires species surrogates for system ▪ Data intensive ▪ Landscape indicators still under development
<p>10. Economic Impact Analysis</p>	<p>Economic impact analysis is an important component of analyzing cumulative effects because the economic well-being of a local community depends on many different actions. The three primary steps in conducting an economic impact analysis are (1) establishing the region of influence, (2) modeling the economic effects, and (3) determining the significance of the effects. Economic models play an important role in these impact assessments and range from simple to sophisticated.</p>	<ul style="list-style-type: none"> ▪ Addresses economic issues ▪ Models provide definitive, quantified results 	<ul style="list-style-type: none"> ▪ Utility and accuracy of results dependent on data quality and model assumptions ▪ Usually do not address nonmarket values
<p>11. Social Impact Analysis</p>	<p>Social impact analysis addresses cumulative effects related to the sustainability of human communities by (1) focusing on key social variables such as population characteristics, community and institutional structures, political and social resources, individual and family changes, and community resources; and (2) projecting future effects using social analysis techniques such as linear trend projections, population multiplier methods, scenarios, expert testimony, and simulation modeling.</p>	<ul style="list-style-type: none"> ▪ Addresses social issues ▪ Models provide definitive, quantified results 	<ul style="list-style-type: none"> ▪ Utility and accuracy of results dependent on data quality and model assumptions ▪ Social values are highly variable

5

METHODS, TECHNIQUES, AND TOOLS FOR ANALYZING CUMULATIVE EFFECTS

Analyzing cumulative effects under NEPA is conceptually straightforward but practically difficult. Fortunately, the methods, techniques, and tools available for environmental impact assessment can be used in cumulative effects analysis. These methods are valuable in all phases of analysis and can be used to develop the conceptual framework for evaluating the cumulative environmental consequences, designing appropriate mitigations or enhancements, and presenting the results to the decisionmaker.

This chapter introduces the reader to the literature on cumulative effects analysis and discusses the incorporation of individual methods into an analytical methodology. Appendix A provides summaries of 11 methods for analyzing cumulative effects. The research and environmental impact assessment communities continue to make important contributions to the field. In addition to methods developed explicitly for environmental impact assessment, valuable new approaches to solving cumulative effects problems are being put forth by practitioners of ecological risk assessment (Suter 1993; U.S. EPA 1992; U.S. EPA 1996), regional risk assessment (Hunsaker et al. 1990), and environmental planning (Williamson 1993; Vestal et al. 1995). Analysts should use this chapter and Appendix A as a starting point for further research into methods, techniques, and tools that can be applied to their projects.

LITERATURE ON CUMULATIVE EFFECTS ANALYSIS METHODS

Several authors have reviewed the wide variety of methods for analyzing cumulative effects that have been developed over the last 25 years (see Horak et al. 1983; Witmer et al. 1985; Granholm et al. 1987; Lane and Wallace 1988; Williamson and Hamilton 1989; Irwin and Rodes 1992; Leibowitz et al. 1992; Hochberg et al. 1993; Burris 1994; Canter and Kamath 1995; Cooper 1995; Vestal et al. 1995). In a review of 90 individual methods, Granholm et al. (1987) determined that none of even the 12 most promising methods met all of the criteria for cumulative effects analysis. Most of the methods were good at describing or defining the problem, but they were poor at quantifying cumulative effects. No one method was deemed appropriate for all types or all phases of cumulative effects analysis. In general, these authors grouped existing cumulative effects analysis methods into the following categories:

- those that describe or model the cause-and-effect relationships of interest, often through matrices or flow diagrams (see Bain et al. 1986; Armour and Williamson 1988; Emery 1986; Patterson and Whillans 1984);

- those that analyze the trends in effects or resource change over time (see Contant and Ortolano 1985; Gosselink et al. 1990); and
- those that overlay landscape features to identify areas of sensitivity, value, or past losses (see McHarg 1969; Bastedo et al. 1984; Radbruch-Hall et al. 1987; Canters et al. 1991).

These methods address important aspects of considering multiple actions and multiple effects on resources of concern, but they do not constitute a complete approach to cumulative effects analysis. General analytical frameworks for analysis have been developed for the U.S. Army Corp of Engineers (Stakhiv 1991), U.S. Fish and Wildlife Service (Horak et al. 1983), Department of Energy (Stull et al. 1987), U.S. Environmental Protection Agency (Bedford and Preston 1988), and the Canadian Government (Lane and Wallace 1988). In addition, the U.S. EPA and the National Oceanic and Atmospheric Administration have developed two specific approaches to address the problems of cumulative wetlands loss (Leibowitz et al. 1992; Vestal et al. 1995).

These methods usually take one of two basic approaches to addressing cumulative effects (Spaling and Smit 1993; Canter 1994):

- **Impact assessment approach**, which analytically evaluates the cumulative effects of combined actions relative to thresholds of concern for resources or ecosystems.
- **Planning approach**, which optimizes the allocation of cumulative stresses on the resources or ecosystems within a region.

The first approach views cumulative effects analysis as an extension of environmental impact assessment (e.g., Bronson et al. 1991; Conover et al. 1985); the second approach regards cumulative effects analysis as a correlate of regional or comprehensive planning

(e.g., Bardecki 1990; Hubbard 1990; Stakhiv 1988; 1991). Although the impact assessment approach more closely parallels current NEPA practice, an optimizing approach based on a community-derived vision of future conditions may be preferable in the absence of reliable thresholds for the resources, ecosystems, and human communities of concern. In fact, the planning approach to cumulative effects analysis is becoming more common within agencies and intergovernmental bodies as they embrace the principles of ecosystem management (IEMTF 1995) and sustainable development. These two approaches are complementary and together constitute a more complete cumulative effects analysis methodology, one that satisfies the NEPA mandate to merge environmental impact assessment with the planning process.

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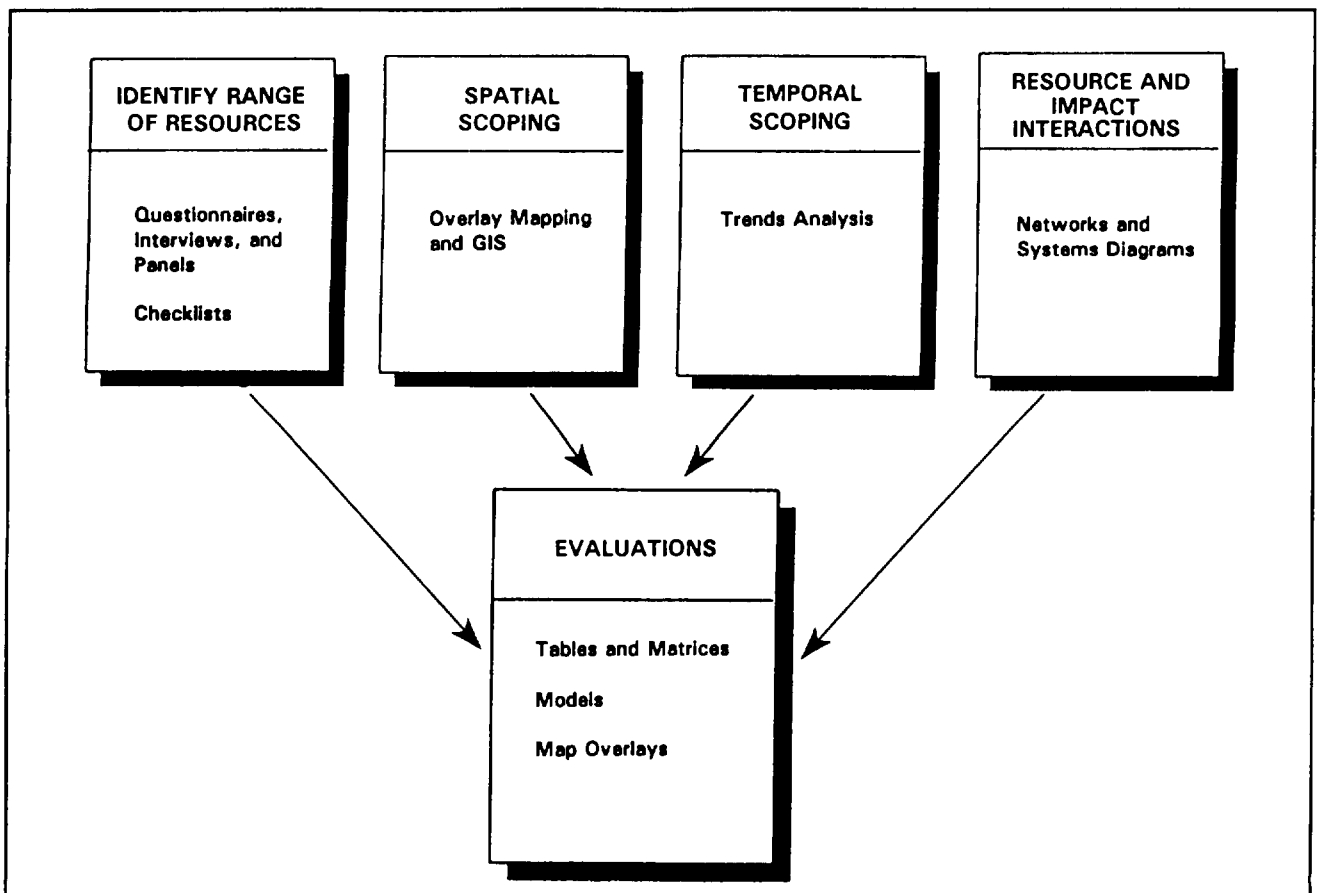


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In addition to the primary and special methods discussed above, there are several tools that can be used to conduct or illustrate cumulative effects analysis. The most important are modern computers with capabilities for storing, manipulating, and displaying large amounts of data. Although simple tables, graphs, and hand-drawn maps are adequate for many analyses, powerful computers can facilitate the use of multidimensional matrices and sophisticated models that require solving complex equations or conducting simulations. General tools for illustrating cumulative effects include dose-response curves, cumulative frequency distributions, maps, and videography. Video simulation, wherein an existing site is captured through imagery and electronically altered to show how the site will look after a proposed action is implemented, is a promising new technology for analyzing effects and communicating them to the public (Marlatt et al. 1993).

Most importantly, **geographic information systems (GIS)** can manipulate and display the location-specific data needed for cumulative effects analysis. GIS can be used to manage large data sets, overlay data and analyze development and natural resource patterns, analyze trends, use mathematical models of effect with locational data, perform habitat analysis, perform aesthetic analysis, and improve public consultation (Eedy 1995). GIS can incorporate a statistically reliable locational component into virtually any cumulative effects analysis. Unlike manual mapping systems, the scale can be adjusted and the data layers easily updated. Once a GIS has been developed, it can drastically reduce the effort needed to analyze the effects of future projects, i.e., each new development proposal can be readily overlain on existing data layers to evaluate cumulative effects (Johnston et al. 1988).

Effective use of the increased analytical and presentation capabilities of computers and GIS requires large amounts of data. Fortunately, available **remote sensing** technologies can provide locational information at varying levels of resolution for virtually all parts of the United States. Remote sensing applications (both photographic and satellite imagery) can help the analyst reveal the past status of environmental resources or ecological processes, determine existing environmental conditions, and quantitatively or qualitatively assess possible future trends in the environment. Although remote sensing is a relatively recent technological development, aerial photography available for most areas of the United States since the 1930s or 1940s, and space-based photographs and satellite imagery have been collected since the 1960s. For example, aerial photography from 1960, 1981, and 1990 (Figure 5-2) show change in the condition of small mountainous tributary streams to the North Fork Hoh River in the Olympic Peninsula. The photo taken in 1960 shows undisturbed old growth Sitka spruce-hemlock forest. The photos of the same location taken in 1981 and 1990 show extensive timber harvest and soil erosion. Each patch of harvested timber was approved under individual logging permits over a 30-year period. As a result of the cumulative timber harvest, the area has experienced severe landsliding and erosion, causing sedimentation in salmon spawning and rearing areas in the Hoh River and in lower portions of the tributary streams.

The combination of remote sensing and GIS has facilitated the development of a suite of landscape-scale indicators of ecosystem status that hold promise for quantifying ecological variables and improving the measurement of cumulative effects (Hunsaker and Carpenter 1990; Noss 1990; O'Neill et al. 1988, 1994).

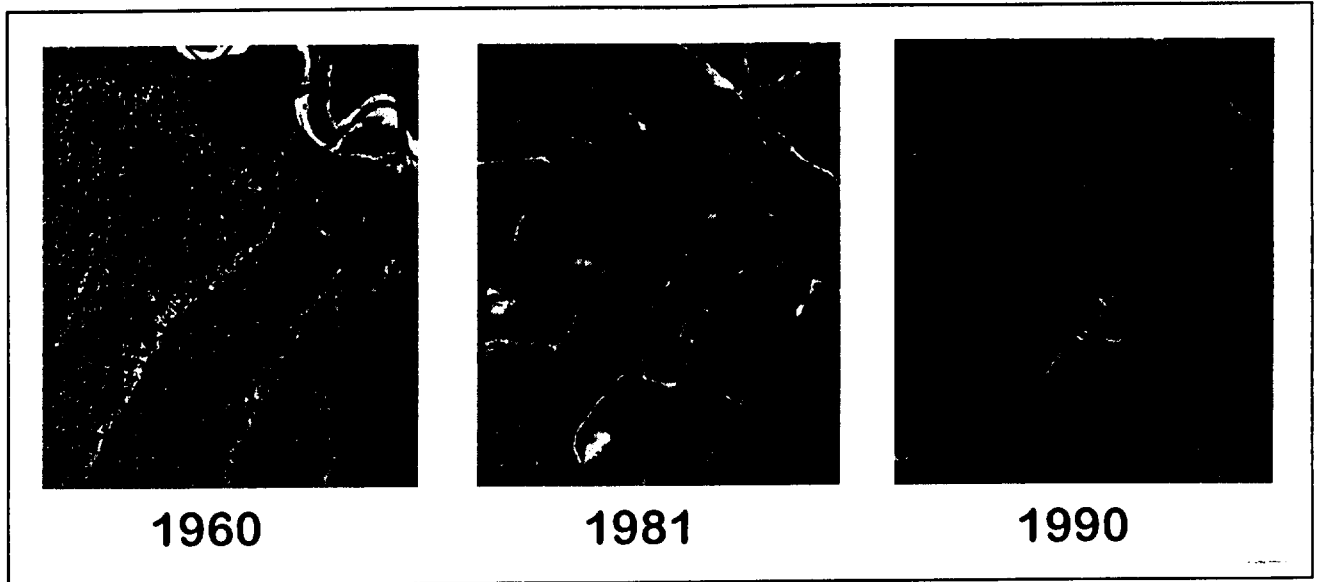


Figure 5-2. Deteriorating trend in watershed condition of the North Fork Hoh River, Washington as illustrated by a time-series of aerial photographs depicting cumulative loss of forest from individual timber sales (Dave Somers, The Tulalip Tribes, personal communication)

Table 5-3 summarizes the 11 important cumulative effects analysis methods discussed above. Appendix A provides standardized descriptions of these methods. Many cumulative effects analysis methods can be adapted for environmental or social impact assessment; the basic analytical frameworks and mathematical operations are often applicable to both social and environmental variables. Each of the 11 methods represents a general category that may contain more specific methods. When and where each method is appropriate for cumulative effects analysis depends on the following criteria:

- 1 Whether the method can assess
 - effects of same and different nature
 - temporal change
 - spatial characteristics
 - structural/functional relationships
 - physical/biological/human interactions

- additive and synergistic interactions
- delayed effects
- persistence of impacts

- 2 Whether the method can
 - quantify effects
 - synthesize effects
 - suggest alternatives
 - serve as a planning or decision-making tool
 - link with other methods, and

- 3 Whether the method is
 - validated
 - flexible
 - reliable and repeatable.

Table 5-3. Primary and special methods for analyzing cumulative effects

Primary Methods	Description	Strengths	Weaknesses
<p>1. Questionnaires, Interviews, and Panels</p>	<p>Questionnaires, interviews, and panels are useful for gathering the wide range of information on multiple actions and resources needed to address cumulative effects. Brainstorming sessions, interviews with knowledgeable individuals, and group consensus building activities can help identify the important cumulative effects issues in the region.</p>	<ul style="list-style-type: none"> ▪ Flexible ▪ Can deal with subjective information 	<ul style="list-style-type: none"> ▪ Cannot quantify ▪ Comparison of alternatives is subjective
<p>2. Checklists</p>	<p>Checklists help identify potential cumulative effects by providing a list of common or likely effects and juxtaposing multiple actions and resources; - potentially dangerous for the analyst that uses them as a shortcut to thorough scoping and conceptualization of cumulative effects problems.</p>	<ul style="list-style-type: none"> ▪ Systematic ▪ Concise 	<ul style="list-style-type: none"> ▪ Can be inflexible ▪ Do not address interactions or cause-effect relationships
<p>3. Matrices</p>	<p>Matrices use the familiar tabular format to organize and quantify the interactions between human activities and resources of concern. Once even relatively complex numerical data are obtained, matrices are well-suited to combining the values in individual cells of the matrix (through matrix algebra) to evaluate the cumulative effects of multiple actions on individual resources, ecosystems, and human communities.</p>	<ul style="list-style-type: none"> ▪ Comprehensive presentation ▪ Comparison of alternatives ▪ Address multiple projects 	<ul style="list-style-type: none"> ▪ Do not address space or time ▪ Can be cumbersome ▪ Do not address cause-effect relationships
<p>4. Networks and System Diagrams</p>	<p>Networks and system diagrams are an excellent method for delineating the cause-and-effect relationships resulting in cumulative effects; they allow the user to analyze the multiple, subsidiary effects of various actions and trace indirect effects to resources that accumulate from direct effects on other resources.</p>	<ul style="list-style-type: none"> ▪ Facilitate conceptualization ▪ Address cause-effect relationships ▪ Identify indirect effects 	<ul style="list-style-type: none"> ▪ No likelihood for secondary effects ▪ Problem of comparable units ▪ Do not address space or time
<p>5. Modeling</p>	<p>Modeling is a powerful technique for quantifying the cause-and-effect relationships leading to cumulative effects, can take the form of mathematical equations describing cumulative processes such as soil erosion, or may constitute an expert system that computes the effect of various project scenarios based on a program of logical decisions.</p>	<ul style="list-style-type: none"> ▪ Can give unequivocal results ▪ Addresses cause-effect relationships ▪ Quantification ▪ Can integrate time and space 	<ul style="list-style-type: none"> ▪ Need a lot of data ▪ Can be expensive ▪ Intractable with many interactions
<p>6. Trends Analysis</p>	<p>Trends analysis assesses the status of a resource, ecosystem, and human community over time and usually results in a graphical projection of past or future conditions. Changes in the occurrence or intensity of stressors over the same time period can also be determined. Trends can help the analyst identify cumulative effects problems, establish appropriate environmental baselines, or project future cumulative effects.</p>	<ul style="list-style-type: none"> ▪ Addresses accumulation over time ▪ Problem identification ▪ Baseline determination 	<ul style="list-style-type: none"> ▪ Need a lot of data in relevant system ▪ Extrapolation of system thresholds is still largely subjective
<p>7. Overlay Mapping and GIS</p>	<p>Overlay mapping and geographic information systems (GIS) incorporate locational information, into cumulative effects analysis and help set the boundaries of the analysis, analyze landscape parameters, and identify areas where effects will be the greatest. Map overlays can be based on either the accumulation of stresses in certain areas or on the suitability of each land unit for development.</p>	<ul style="list-style-type: none"> ▪ Addresses spatial pattern and proximity of effects ▪ Effective visual presentation ▪ Can optimize development options 	<ul style="list-style-type: none"> ▪ Limited to effects based on location ▪ Do not explicitly address indirect effects ▪ Difficult to address magnitude of effects

Table 5-3. Continued

Special Methods	Description	Strengths	Weaknesses
<p>8. Carrying Capacity Analysis</p>	<p>Carrying capacity analysis identifies thresholds (as constraints on development) and provides mechanisms to monitor the incremental use of unused capacity. Carrying capacity in the ecological context is defined as the threshold of stress below which populations and ecosystem functions can be sustained. In the social context, the carrying capacity of a region is measured by the level of services (including ecological services) desired by the populace.</p>	<ul style="list-style-type: none"> ▪ True measure of cumulative effects against threshold ▪ Addresses effects in system context ▪ Addresses time factors 	<ul style="list-style-type: none"> ▪ Rarely can measure capacity directly ▪ May be multiple thresholds ▪ Requisite regional data are often absent
<p>9. Ecosystem Analysis</p>	<p>Ecosystem analysis explicitly addresses biodiversity and ecosystem sustainability. The ecosystem approach uses natural boundaries (such as watersheds and ecoregions) and applies new ecological indicators (such as indices of biotic integrity and landscape pattern). Ecosystem analysis entails the broad regional perspective and holistic thinking that are required for successful cumulative effects analysis.</p>	<ul style="list-style-type: none"> ▪ Uses regional scale and full range of components and interactions ▪ Addresses space and time ▪ Addresses ecosystem sustainability 	<ul style="list-style-type: none"> ▪ Limited to natural systems ▪ Often requires species surrogates for system ▪ Data intensive ▪ Landscape indicators still under development
<p>10. Economic Impact Analysis</p>	<p>Economic impact analysis is an important component of analyzing cumulative effects because the economic well-being of a local community depends on many different actions. The three primary steps in conducting an economic impact analysis are (1) establishing the region of influence, (2) modeling the economic effects, and (3) determining the significance of the effects. Economic models play an important role in these impact assessments and range from simple to sophisticated.</p>	<ul style="list-style-type: none"> ▪ Addresses economic issues ▪ Models provide definitive, quantified results 	<ul style="list-style-type: none"> ▪ Utility and accuracy of results dependent on data quality and model assumptions ▪ Usually do not address nonmarket values
<p>11. Social Impact Analysis</p>	<p>Social impact analysis addresses cumulative effects related to the sustainability of human communities by (1) focusing on key social variables such as population characteristics, community and institutional structures, political and social resources, individual and family changes, and community resources; and (2) projecting future effects using social analysis techniques such as linear trend projections, population multiplier methods, scenarios, expert testimony, and simulation modeling.</p>	<ul style="list-style-type: none"> ▪ Addresses social issues ▪ Models provide definitive, quantified results 	<ul style="list-style-type: none"> ▪ Utility and accuracy of results dependent on data quality and model assumptions ▪ Social values are highly variable

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APPENDIX A

SUMMARIES OF
CUMULATIVE EFFECTS ANALYSIS METHODS

1

QUESTIONS, INTERVIEWS, AND PANELS

Questionnaires, interviews, and panels are important information gathering techniques for analyzing cumulative effects. Such techniques are especially valuable to the analyst, because they *collect information on the wide range of actions and effects needed to address cumulative problems*. The analyst will often use brainstorming sessions, interviews with knowledgeable individuals, and group consensus building activities to identify the important cumulative effects issues in the region.

Questionnaires, interviews, and panels are applicable to both social and environmental effects and are used primarily in the scoping process. They are often the principal method for identifying potential efforts and can be used to help characterize spatial and cause-and-effect relationships. Rather than simply collecting data, these techniques can be used for "strategizing" (i.e., prioritizing issues and defining the scope of the study).

The choice of information gathering techniques draws upon the experience and professional judgement of the analysts. Simple brainstorming of experts and other interested parties can be an effective technique for

identifying potential cumulative effects problems. Information gathering can be expanded to include structured interviews with key opinion leaders, indigenous peoples, and technical experts. These activities are essential components of the scoping process and, in many cases, are sufficient for qualitative analysis.

A common feature of information gathering and strategizing is the use of a multi-disciplinary panel of experts. These panels can bring consensus to subjective judgements and are useful for designing the assessment method, evaluating the significance of effects, and comparing alternatives. The Delphi method (Linstone and Turoff 1975) provides a structured process for producing expert consensus and is applicable to groups of various compositions. Fuzzy set models provide another means of structuring subjective evaluations of cumulative effects issues (Harris et al. 1994; Wegner and Reng 1987). Panels or other group-decision methods often use evaluative techniques to score or rank effects during the decisionmaking process. In this way, panels can be used to estimate the importance of cumulative effects even though they are necessarily subjective and qualitative (Stull et al. 1987).

METHODS

1

EXAMPLES:

Information gathering is essential to all environmental impact assessment and can become especially involved when scoping for cumulative effects in an EIS. Primarily, the analyst will use questionnaires, interviews, and panels to build a comprehensive list of environmental problems that could accumulate. During preparation of an EIS on the Castle Mountain open heap leach gold mine project, the U.S. Bureau of Land Management (1990) compiled a wide range of information into a list of activities that, combined with the proposed action, might produce cumulative effects (Chapter 3, Table 3-1). For each of 26 individual activities, anticipated cumulative effects were identified for each of 12 resource issues. The status (existing or proposed) of these additional activities and the primary geographical location of effects were also listed.

The analyst will also use these information gathering techniques to help develop a community vision for the region when the cumulative effect of a suite of actions will restore resources. The Restoration Plan for the Exxon Valdez Oil Spill in Alaska involved identifying many individual restoration options that, when combined as an alternative, would have the cumulative beneficial effect of mitigating natural resource damages resulting from the spill. The Restoration Plan required an extremely high level of coordination among federal and state agencies, as well as commercial fishermen, local businesses, and Native American communities. The Restoration Team had the formidable task of determining whether the cumulative effect of a set of restoration

options (an alternative) would meet the public's expectations for restoration of resources. To accomplish this, a scientific conference and many public meetings were held, producing a "Restoration Framework" that served as a scoping document under NEPA (EVOS Trustee Council 1992, 1993). In addition, a questionnaire was distributed to the public along with a summary of the draft Restoration Plan (EVOS Restoration Office 1993) as a means of soliciting public comment on the critical issues addressed by the Restoration Plan.

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2 CHECKLISTS

Checklists can help the analyst identify potential environmental effects by providing a list of common or likely effects. Checklists are especially valuable for analyzing cumulative effects because they *provide a format for juxtaposing multiple actions and resources in a way that highlights potential cumulative effects*. Checklists are potentially dangerous for the analyst who uses them as a shortcut to thorough scoping.

The strength of checklists is that they structure the analysis and reduce the likelihood that major effects will be overlooked; however, checklists are incomplete, they may cause important effects to be omitted. Because of the standard checklist format, checklists are more repeatable than ad hoc methods. They also provide a means of concisely presenting effects. At the same time, the simplicity of the checklist format has disadvantages. A checklist may be either an incomplete compilation of effects or a huge, unwieldy list with many irrelevant

effects. In an attempt to be comprehensive, the checklist may also lead to "double counting" the same effect under different headings.

Many of these disadvantages are avoided by developing checklists for specific kinds of projects. Checklists can also be simplified by organizing potential effects into separate lists or hierarchical categories for each resource, ecosystem, and human community of concern. To address cumulative effects, checklists need to incorporate all of the activities associated with the proposed action and other past, present, and future actions affecting the resources. A promising approach is to use project-specific checklists (for each relevant past, present, and future action) to identify and quantify effects on resources and then transfer these effects to a cumulative checklist or interaction matrix (see Method 3). Two or more effects on a single resource indicate a potential cumulative effect; weighted effects can be summed to indicate the magnitude of the effect.

METHODS

2 EXAMPLES:

Specific checklists have been developed for many different classes of actions (e.g., housing projects, sewage treatment facilities, power plants, highways, airports). Several federal agencies have standard checklists for preparing EISs or EAs (e.g., U.S. DOE 1994). The California Department of Transportation (1993) has developed a checklist of 56 questions that must be answered for each state highway project. Question 55 specifically addresses cumulative effects:

Does the project have environmental effects which are individually limited, but cumulatively considerable? Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. It includes the effects of other projects which interact with this project and, together, are considerable.

This kind of "simple" questionnaire checklist acts merely as a reminder to the analyst and does not include supplemental information about the likely kinds of effects that may arise. Canter and Kamath (1995) have developed a comprehensive, yet generic, questionnaire checklist that addresses the cumulative effects

of projects. "Descriptive" checklists expand on the checklist concept by including information on measuring and predicting effects (Canter 1996). A more elaborate descriptive checklist is the environmental impact computer system developed by the U.S. Army Construction Engineering Laboratory (Lee et al. 1974). This system identifies potential environmental effects from 9 functional areas of Army activities on 11 broad environmental categories (Jain and Kumar 1973). This computer system can produce checklists of potential effects arising from up to 2,000 Army activities on 1,000 environmental factors. The organization of activities and resources in the same table constitutes an interaction matrix as originally devised by Leopold and others (1971).

Checklists can also be modified to include qualitative terms for each identified effect, such as "adverse" or "beneficial," "short-term" or "long-term," and "no effect" or "significant effect." The hypothetical cumulative checklist in Table A-1 uses a qualitative symbol in place of the usual checkmark next to each potential effect on the list. In this example, the cumulative effects column reflects the number or magnitude of cumulative effects identified for that resource row. More sophisticated uses of this tabular approach are discussed in the matrices section that follows.

METHODS

Table A-1. Hypothetical checklist for identifying potential cumulative effects of a highway project

Potential Impact Area	Proposed Action			Past Actions	Other Present Actions	Future Actions	Cumulative Impact
	Construction	Operation	Mitigation				
Topography and Soils	**			*			**
Water Quality	**	*	+	*	*	*	***
Air Quality		**		*			**
Aquatic Resources	**	**	+	*		*	**
Terrestrial Resources	*	*		*			**
Land Use	*	***		*		*	***
Aesthetics	**	***	+	*			**
Public Services	*	+				+	+
Community Structure		*			*		*
Others							

KEY: * low adverse effect ** moderate adverse effect *** high adverse effect
 + beneficial effect □ no effect

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METHODS

3 MATRICES

Matrices are two-dimensional checklists that attempt to quantify the interactions between human activities and resources or ecosystems of concern. They were designed to assess the magnitude and importance of individual interactions between activities and resources (Leopold et al. 1971) but have been extended to consider the cumulative effects of multiple actions on resources (Bain et al. 1986; Stull et al. 1987; LaGory et al. 1993).

Matrices alone cannot quantify effects, but they are a useful means of presenting and manipulating quantitative results of modeling, mapping, and subjective techniques. Once even relatively complex numerical data are obtained, matrices are well-suited to *combining the values in individual cells in the matrix (through matrix algebra) to evaluate the cumulative effects of multiple actions on individual resources, ecosystems, and human communities*. Matrices have the advantage of being mathematically straightforward and readily amenable to interpretation because of their familiar tabular format. Matrices are commonly used in social science research and have the potential for increased application in social and economic analyses.

The values entered in a matrix can take one of several forms. The analyst may elect to simply note the presence or absence of an effect (i.e., a binary entry). This has the benefit of being straightforward and readily understandable; however, it fails to note the magnitude of

effects on various resources and does not allow the user to value resources differentially (e.g., through the use of numeric weights). Thus, a binary approach does not facilitate analyzing the cumulative effects on a resource, where the activities have consequences of varying degrees.

Analysts may instead choose to score effects based on factors such as magnitude, importance, duration, probability of occurrence, or feasibility of mitigation. The value entered may reflect some measurable value (e.g., soil loss may be expressed in tons/acre/ year), or it may reflect some relative ranking of the effect. Although complex weighting schemes allow the user to rank resource effects, the results may be difficult for others to understand, and the weighting schemes can be highly subjective. When using weighting schemes, analysts should enunciate the ranking criteria and consider whether it is scientifically reasonable to attempt a numeric comparison of cumulative effects on different resources.

The matrix concept can be extended to include stepped matrices that display resources against other resources (Canter 1996). Stepped matrices address secondary and tertiary effects of initiating actions and facilitate tracing effects through the environment. For example, action 1 causes changes in resource A which causes further changes in resource B. Stepped matrices are an intermediate method between simple matrices and networks and system diagrams (see Method 4).

METHODS

3 EXAMPLES:

Matrices were first formally proposed for environmental impact assessment by the U.S. Geological Survey (Leopold et al. 1971). Since that time a number of matrix methods have been proposed for analyzing cumulative effects. One such methodology is the Cluster Impact Assessment Procedure (CIAP) developed by the Federal Energy Regulatory Commission in the mid-1980s (FERC 1985, 1986a; Russo 1985). The methodology was developed specifically for use in assessing the cumulative effects of small hydroelectric facilities within single watersheds. The CIAP uses a matrix for each resource (e.g., salmon) consisting of relative effect ratings (on a scale from 1 to 5) arranged by project and resource components (e.g., for salmon, spawning habitat, migration). Each resource matrix table contains a summary column that represents the sum of effect ratings across components for each project (Figure A-1). An overall summary table is then developed that presents the effects of each project on all resources analyzed.

The CIAP does not incorporate or consider the possibility of synergistic interactions among projects that could result in nonadditive effects on resources; the effects of individual projects are simply added together to determine cumulative effects. This short-coming led to modification of the methodology to include interaction effects. With these modifications, cumulative

effects are viewed as being equivalent to the sum of the effects of individual projects plus any interaction between pairs of projects. Modified CIAP procedures include the approach used in the Salmon River and Snohomish River EISs for hydroelectric development in those basins (FERC 1986b, 1987; Irving and Bain 1993). Other matrix methodologies that incorporate interaction effects have been proposed (Bain et al. 1986; Stull et al. 1987; LaGory et al. 1993). Each represents a further development of the approach with an attempt to more accurately quantify cumulative impacts; consequently, each succeeding methodology attains additional complexity.

The Integrated Tabular Methodology (Stull et al. 1987; LaGory et al. 1993) uses the same matrix approach as Bain et al. (1986) but involves a systematic (albeit relatively complex) method of quantifying and developing interaction coefficients. To determine interaction coefficients, this method requires identification of the impact zones for all projects being evaluated as well as knowledge of the response of resources to environmental change. The methodology is designed to be flexible and can use a wide variety of data and models. For example, the methodology can use evaluative criteria such as effect ratings, habitat suitability indices (USFWS 1980; Bovee 1982), or quantitative population models.

METHODS

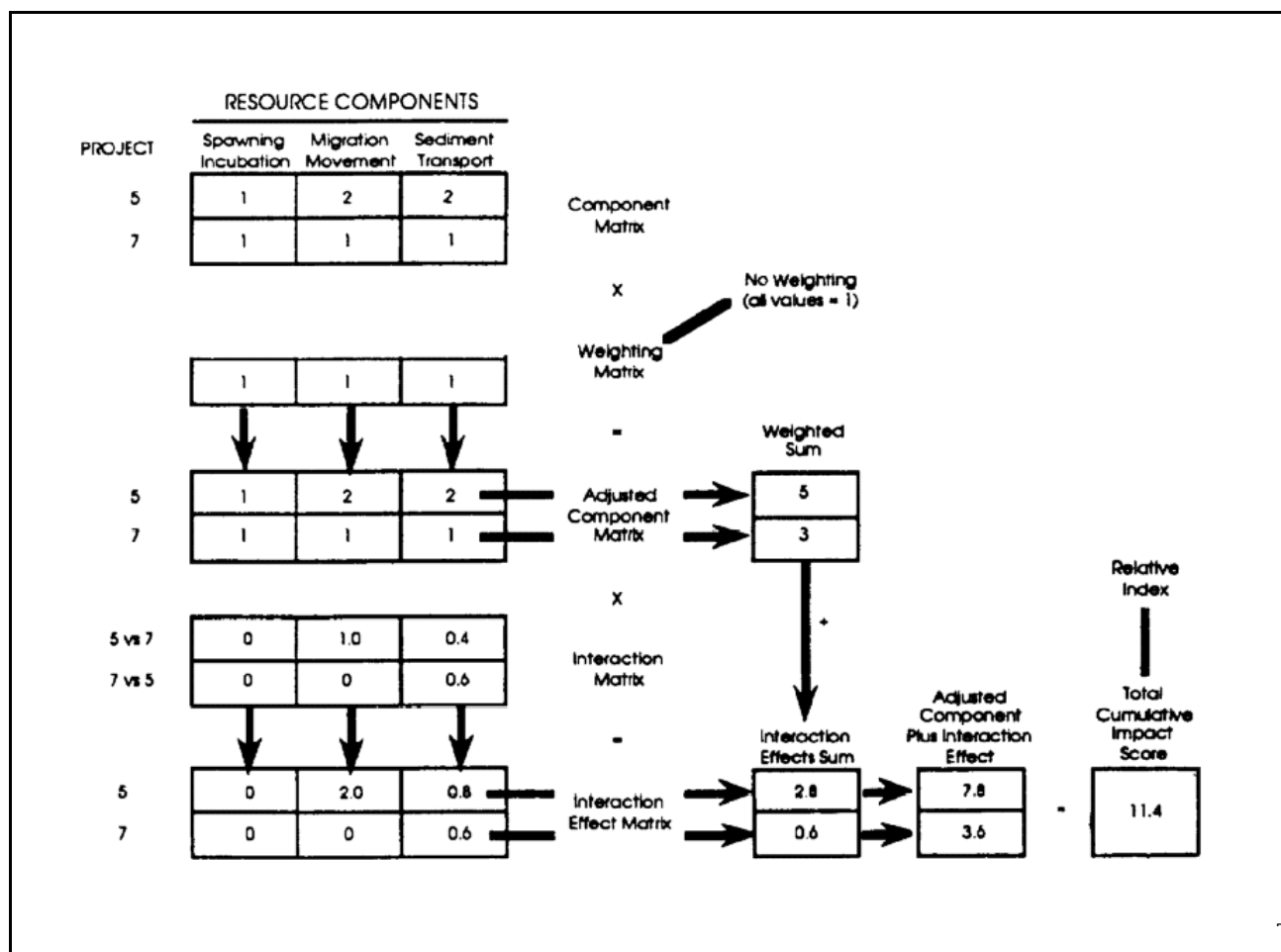


Figure A-1. Example of cumulative impact computations for a target resource with three resource components and two projects (FERC 1987).

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4

NETWORKS AND SYSTEM DIAGRAMS

Networks and system diagrams relate the components of an environmental or social system in a chain (network) or web (loop or system diagram) of causality and allow the user to trace cause and effect through a series of potential links. They allow the user to analyze the multiple, subsidiary effects of various actions and trace indirect effects on resources stemming from direct effects on other resources. In this way, the accumulation of multiple effects on individual resources, ecosystems, and human communities can be determined. *Networks and system diagrams are often the analyst's best method for identifying the cause-and-effect relationships that result in cumulative effects.*

Networks, loops, and system diagrams improve on the stepped matrix approach to illustrating the relationship among actions, effects, and environmental or socioeconomic conditions by using component boxes (or symbols) and linkage arrows (denoting processes). Networks and system diagrams concisely illustrate interactions among variables and secondary effects. Cumulative effects are identified whenever multiple sources affect the same resource, or when multiple effects of the same source affect a resource (via indirect pathways through other resource components). When quantitative measures are included, effects and their interactions can be evaluated using a common unit of measurement (usually energy flow). The use of a common scale distinguishes networks and system diagrams from other cumulative effects analysis methods but requires evaluating different classes of effects separately (e.g., ecological versus social impacts).

By definition, network analysis proceeds in only one direction (forward), whereas loops or system diagrams allow feedback of information output by one part of the system to any other part of the system. Networks also assume a strict hierarchical linkage among system variables and are thus not capable of showing all relationships among variables. In contrast, system diagrams are specifically designed to illustrate the interrelationships (and process pathways) among all components and thus are more realistic. The lack of an appropriate unit of measure for all system compartments can limit the analyst's ability to quantify system diagrams, but some success has been obtained by using the flow of water or energy flow as common units of measure (Gilliland and Risser 1977).

Expert systems can be used to implement network analysis. Expert systems are simply sets of logical rules that mirror the analysis process of an expert in some field. To identify cumulative effects, an expert system would (1) query the analyst about additional activities that might affect the resource in question and (2) carry the predicted effects through known causal links to reveal additional secondary effects on each resource. The line of questioning will take different courses, depending on the user's answers to questions along the way. The program used to work its way through the questions and answers is called an inference engine.

METHODS

4 EXAMPLES:

Since the introduction of network analysis for impact assessment by Sorensen (1971), networks and systems diagrams have been useful for describing cause-and-effect relationships in both natural and human-dominated systems. Figure A-2 illustrates how cumulative effects on socioeconomic conditions can be identified. The figure (modified from Rau and Wooten 1985) shows how the removal of both homes and businesses (following freeway construction) cumulatively results in an increase in property tax rate at the tetryary level of effects. A comprehensive network (Figure A-3) illustrating all causes, perturbations, primary effects, and secondary effects related to coastal zone development was prepared for the

Australian (Commonwealth) Environmental Protection Agency (1994).

An example of the case of a single activity resulting in cumulative effects on a single resource through indirect effects is illustrated in Figure A-4 (Bisset 1983). This system diagram shows damage to fish spawning resulting from aerial application of herbicides through five different pathways resulting in low dissolved oxygen and high sediment stress. Low dissolved oxygen is caused by decreased plankton growth and increased oxygen consumption from debris pollution and erosion; increased sediment is also caused by debris pollution and increased erosion following the loss of riparian vegetation.

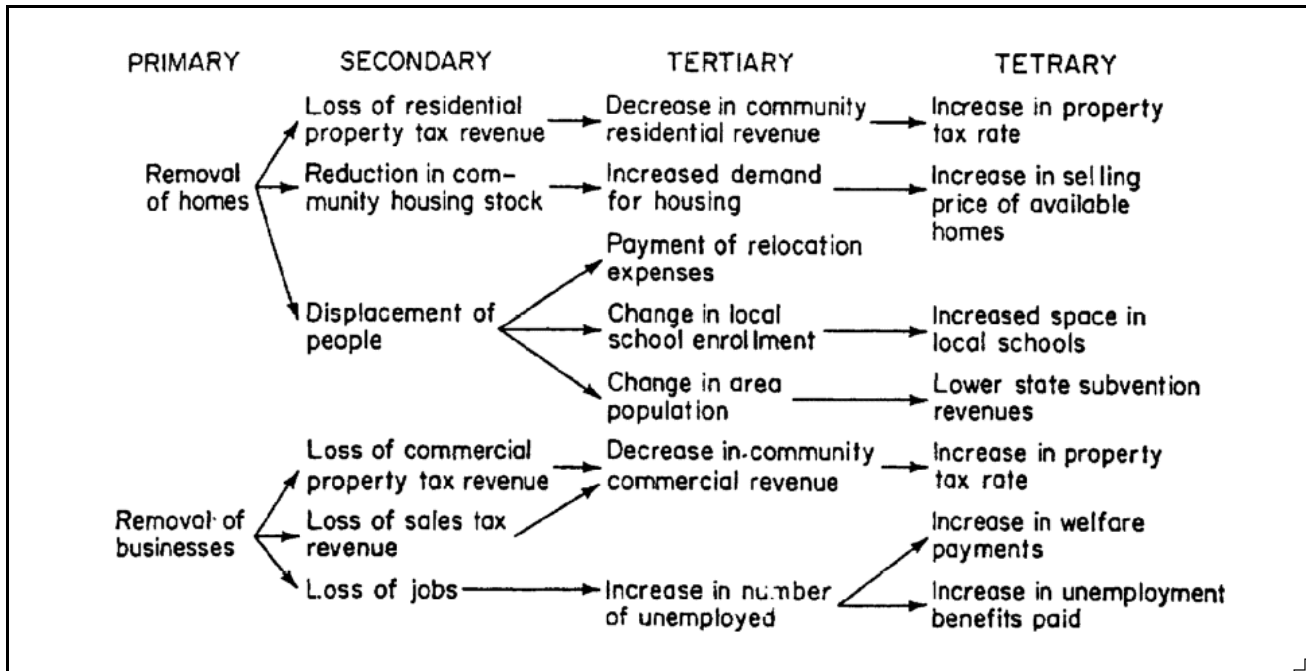
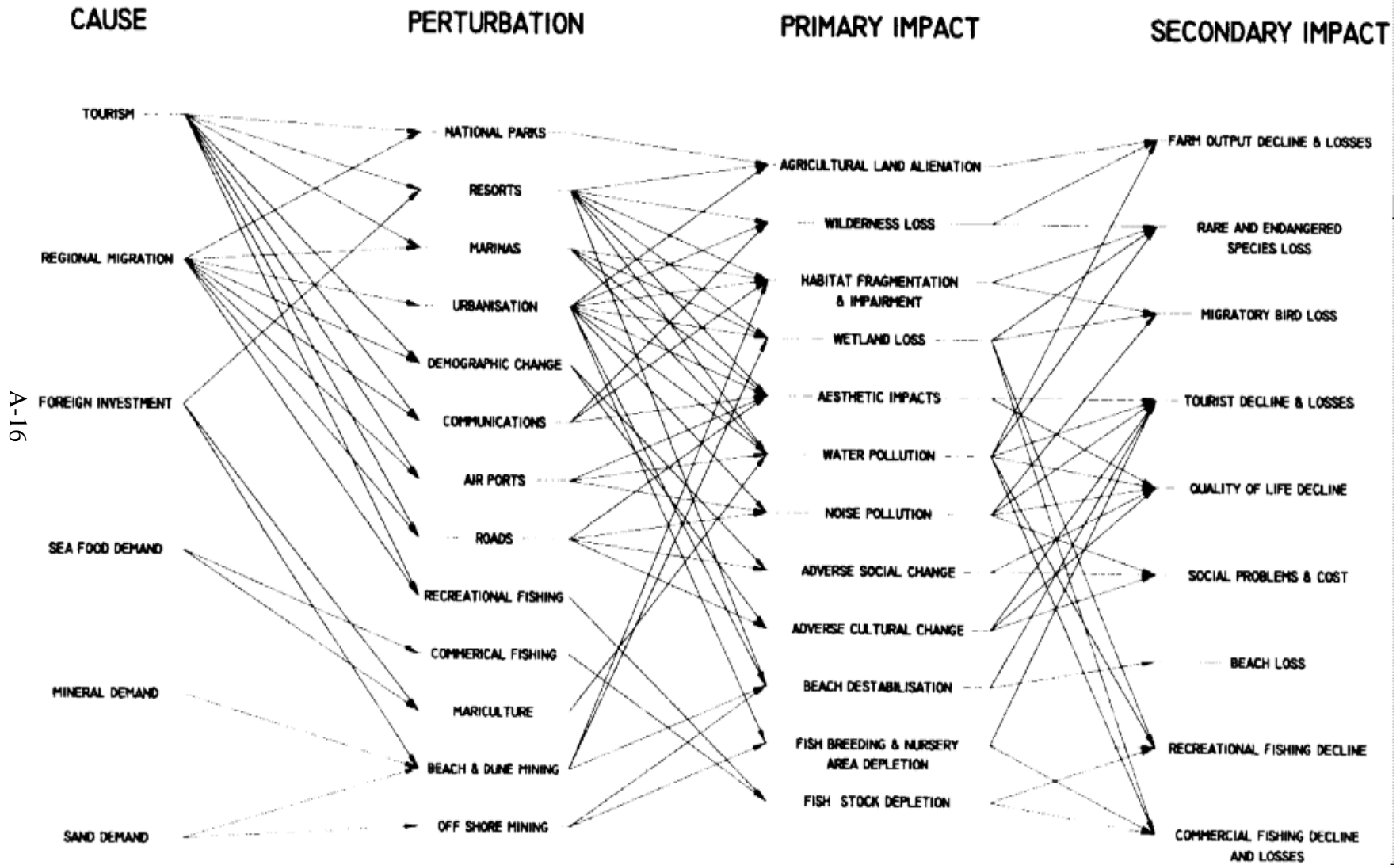


Figure A-2. Example of an "impact tree" for new freeway construction in an established downtown business district (modified from Rau and Wooten 1985)

METHODS

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A-16

Figure A-3. A specific cause-and-effect network for coastal zone development cumulative impacts in Australia [Australian (Commonwealth) Environmental Protection Agency 1994]

METHODS

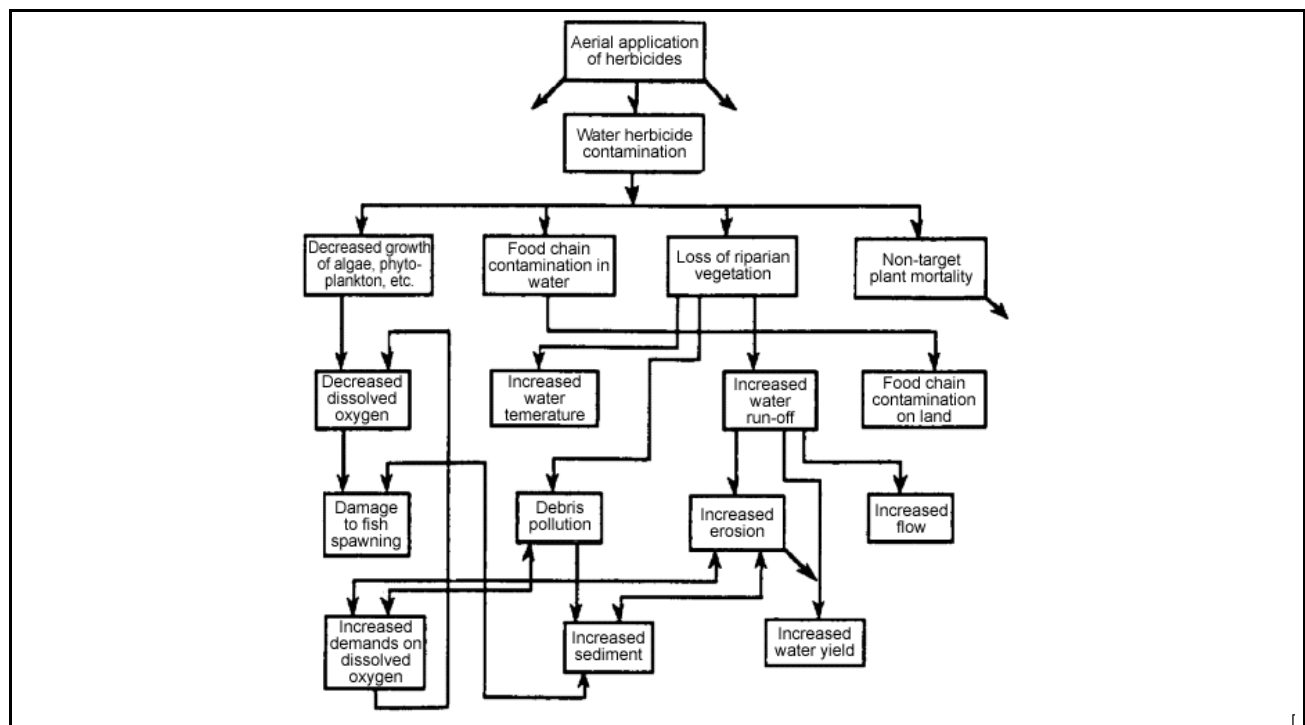


Figure A-4. System diagram showing cumulative indirect effects of aerial application of herbicide on an aquatic system (Bisset 1983).

As part of the Chesapeake Bay Restoration Plan, a cause-and-effect network analysis was conducted during a workshop charged with analyzing cumulative effects on the Bay (Williamson et al. 1987). This approach led the workshop away from focusing on development actions (near the start of the causal chains) or fish and wildlife species (near the end of the effect chains) to focusing on habitats as the hub of the cause-and-effect relationships contributing to cumulative effects on the Bay's living resources. This network analysis was instrumental in focusing the cumulative effects analysis on the appropriate ecological goals and remedial actions needed (Williamson 1993).

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5 MODELING

Modeling is a powerful technique for *quantifying the cause-and-effect relationships leading to cumulative effects*. Modeling can take the form of mathematical equations describing cumulative processes such as soil erosion, or it may constitute an expert system that computes the effect of various project scenarios based on a program of logical decisions. Modeling is also used in socioeconomic analyses, ranging from macroeconomic models to community-level demographics (see Methods 10 and 11).

Developing project-specific models requires substantial resources and time. For this reason, cumulative effects analysis will most often use or modify existing models. The lack of baseline data or project-specific data can also limit the use of sophisticated models. Nonetheless, modeling holds considerable promise for analyzing cumulative effects. In general, the use of models requires that an agency invest in (1) developing a given model or technique, or (2) obtaining baseline data for use in an existing model. The short-term investment usually reaps long-term benefits in analyzing cumulative effects. In some cases, the analyst may find a direct match between the model and the application to existing data. Examples where

cumulative effects are routinely modeled include the following:

- Air dispersion models
- Hydrologic regime models
- Oxygen sag models
- Soil erosion models
- Sediment transport models
- Species habitat models
- Regional economic models.

Models that are easily defended and generally recognized in the scientific community should be used. Thus, general models form the basis for most practical work under NEPA, whereas more sophisticated models are often used on a case-by-case basis. Rarely are models used to combine and evaluate cumulative effects of the proposed and other actions. Tables and matrices provide a more straightforward means of displaying alternatives and their cumulative effects on individual resources. Nonetheless, it is possible to develop an evaluative model that assigns resources to compartments and quantifies effects and relationships mathematically. Generally, the assumptions required by this approach are many, and the likelihood of public understanding and acceptance is low.

METHODS

5 EXAMPLES:

Concern for air quality has produced sophisticated air models that track local and regional emissions and estimate ambient (cumulative) pollutant concentrations. The original bubble concept in air pollution control was predicated on limiting the cumulative emissions at a site or region while allowing flexibility in the amount released by individual sources. Figure A-5 displays projected NO₂ concentration isopleths for the cumulative effects of an existing power plant and the proposed addition of a second generating unit in Healy, Alaska. This kind of model output can be combined with map overlay techniques to reveal potential adverse effects on mapped resources.

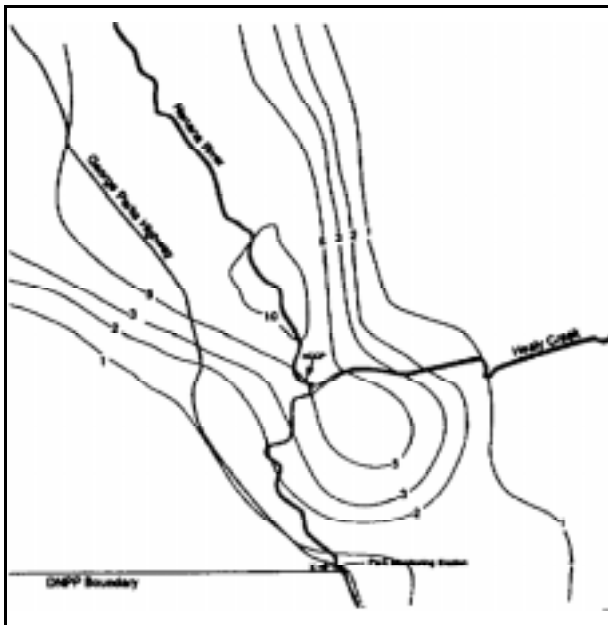


Figure A-5. Projected NO₂ concentration isopleths for combined HCCP and Unit 1 emissions, Healy, AK (Department of Energy 1993)

Water quality-based modeling is another approach to addressing cumulative effects of multiple discharges. Specifically, the cumulative effect of pollutant discharges into a waterbody can be determined through the wasteload allocation procedure under the National Pollution Discharge Elimination System (NPDES) permit process. The wasteload allocation uses a simple equation to incorporate receiving water dilution, background concentrations of pollutants, numeric water quality criteria or whole effluent toxicity information, and effluent volume for discharges into the stream of concern.

$$\text{waste load allocation} = \frac{[\text{WQC} (Q_s + Q_e) - (Q_s C_s)]}{Q_e}$$

- WQC = water quality criteria
- Q_s = upstream flow
- Q_e = effluent flow
- C_s = upstream concentration in toxic units

This wasteload allocation model sets the discharge limit so that the cumulative effect does not result in chronic toxicity to the aquatic biota of the stream. The most commonly used schemes for allocating waste loads among discharges are equal percent removal, equal effluent concentrations, and a hybrid method (where the criteria for waste reduction may not be the same for each point source).

Concerns over potential cumulative effects on aquatic resources resulting from decreases in dissolved oxygen (DO) concentrations prompted the Federal Energy Regulatory Commission (FERC) to model the DO in river reaches encompassing 19 potential hydroelectric generation sites in the Upper Ohio River Basin (FERC 1988). Although it is well known that introducing hydropower projects will affect DO

METHODS

concentrations by changing the amount of aeration that takes place at existing dams (from spillage over the dam), the cumulative effect on individual river reaches could only be determined by developing a simulation model (Figure A-6). This model first determined the amount of aeration provided by the dams, and then determined the change in DO caused by installing hydropower facilities. The amount of DO provided by dams was quantified by fitting field data to a statistical model. Then a mathematical model based on known biochemical oxygen demand (BOD) and hydraulic characteristics was developed to determine how changes in aeration at each dam where hydropower was proposed would affect DO concentrations over the entire study area. Ultimately, the effects of proposed hydropower projects on DO concentrations were analyzed under appropriate flow conditions, and the cumulative effects of different alternatives (combinations of projects) on target resources were defined.

The cumulative effects on species of concern can be modeled by quantifying specific mortality factors (e.g., entrainment of migrating species in the turbines of multiple hydropower facilities) or loss of suitable habitat. The cumulative effects of micro-hydro development on the fisheries of the Swan River drainage in Montana was modeled using the bull trout as the primary species of concern (Leathe and Enk 1985). A land-type-based watershed model was used to estimate future cumulative sediment loads resulting from a combination of forest management and micro-hydro development scenarios. The relationship of sediment load to substrate quality was determined and the substrate quality score was correlated with the number of bull trout. Based on these models, the cumulative effect on fisheries from scenarios containing 4 to 20 micro-hydro projects was estimated. Within the drainage, a 7% reduction in juvenile bull trout abundance was attributed to forest road construction; 13% to 24% losses were predicted for micro-hydro project development.

Truett et al. (1994) concluded that the best approach for assessing the cumulative effects on

wildlife is to focus on the habitat factors that control the distributions and abundances of

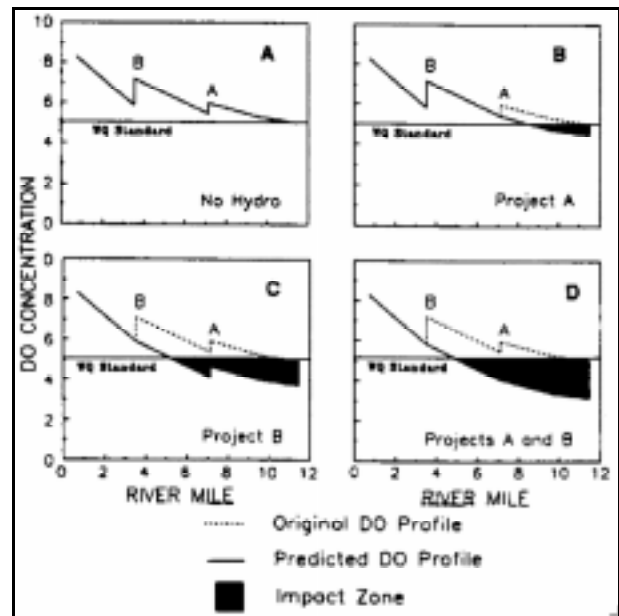


Figure A-6. Cumulative effects on dissolved oxygen caused by hydroelectric development, reduced spillages, and reduced aeration at dams (FERC 1988)

wildlife populations. The most commonly used models of resource-habitat relationships are the Habitat Evaluation Procedures (HEP; U.S. Fish and Wildlife Service 1980) and Instream Flow Incremental Methodology (IFIM; Armour et al. 1984) developed by the U.S. Fish and Wildlife Service. HEP uses Habitat Suitability Index (HSI) models to provide estimates of habitat quality (Schamberger et al. 1982; Hayes 1989). An HSI is developed for each species by aggregating functional values for specific habitat parameters known to support the species of interest. HSI models have also been developed for a few animal communities such as those found in shelterbelts (Schroeder 1986). The cumulative effect of multiple activities on a species can be determined by estimating the number of habitat units (combined HSIs for each habitat available to the species) affected in the area. HEP and IFIM models provide a common currency (habitat suitability) that can be debited by a wide variety of cumulative effects.

METHODS

Models are routinely used to assess regional economic effects. When the need to include socioeconomic considerations in NEPA analyses arose, the U.S. Army developed the Economic Impact Forecast System (EIFS) as a model that (1) was based in sound theory, (2) was accepted by the scientific community, and (3) could use readily available data. EIFS is discussed in more detail in the section on Economic Impact Analysis (Method 10).

Although the primary use of models in cumulative effects analysis is to quantify cause-and-effect relationships, optimization and simulation modeling can be used to evaluate among alternatives or against a predefined set of goals. Optimization methods (such as linear programming) address cumulative effects by explicitly incorporating multiple resources and seeking an optimum level for each resource relative to project objectives. Methods range from simple algebraic equations that are solved for variables of set ranges to complex versions including nonlinear functions, layers of optimizations, probabilities, and stochastic variables (Stull et al. 1987). Grygier and Stedinger (1985) used this technique to optimize energy production under the constraints of other goals including water supply, minimum flows, and reservoir levels. Simulation enables the practitioner to model an environmental or socioeconomic system, and simulate the effects of various actions on the system (as described by functional interactions among system components) over time and space. This is the most difficult of cumulative effects analysis methods, yet potentially most rewarding because it is capable of producing most nearly what a practitioner would want—a decisionmaking tool.

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6

TRENDS ANALYSIS

Trends analysis assesses the status of resources, ecosystems, and human communities over time and usually results in the graphical projection of past or future conditions. Changes in the occurrence or intensity of stress over time can also be determined. Trends analysis *provides the historical context that is critical to assessing the cumulative effects of proposed actions*. Specifically, trends analysis can assist the cumulative effects analyst by

- **Identifying cumulative effects problems.** When trends analysis demonstrates that a substantial amount of a resource has been lost, it usually reveals a cumulative effects problem that may be exacerbated by additional actions. For example, historical declines in a fishery resource may indicate that the fishery is near the threshold of population collapse.
- **Establishing appropriate environmental baselines.** When data on the current state of a resource are lacking (or too variable), trends data can be used to describe the existing condition. Trends information can also be used to develop historical baselines or regional goals against which to evaluate restoration efforts.
- **Projecting future cumulative effects.** Trends analysis can identify historical cause-and-effect relationships

between stresses and resources or ecosystems. Common cumulative effects relationships can be used to predict future effects whenever the environmental conditions are similar. Historical trends may also reveal threshold points where cumulative effects become significant or qualitatively different.

By documenting the cumulative effects on the condition of resources over time, trends analyses have been used as planners to assist with the orderly development of communities (by charting the course of economic development), and by wildlife managers to develop appropriate harvest guidelines (by recording populations trends in species). Changes in the condition of resources or ecosystems can be illustrated in both simple and complex forms. A simple trends analysis might produce a line graph showing decreasing numbers of animals from annual surveys. Changes in habitat pattern might be illustrated with a series of figures, or in a 3-dimensional graphic where the amount of change is portrayed on the vertical axis. Video simulations can be used to show complex changes in geographic or aesthetic resources. Time-series information from aerial photographs or satellite imagery are increasingly available for trends analysis across the United States.

METHODS

6 EXAMPLES:

Trends identified from long-term data sets greatly enhance the evaluation of cumulative effects analyses on individual species. For example, the U.S. Fish and Wildlife Service's Breeding Bird Survey (BBS) has identified declining bird populations that may be at greater risk from future cumulative effects (Robbins et al. 1986). As is the case with most long-term records, data gaps in the BBS require

using advanced statistical methods to ensure accurate interpretation of trends. In this case, proportional trends for each survey route were estimated and then weighted to account for areal and data influences (Figure A-7). Trends analyses of bird surveys have identified a number of species with substantial declines in numbers, including many migratory songbirds (Atkins et al. 1990; Terborgh 1992).

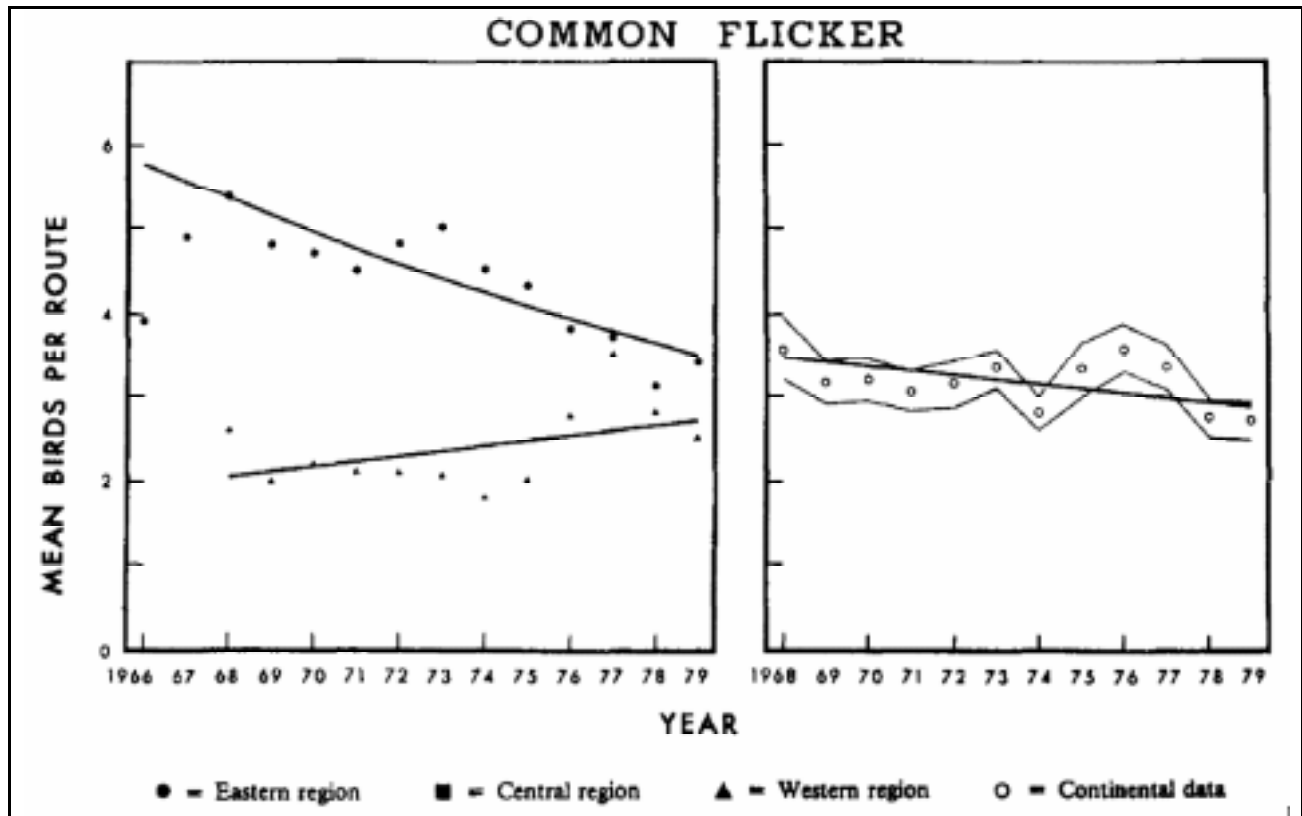


Figure A-7. Common flicker population trends (Robbins et al. 1986)

METHODS

Trends in the abundance and distribution of habitats are one of the most important indicators of cumulative effects problems. Figure A-8 dramatically illustrates the trend toward fragmentation of forested areas in Wisconsin (Curtis 1956 cited in Terborgh 1989). A recent study by the U.S. Army Corps of Engineers, in cooperation with U.S. EPA, Fish and Wildlife Service, and NOAA (1993), addressed historical trends in special aquatic habitats of Commencement Bay, WA, resulting from numerous dredge and fill activities since 1877. To address changes over 140 years, the trends analysis study combined historical literature with the photographic record. The use of remotely sensed photographic imagery allowed analysts to combine measures of the areal extent of spoil disposal with written information on the volume of material dredged, and produced a dramatic illustration of downward trends in the area of both intertidal mudflats and marshes (Table A-2).

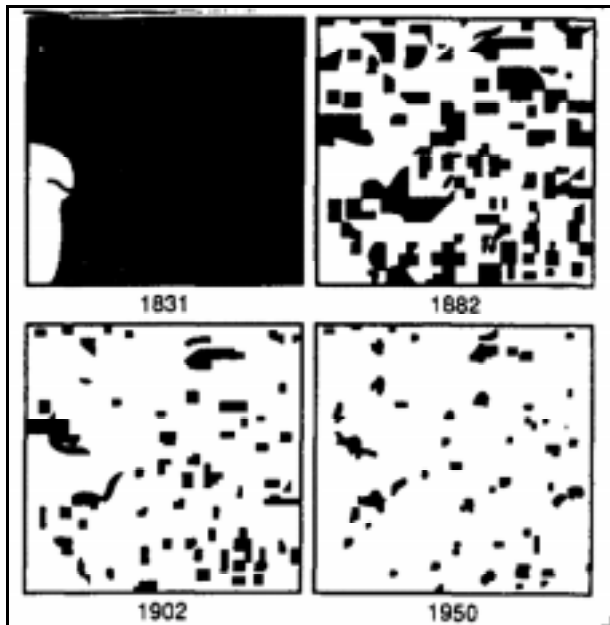


Figure A-8. Cadiz township forest fragmentation (Curtis 1956 cited in Terborgh 1989)

Many other examples of historical losses of wetlands have been reported by the U.S. Fish and Wildlife Service's National Wetlands Inventory (NWI; Dahl et al. 1991). In addition to identifying (and quantifying) this cumulative effects problem, the NWI trends analysis has produced statistics (such as the remaining acreage of different wetlands types) that can be used to predict thresholds where future wetlands losses will likely affect watershed functioning. The "synoptic approach" to cumulative effects analysis developed by the U.S. EPA Environmental Research Laboratory in Corvallis (Leibowitz et al. 1992) proposes to use this information as a quantitative means of comparing wetlands losses among watersheds and determining where future wetland losses will have the greatest effect.

Trends analysis can also be used to construct the environmental baseline for cumulative effects analysis when adequate data on the state of a resource are lacking or are too variable. For example, sediment cores drawn from lakes or estuaries can often be used to obtain a more accurate picture of the state of contamination than can standard sediment samples. Landings of commercial fish species are notoriously variable, but historical trends can identify appropriate baseline population levels as targets for restoration efforts.

Trends analysis in land disturbance have also been used to estimate future cumulative effects based on the causal relationship between land use and resource degradation. Time-series data and aerial photos illustrating trends in land disturbance in Elkhorn Slough, CA, over a 50-year period were used to predict the effect of future residential development (Dickert and Tuttle 1985). In addition, the trends analysis produced a historical trends target that was deemed acceptable for final buildout of the area.

METHODS

**Table A-2. Habitat loss by historic period in Commencement Bay, WA
(modified from USACE 1993)**

Historic Period	Habitat Type	Historical Records of Lost Habitat	Total Lost Habitat (includes historical records and photographic evidence)	Acres Remaining
1877 - 1894	mudflat	11	0	2,074
	marsh	20	0	3,874
1894 - 1907	mudflat	208	605	1,469
	marsh	41	415	3,459
1907 - 1917	mudflat	51	542	927
	marsh	35	64	3,395
1917 - 1927	mudflat	48	162	765
	marsh	0	72	3,320
1927 - 1941	mudflat	143	133	632
	marsh	399	1,676	1,44
1941 - Present	mudflat	105	412	187
	marsh	1,557	1,587	57
TOTALS	mudflat	566	1,54	
	marsh	1,052	3,814	

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7

OVERLAY MAPPING AND GIS

Overlay mapping and geographic information systems (GIS) incorporate locational information into cumulative effects analysis. Simple mapping characterizes the spatial aspects of resources, ecosystems, and human communities and helps set the boundaries of the analysis. Overlay mapping can directly evaluate cumulative effects by identifying areas where effects will be the greatest. Mapping and GIS can also address concerns, such as landscape connectivity, that are difficult, if not impossible, to address with other methods. Map overlays *are extremely useful for any form of visual representation.*

The most direct use of overlay mapping for analyzing cumulative effects is "impact-oriented," wherein a composite cumulative effects map is produced by overlaying individual effects from different actions. Examples include the combined effects of both air deposition and water discharge of contaminants to a river, as well as the cumulative effects of multiple land uses in a forested watershed. The more common map overlay approach, however, combines thematic maps of different landscape features to rate areas or resources as to their suitability for development or risk from degradation. In this "resource-oriented" approach, cumulative effects in specific areas can be compared to land suitability determinations (resource or ecosystem thresholds) for those areas. The result is a suitability map that combines development opportunities and environmental and socioeconomic constraints (e.g., both endangered species habitats and public transportation routes) to

disturbance or the areas where disturbance will have the greatest consequences (e.g., those that

identify parcels suited to each activity type (McHarg 1969).

Resource-oriented overlay mapping supports the planning approach to cumulative effects analysis and is often called resource capability analysis. Resource capability analysis can be used to optimize the integration of a site's natural and cultural features with various site design elements (Rubenstein 1987), or to minimize wastefulness in resource utilization (McKenzie 1975). Resource capability analysis uses opportunity, constraint, and suitability maps (Rubenstein 1987). Opportunity maps generally depict conditions related to factors such as soil types or topographic slopes that are suitable for development; constraint maps depict areas that for various reasons, such as the presence of wetlands, floodplains, or cultural resources, are not conducive to development. The land suitability map combines the information in the opportunity and constraints maps to identify those areas best suited for the activities planned.

Suitability ratings can be used to express the responses of resources, ecosystems, and human communities in the absence of more sophisticated quantitative cause-and-effect models (Contant and Wiggins 1993). Where these suitability ratings are based on thresholds above which effects exceed the capacity of the affected resources to sustain themselves, the evaluation is equivalent to carrying capacity analysis. Resource-oriented overlay mapping usually identifies the areas most sensitive to

are most valued or have endured the greatest past losses).

METHODS

Overlay maps and land suitability maps have rapidly evolved from handmade transparencies to GIS-based computer overlays (for potential problems see Bailey 1988). In the simplest case, map layers are hand drawn on transparent sheets and then overlain. Each sheet represents a single map layer containing a certain type of information. Within each sheet (or overlay), the importance (or weight) assigned to different data categories is represented by the degree of shading used. The shading seen when all map overlays are stacked atop each other reveals graphically the overall suitability of different areas within the mapped region for the

user-defined purpose. In the effect-oriented approach, darker shading may be used to identify areas subject to the greatest cumulative effects (from multiple actions).

Using a GIS to implement overlay mapping allows the analyst to electronically overlay natural and cultural features and produce composite maps quickly (Johnson et al. 1988). In some cases, GIS maps are derived directly from satellite images using land cover interpretation algorithms. Like the user of the manual transparent map overlay technique, the GIS user can develop weighted functions to assign numeric weights to each map area (or groupings of grid cells) within a map layer. Such weights might be determined by an expert in the field, or based on a statistical classification drawn from field measurements.

METHODS

7 EXAMPLES:

Examples of the use of overlay mapping and GIS to analyze cumulative effects include both the effect-oriented approach (e.g., where two or more contaminant sources are mapped over a single resource) and the resource-oriented approach (e.g., where the map overlays are used to characterize land areas in terms of their suitability for development). The former approach is typified by GIS-based groundwater analyses where multiple plumes of contaminated water are overlain on the aquifer of interest to determine the cumulative effects. Many other resources and ecosystems have important geographical characteristics that must be considered in analyzing cumulative effects. For example, overlay mapping can reveal the cumulative fragmentation of a spatially contiguous forest (critical to many migratory songbirds) from activities such as road and building construction. In the Corridor Selection Supplemental Draft EIS for the construction of the Appalachian Corridor H highway near Elkins, West Virginia (West Virginia DOT 1992), GIS map overlays produced estimates of the amount of forest fragmentation, reduction in core forest area, and spatial contact of construction with remote habitat areas.

The resource-oriented overlay mapping approach is commonly used to select the preferred development option (e.g., the right-of-way route that minimizes cumulative effects on resources, ecosystems, and human communities). In his classic *Design With Nature*, Ian McHarg (1969) described the use of map overlays for planning coastal island development, highways, open space in Philadelphia, suburban growth near Baltimore, land use on Staten Island, and regional development around metropolitan Washington, D.C. In the highway development example, he used overlay mapping to determine

a "minimum-social-cost alignment" to replace the originally proposed highway corridor.

Master plans often use resource capability analysis to address the cumulative effects of multiple actions. The resources to be included in the capability analysis depend on the activities being undertaken, and analyses range from comprehensive assessments of all physical, biological, and socioeconomic factors in a regional planning area to limited analyses of the potential for sediment runoff related to the slope, soil, and permeability of a given plot of land. For example, overlays of a site's topographic features (e.g., geology, soils, slope, and vegetation) can be used to designate areas where construction will not contribute to cumulative runoff problems (i.e., soils with low erosion potential). Overlay mapping is also critical to planning conflicting land uses, such as combat training activities and natural resource conservation on military installations. The intersection of impact areas (e.g., aircraft flight corridors, tank maneuvers, large weapon firing areas, ordinance impact areas) and sensitive environments (e.g., wildlife refuges and endangered species habitats) can be determined through overlay mapping as illustrated in Figure A-9 (produced from map archives, Department of the Navy, Naval Air Station Patuxent River, MD, 1996).

Overlay mapping and GIS can also be used to document past cumulative effects and help predict future effects. Walker et al. (1987) used remote sensing data and GIS to evaluate the indirect effects of oil field development in the Prudhoe Bay Oil Field, Alaska. Aerial photographs revealed surface disturbance (flooding

METHODS

and thermokarst) extending beyond the areas directly affected by construction. These unanticipated effects on frozen arctic soils and thaw-lake wetlands constitute an important cumulative effects problem for oil field activities. Overlay mapping of the spatial properties of areas (e.g., vegetation, amount of open water, land and surface form types, and soil type) where these indirect effects were more pronounced can be used to predict future cumulative effects and better plan resource extraction in this fragile ecosystem.

The promise of GIS as a tool for solving cumulative effects problems is evidenced by the rapidly increasing applications of GIS to land management of forests (Sample 1994) and wetlands (Lyon and McCarthy 1995). Jerry Franklin (1994) states that GIS may be the most important technology resource managers have acquired in recent memory. He predicts that GIS will be invaluable in (1) inventory and monitoring, (2) management planning, (3) policy setting, (4) research, and (5) consensual decisionmaking. In a much publicized example, the

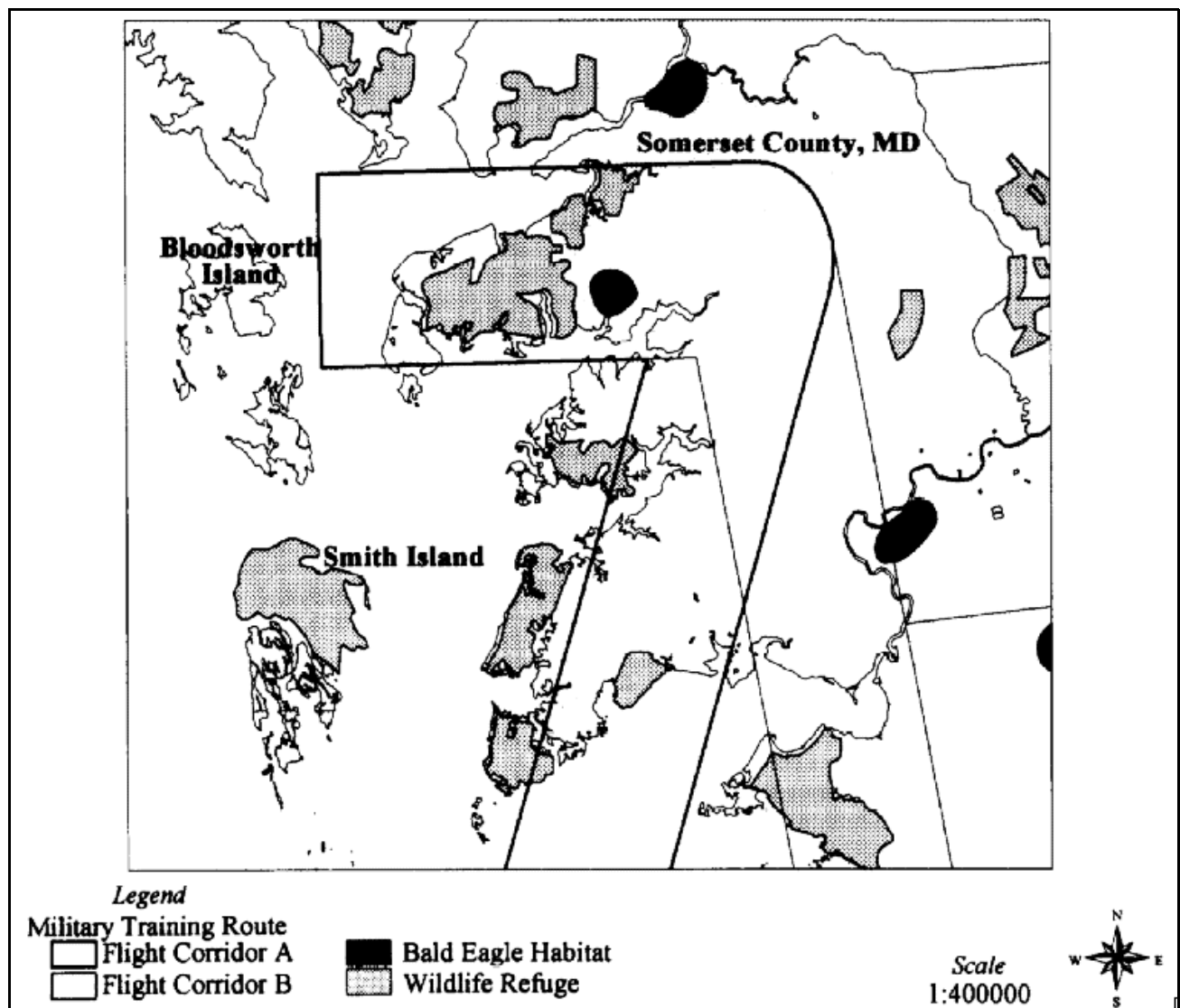


Figure A-9. Hypothetical intersection between aviation flight corridors and environmental resources near a typical U.S. military installation (Department of the Navy 1996)

METHODS

resolution of the Pacific Northwest forest controversy would have been impossible without GIS. Only when GIS was combined with remote sensing information was the actual extent (or lack) of old growth forest determined. Perhaps more importantly, various scientific panels were charged with developing and evaluating alternatives for protecting late-successional forest ecosystems and associated species (e.g., northern spotted owl). Only when an effective GIS capability was developed, was it possible to display and modify the alternatives before decision-makers (including Congressional delegations) so that reasonable consensus could be achieved.

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8

CARRYING CAPACITY ANALYSIS

Carrying capacity analysis derives from the fact that inherent limits, or thresholds, exist for many environmental and socioeconomic systems. Carrying capacity in the ecological context *is defined as the threshold of stress below which populations and ecosystem functions can be sustained*. In the social context, the carrying capacity of a region is the sum of human activities that can be maintained while providing the level of services (including ecological services) desired by the populace. When cumulative effects exceed the carrying capacity of a resource, ecosystem, and human community, the consequences are significant.

As a method for evaluating cumulative effects, carrying capacity analysis serves to identify thresholds for the resources and systems of concern (as constraints on development) and provide mechanisms to monitor the incremental use of unused capacity. Carrying capacity analysis begins with the identification of potentially limiting factors (e.g., the supply of water in a desert riparian ecosystem). Mathematical equations are then developed to describe the capacity of the resource or system in terms of numerical limits (thresholds) imposed by each limiting factor. In this way, projects can be systematically evaluated in terms of their effect on the remaining capacity of limiting factors (Contant and Wiggins 1993).

Carrying capacity analysis can be especially useful for assessing cumulative effects in the following situations:

- Infrastructure and public facilities
- Air and water quality
- Wildlife populations
- Recreational use of natural areas
- Land use planning

The determination of carrying capacity is straightforward for public facilities such as water supply systems, sewage treatment systems, and traffic systems. A reservoir can only supply water to a finite number of consumptive users. In the case of air and water quality control programs, statutory limits (or standards) are regulatory thresholds of the carrying capacity of air or water in the region of interest. Cumulative effects can be estimated through physical and mathematical models and then compared with these standards. Unlike engineered systems, thresholds involving subjective human uses must be based on goal-oriented statements of public opinion and can only be obtained through opinion survey information or the scoping process. Such thresholds include the degree of enjoyment obtained from a recreational experience. In natural systems, the carrying capacity of well-studied populations (usually game species) can be adequately modeled, but the capacity of whole ecosystems to withstand and recover from stress (i.e., their resilience) has yet to be modeled precisely and at best is expressed in gross probabilistic terms (i.e., the likelihood of a set of events occurring).

METHODS

8 EXAMPLES:

The air and water quality criteria provisions of the Clean Air Act and Clean Water Act, respectively, represent carrying capacity approaches to dealing with cumulative effects (as opposed to best available technology approaches). Under the Clean Air Act Amendments of 1990, states measure the cumulative effect of all sources on the concentration of air pollutants in specified attainment areas using regional models. New stationary sources are not permitted if they are determined to cause, in the aggregate, the concentration of a pollutant of concern to exceed its standard (the presumed carrying capacity of the area). Similarly, total maximum daily loads (TMDLs) are calculated for water bodies receiving point and nonpoint discharges as part of the NPDES permit process to ensure that the cumulative effects on water quality do not exceed the assimilation capacity of the receiving waters. If the cumulative effect remains below standards, capacities are not exceeded, and new proposals can be authorized (Contant and Wiggins 1993).

Wildlife and fisheries managers have been conducting carrying capacity analyses for many years (Smith 1974). Specifically, managers have used the maximum-sustained-yield concept to determine the amount of harvest of fish or game populations that will not result in deterioration of the population (i.e., not exceed the capacity of the population to renew itself). The U.S. Forest Service developed *Management Recommendations for the Northern Goshawk in the Southwestern United States* based on the concern that the goshawk, a forest habitat generalist, may be experiencing declining populations and reproduction associated with tree harvests and other factors affecting the carrying capacity of western forests (Reynolds et al. 1992). These guidelines will be used to develop national forest plans in the Southwestern Region that will

maintain the forest carrying capacity (i.e., specific habitat attributes and important prey species) needed to sustain goshawk populations despite the cumulative effects of human influences and natural perturbations, including loss of an herbaceous and shrubby understory, reduction in the amount of older forests, and increased areas of dense tree regeneration.

Managers of natural areas also employ the carrying capacity concept to prevent parks and other recreation areas from becoming overused.

Techniques used to evaluate the cumulative effects of recreation applications involve use thresholds (i.e., standards) based on social values (e.g., opportunities for solitude) and ecological factors (e.g., presence of rare and endangered species). The recreational carrying capacity concept is explicitly linked to the notion of nondegradation, where current conditions set a baseline or standard for environmental quality. For example, Forest Service researchers have devised the Limits of Acceptable Change process for setting and monitoring recreational carrying capacity in a wilderness area (Stankey et al. 1985). The U.S. Army Corps of Engineers (1993) addressed both the social carrying capacity and the resource carrying capacity of the Fox waterway in Illinois as it developed permitting policy guidelines for the area. Based on a definition of when people feel crowded, the social carrying capacity was determined to be approximately 854 boats and 236 jet skis on the open areas of the waterway. Based on a water quality definition that used a threshold of water clarity needed for vegetation growth, the resource carrying capacity was determined to be 350 cruising boats (i.e., the number that could use the deeper water areas that did not support sensitive vegetation).

METHODS

Carrying capacity analysis is a critical part of land use planning for sustainable development. Ideally, knowledge of the carrying capacity of an area provides the basis for developing suitability maps to guide future growth (including proposed federal projects). When applied to human communities, carrying capacity can be defined as "the ability of a natural or man-made system to absorb population growth or physical development without significant degradation

or breakdown" (Schneider et al. 1978). As part of comprehensive planning for Sanibel Island, Florida, land capability analysis was conducted to determine the cumulative effects of development actions on the structure and functions of the ecological zones of the island (Clark 1976). This analysis led to a comprehensive set of management guidelines based on the carrying capacity of these natural systems for sustaining human development. Figure A-10 illustrates the combinations of population numbers and population density that are possible without exceeding the carrying capacity of interior wetlands to assimilate runoff from developed areas.

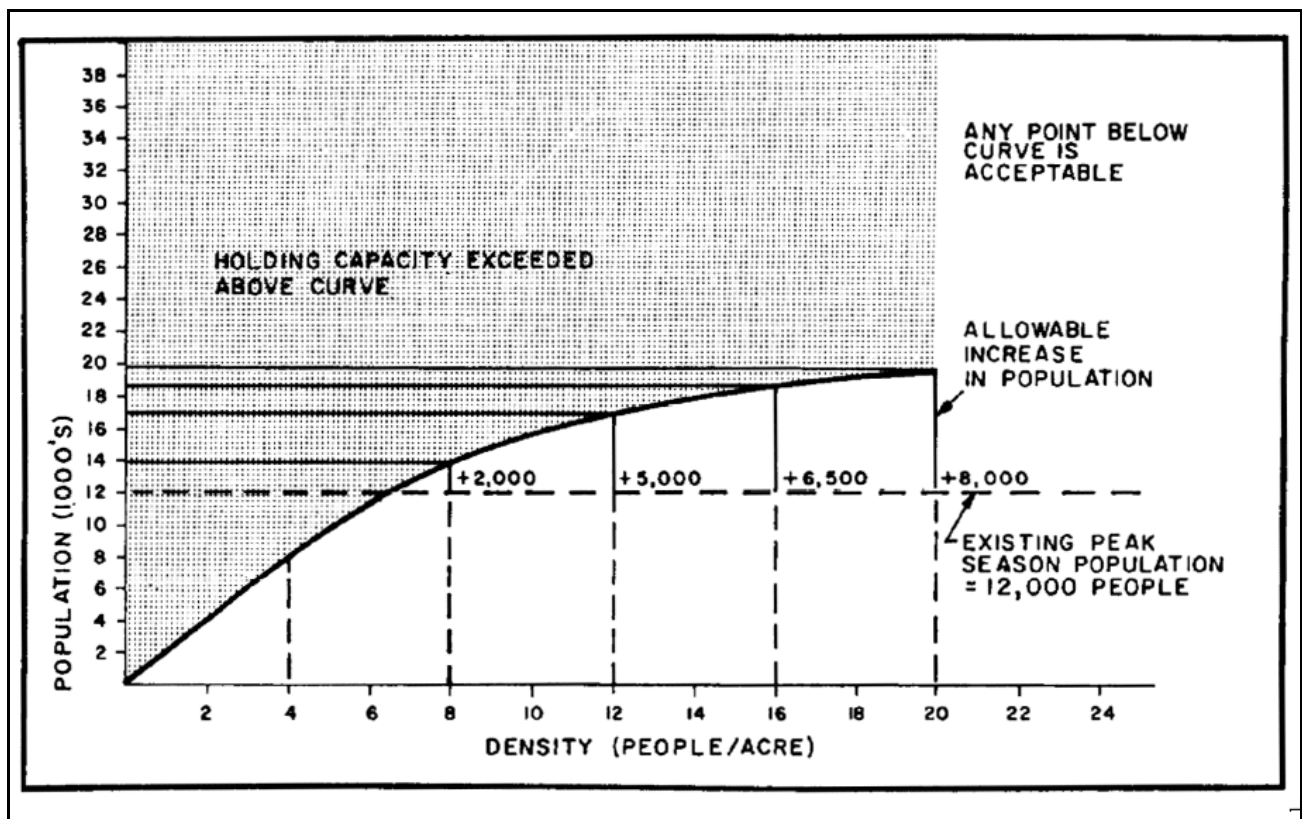


Figure A-10. Sanibel Island, Florida population versus runoff assimilation capacity (Clark 1976)

METHODS

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9 ECOSYSTEM ANALYSIS

Ecosystem analysis involves considering the full range of ecological resources and their interactions with the environment. This approach can improve cumulative effects analysis by *providing the broad regional perspective and holistic thinking needed to address the following cumulative effects principles*:

- **Focus on the resource or ecosystem.** Ecosystem analysis specifically addresses biodiversity and uses the full range of indicators of ecological conditions ranging from the genetic to species to local ecosystem to regional ecosystem levels.
- **Use natural boundaries.** Ecosystem analysis uses ecological regions, such as watersheds and ecoregions, to encompass ecosystem functioning and landscape-scale phenomena such as habitat fragmentation.
- **Address resource or ecosystem sustainability.** The ecosystem approach to management explicitly addresses the ecological interactions and processes necessary to sustain ecosystem composition, structure, and function (Ad Hoc Committee on Ecosystem Management 1995).

Traditionally, environmental impact assessment has considered air quality, water resources, wildlife, and human communities as separate entities for analysis. This separation of resources has obscured many cumulative effects. Recognition of the interconnectedness of land, water, and human resources has driven many federal and state agencies to undertake eco-

system or watershed approaches to environmental protection. Since 1991, the U.S. EPA (1996) has embraced the watershed approach as the major mechanism for addressing cumulative nonpoint-source pollution. Specific applications include watershed-based TMDLs (U.S. EPA 1994) and the "watershed analysis" approach to addressing cumulative effects and improving resource management on timber land (Washington State Department of Natural Resources 1992; Regional Interagency Executive Committee 1995).

By its nature, biodiversity conservation is a cumulative effects issue. Because it encompasses all the structural and functional components of the biological environment (and its interactions with the physical world), biodiversity is constantly affected by a wide range of stresses. For this reason, the goals of biodiversity and ecosystem protection are usually coincident with those of cumulative effects analysis; therefore, the analyst should employ an ecosystem approach whenever biodiversity is an issue.

Principles of the ecosystem approach are included CEQ's (1993) report, *Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under the National Environmental Policy Act* (see box) and the Interagency Ecosystem Management Task Force's (1995) report, *The Ecosystem Approach: Healthy Ecosystems and Sustainable Economics*. These principles involve three basic concepts: (1) taking a "big picture" or landscape-level view of ecosystems, (2) using a diverse suite of indicators including community-level and ecosystem-level

METHODS

indices, and (3) addressing the myriad interactions among ecological components that are needed to sustain ecosystem functioning. Applying the ecosystem approach to cumulative effects analysis entails using biological indicators (e.g., indices of biotic integrity for surface waters; K a r r 1 9 9 1 ; U . S .

EPA 1990) as integrators of cumulative effects and landscape indices (e.g., patch distribution of wetlands; Preston and Bedford 1988; Leibowitz et al. 1992) as measures of the cumulative diminution of ecosystem functioning. Natural resource agencies may soon be able to provide guidance on assessing and mitigating environmental effects at the ecosystem level (Truett et al. 1994).

PRINCIPLES OF BIODIVERSITY CONSERVATION (CEQ 1993)

1. Take a "big picture" or ecosystem view.
2. Protect communities and ecosystems.
3. Minimize fragmentation.
Promote the natural pattern and connectivity of habitats.
4. Promote native species.
Avoid introducing non-native species.
5. Protect rare and ecologically important species.
6. Protect unique or sensitive environments.
7. Maintain or mimic natural ecosystem processes.
8. Maintain or mimic naturally occurring structural diversity.
9. Protect genetic diversity.
10. Restore ecosystems, communities, and species.
11. Monitor for biodiversity impacts.
Acknowledge uncertainty.
Be flexible.

METHODS

9 EXAMPLES:

Constructing precise models of ecosystem structure and function sometimes exceeds the capabilities of NEPA practitioners. Considerable progress, however, has been made in applying the principles of ecosystem analysis to analyzing cumulative effects by extending considerations beyond species to the ecosystem and by looking at landscape-scale processes such as habitat fragmentation.

The most celebrated example where ecosystem analysis was used to extend the analysis of cumulative effects beyond a single species is the *Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (U.S. Forest Service and Bureau of Land Management 1993). Expert panels were convened to determine the likelihood of maintaining viable populations of a comprehensive suite of species and groups of species based on available habitat. Addressing the entire ecosystem involved considering terrestrial forest ecosystems (i.e., amounts of late-successional and old-growth forests and the viability of species ranging from fungi to bats), aquatic ecosystems (habitat conditions, riparian ecosystem processes), and aquatic and riparian dependent organisms (e.g., anadromous salmonids, resident fish species and subspecies, and other aquatic, riparian, and wetland organisms). The U.S. Forest Service (in conjunction with the U.S. Bureau of Land Management and Food and Drug Administration) also incorporated ecosystem analysis into the *Pacific Yew Final Environmental Impact Statement* by defining the role of the Pacific yew in the forest ecosystem (Figure A-11; U.S. Forest Service 1993). The cumulative effects of harvesting Pacific yew

on federal lands in the Pacific northwest for taxol production (for use as a cancer treatment) were analyzed in three different contexts: the Pacific yew itself (including its genetic diversity), the forest ecosystem that supports yew populations, and the relationship of the yew and human communities.

The ecosystem analysis approach implemented by the Forest Ecosystem Assessment Team (FEMAT) in the spotted owl EIS also considered ecosystem processes affected by the cumulative actions on lands owned and managed by states, tribes, corporations, individuals, and other nonfederal agencies. The analysis included an aquatic conservation strategy based on the designation of key watersheds and the use of watershed analysis. The Washington State Department of Natural Resources (1992) recently published a watershed analysis manual including a set of technically rigorous procedures that can be used to determine what processes are active in a watershed, how these processes are distributed in time and space, what the current upland and riparian conditions are, and how all of these factors influence ecosystem services or other beneficial uses. Watershed analysis is being expanded to encompass other aspects of the ecosystem approach to management (Montgomery et al. 1995; Regional Interagency Executive Committee 1995). In the **synoptic landscape approach** to cumulative effects analysis developed by the U.S. EPA Environmental Research Laboratory in Corvallis, OR, the landscape is the unit of analysis (Leibowitz et al. 1992). Synoptic indices are chosen from the following landscape-level measures: function value, functional loss, and replacement potential. Subsequently, landscape indicators are chosen as

METHODS

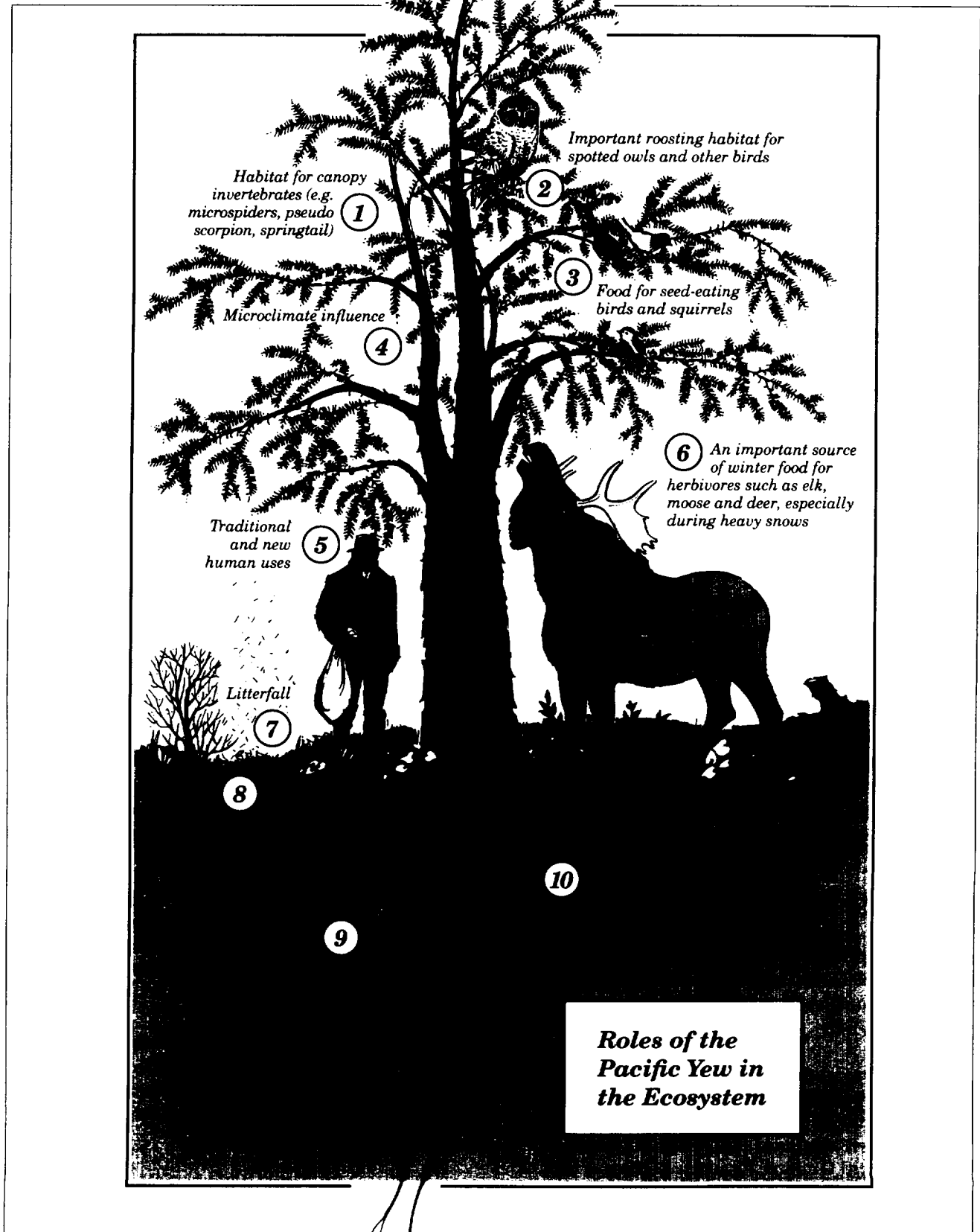


Figure A-11. Roles of the Pacific Yew in the Ecosystem (U.S. Forest Service 1993)

METHODS

first-order approximations of the synoptic indices. This approach provides a framework for comparing the cumulative effects of actions on landscape processes such as flood storage and wildlife support.

Habitat fragmentation is one of the most important ecosystem-level processes to address in cumulative effects analysis. Concerns about potential cumulative effects of habitat fragmentation on biodiversity prompted a supplemental information report to the FEIS and Record of Decision (ROD) of the Trail Creek Timber Sale, Beaverhead National Forest, Montana (U.S. Forest Service 1991). The report assessed habitat loss effects, edge effects, patch size effects, insularity effects (on genetics of populations linked by habitat corridors), and effects on rare elements. Specifically, the report evaluated the importance of the area as a biological corridor between the large wildland areas of the Northern Continental Divide, Selway-Bitterroot, and Greater Yellowstone areas. Similar concerns have been raised in other areas (e.g., Klamath National Forest; Pace 1990) and have prompted considerable research into landscape-level indicators such as abundance or density of habitats, habitat proportion, patch size and perimeter-to-area ratio, fractal dimension (amount of edge), and contagion or habitat patchiness (Hunsaker and Carpenter 1990; Noss 1990; O'Neill et al. 1994).

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10

ECONOMIC IMPACT ANALYSIS

Economic impact analysis satisfies the mandate under NEPA to "...fulfill the social, economic and other requirements of present and future generations of Americans" [National Environmental Policy Act, Title I Sec. 101 (a)]. *It is an important component of analyzing cumulative effects, because the economic well-being of a local community depends on many different actions.* The following effects are the minimum that an economic impact analysis should determine:

- change in business activity
- change in employment
- change in income
- changes in population.

The three primary steps in conducting an economic impact analysis are (1) establishing the region of influence, (2) modeling the economic effects, and (3) determining the significance of the effects.

The definition of the geographic region of influence (ROI) is often controversial. Most regional and urban analysts prefer to use a functional area concept for defining study regions (Fox and Kuman 1965). Regions defined in this way explicitly consider the economic linkages between the residential population and the businesses in the geographic area. Specifically, the affected region should include all of the self-sustaining ingredients of region-local businesses, local government, and local population (Chalmers and Anderson 1977). Although no standard methodology exists, the definition of a ROI should consider residence patterns of the affected population,

availability of local shopping opportunities, "journey-to-work" time for employees, and local customs and culture.

Economic models are invaluable for analyzing cumulative effects. The suite of economic models can vary from simple to complex (Richardson 1985; Treyz 1993). As a rule, economic models are sets of mathematical equations that represent the interactions among the integral components of the regional economy; the modeled relationships are based upon economic principals that have a long history of accuracy and use. Data to "drive" the models are critical to performing an impact analysis and acquiring data is often the limiting factor for the analyst. Although they are focused on economic relationships, economic models can incorporate demographics. Ultimately, economic models are used to project effects under each alternative.

Once model effects projections are obtained, additional tools, such as the rational threshold value (RTV) and the forecast significance of impacts (FSI) approaches, can provide timely and cost-effective evaluations of the significance of the effect (Huppertz and Bloomquist 1993). These analytical tools review the historical trends for the defined region and develop measures of historical fluctuations in sales activity, employment, income, and population. This use of time-series data provides the analyst with a historical context in which to evaluate significance. The use of economic impact models in combination with the RTV and FSI techniques has proven successful in addressing cumulative economic impacts.

METHODS

10 EXAMPLES:

Three kinds of models are most often used in economic impact analysis: economic base models, input-output models, and econometric models. The underlying assumption of an economic base model is that changes in a regional economy occur as a result of changes in the amounts of goods and services that are sold outside the region. The economic base model is based on the bifurcation of the regional economy into "basic" and "non-basic" sectors. Defined simply, basic sectors produce goods and services that are generally consumed outside the region and non-basic sectors produce goods and services that are consumed within the region. Basic sectors can be identified by surveying local firms and households to determine where they purchase their goods and services or by the "location-quotient" technique (Isserman 1977), which measures the extent to which a sector is more concentrated within the region than within the nation as a whole. The location-quotient assumes this excess production is exported outside the region.

Input-output models (Miller and Blair 1985) explicitly consider the interrelationships between different sectors of a regional economy and how these interactions affect the process of economic changes within the region. Input-output models provide more information on economic transactions by sector within a local economy than economic base models, but they require more data. Regional econometric models (Glickman 1977; Treyz 1993) represent a compromise between economic base and input-output analysis in terms of data requirements and information produced. Econometric models are usually statistically derived and draw upon survey-based data, traditional regression techniques, and other statistical tools. Fluctuations in the subject regional economies, respectively. The total aggregate changes in business volume, employment, income, and population (four of the model outputs) are then used

Econometric models use time-series data to show the pattern of effects due to outside influences over a period of years. As a result, regional econometric models are better suited for predictions of long-run effects. Unfortunately, local-time series data are often not available for the region of concern.

The Economic Impact Forecast System (EIFS) is perhaps the most commonly used method for assessing regional economic effects; it is the specified model of choice for all environmental analyses associated with Army Base Realignment and Closure (BRAC). EIFS was developed as a simple model based upon three major criteria: (1) basis in sound theory, (2) acceptance by the scientific community, and (3) availability of data to drive the model. By entering county names to designate the Region of Economic Influence (ROI), Bureau of Economic Analysis (BEA) and other data are readily available for use. After six variables associated with the action [i.e., number of military and civilian employees being transferred, the average salary of both categories, the percent of military personnel living on base, and the anticipated change in local (or total) procurements] are added to the thousands of BEA data elements, EIFS automatically performs the needed trends analysis, multiplier calculations, and other computations. EIFS has provided a consistent methodology for all BRAC studies and has allowed the Army to "rank-order impacts" among alternatives as required by NEPA.

The significance of BRAC actions is determined by adding two evaluative components to EIFS. As described previously, RTV and FSI techniques measure historical and statistical

to assess the significance of regional economic effect. As analysts begin to address the cumulative effects of more and more actions,

METHODS

other models that lead directly from available data to conclusions of significance will be needed.

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11 SOCIAL IMPACT ANALYSIS

Social impact analysis fulfills the mandate under CEQ's regulations that the "human environment" in NEPA be "interpreted comprehensively" to include "the natural and physical environment and the relationship of people with the environment" (40 CFR§ 1508.14). The social sciences have *made considerable progress in addressing cumulative effects related to environmental stewardship by focusing on key social impact variables*. The Interorganizational Committee on Guidelines and Principles (1994) has identified five basic categories of social impact variables:

1. Population characteristics such as its size and expected size, ethnic and racial diversity, and the influx and outflux of temporary (e.g., seasonal or leisure) residents.
2. Community and institutional structures including the size, structure, and linkages of local government; the historical and present patterns of employment and industrial diversification; and the size, activity, and interactions of voluntary associations, religious organizations, and interest groups.
3. Political and social resources such as the distribution of power and authority, the identification of interested and affected parties, and the leadership capacity within the community or region.
4. Individual and family changes including factors that influence the daily life of individuals and families (and indigenous and religious subcultures) in the community or region such as attitudes toward the proposed policy, alterations in family and community networks, and perceptions of risk, health, and safety.
5. Community resources such as patterns of natural resource and land use; the availability of housing; and community services including health, police, fire protection, and sanitation facilities.

The key to analyzing the cumulative effects on these social impact variables is incorporating multiple actions into projections of future social conditions. The following general categories describe the range of methods used to predict future social effects:

- linear trend projections (identifying taking an existing trend and projecting the same rate of change into the future);
- population multiplier methods (a specified increase in population implies designated multiples of some other variable);
- scenarios (characterization of hypothetical futures through a process of mathematically or schematically modeling the assumptions about the variables in question);
- expert testimony (experts can be asked to develop scenarios and assess their implications);
- simulation modeling (mathematical formulation of premises and a process of quantitatively weighing variables).

METHODS

11 EXAMPLES:

Social impact analysis differs from other analyses of cumulative effects because it must deal with the subjective perception of effects. Social effects appraisal and social well-being accounts are examples of methods for analyzing subjective social variables.

Social effects appraisal determines the social meaning and significance of the objective changes produced by cumulative actions. The social analyst assesses the social meaning of the changes from the different perspectives of the affected groups. One way to measure the meaning of a change is to tap the knowledge of opinion leaders (formally or informally) within the affected groups to determine the values they assign to each change. For example, an influx of 200 construction workers and their families might be viewed positively by families suffering from a stagnant economy but negatively by retirees looking for a quiet neighborhood. The social analyst needs to acknowledge that while some negative social effects can be remedied materially (perhaps by economic growth), others are qualitative and defy mitigation.

The social well-being account is a display that summarizes findings by cross tabulating levels of analysis, evaluation categories, and effect factors with a social effects evaluation of the present condition and each of the alternatives (including no-action). It provides either a quantitative (numerical) or qualitative rating of each alternative's overall social effect and a description of the rating scale. The Multi-Attribute Tradeoff System (MATS) and other computer programs assist in producing a systematic numerical evaluation of social effects. The result is an overall quantitative ranking for

each alternative, reflecting the alternative's relative social benefit to the affected group.

The Federal Highway Administration (FHWA) frequently deals with social impact issues related to its transportation projects. FHWA (1996) recently prepared a primer for analysts who assess the effects of proposed transportation actions on human communities. FHWA states that community impact studies must include secondary effects and influences from outside developmental pressures to determine the ability of an area to survive removal of housing, businesses, and community services. Also, such studies must describe a community's ability to absorb relocated residents and businesses in terms of social and economic disturbance (e.g., available housing, public services affected, areas zoned for business use). The primer describes nine impact categories to be analyzed, including social and psychological aspects, physical aspects, visual environment, land use, economic conditions, mobility and access, provision of public services, safety, and displacement. Considering these effects naturally includes environmental justice issues. Community impact analysis is analogous to ecosystem analysis in that the human community should be thought of as an integral unit with a characteristic social setting and operation. Decisions about avoiding and mitigating effects should be based on consensus visions of the desired condition of the community. Lastly, if community effects are to receive attention comparable to that given the natural environment, special effort to ensure public involvement must be employed (e.g., using nontraditional and informal approaches).

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METHODS

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METHODS

APPENDIX B

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Contributors

Gene Cleckley
Fred Skaer
Wendell Stills
Bob Wheeler
Federal Highway Administration
400 7th Street, SW, Room 3301
Washington, D.C. 20590
(202) 366-2029

Allison Cook
1305 East Capitol Street, SE Apt. #2
Washington, DC 20003

William V. Cork
ICF Kaiser International, Inc.
21515 Great Mills Road
Lexington Park, MD 20653
(301) 866-2020

Robert Cunningham
Office of Polar Programs
National Science Foundation
4201 Wilson Blvd., Suite 755
Arlington, VA 22230
(703) 306-1031

Peggy Currid
Robert Eltzholtz
Coe-Truman Technologies
206 Burwash Avenue
Savoy, IL 61874
(217) 398-8594

William Dickerson
Pat Haman
Anne Miller
Jim Serfis
U.S. Environmental Protection Agency
401 M Street, SW, MC-2252
Washington, D.C. 20460
(202) 564-2410

John Farrell, Retired
Office of Environmental Affairs
U.S. Department of the Interior
1849 C Street N.W.
Washington, D.C. 20240
(202) 208-7116

Horst Greczmiel
U.S. Coast Guard
2100 Second Street, SW
Washington, D.C. 20593
(202) 267-0053

Charles Herrick, Ph.D.
Margo Burnham
Meridian Corporation
4300 King Street, Suite 400
Alexandria, VA 22308-1508
(703) 998-3600

ACKNOWLEDGEMENTS

Jake Hoogland
Environmental Compliance Division
Planning and Development
National Parks Service
U.S. Department of the Interior
Main Interior Building, Room 1210
1849 C Street, N.W.
Washington, D.C. 20240
(202) 208-3163

David Ketcham
Environmental Coordination Division
U.S. Department of Agriculture, Forest Service
291 14th Street S.W., 5th Floor, South Wing
Washington, D.C. 20250
(202) 205-1708

Kirk LaGory, Ph.D.
Elisabeth Ann Stull
Argonne National Laboratory
9700 South Cass Avenue
Argonne, IL 60439
(630) 252-3169
(603) 252-7169

Patrice "Pat" LeBlanc
Carmen Drouin
Federal Environmental Assessment Review Office
Government of Canada
13th Floor, Fontaine Building
Hull, Quebec, Canada K1A 0H3
(819) 953-2530

Phil Mattson
Planning and Environmental Affairs
USDA Forest Service
333 Southwest First Avenue
P.O. Box 3623
Portland, OR 97802-3865
(503) 326-3865

Matt McMillen
Energetics Corporation
501 School Street, SW
Suite 440
Washington, D.C. 22024
(202) 479-2747

Paul Petty
Bureau of Land Management
2850 Youngfield Street
Lakewood, CO 80215
(303) 239-3736

Dennis Robinson, Ph.D.
Department of the Army,
Corps of Engineers
Water Resources Support Center
7701 Telegraph Road
Casey Building
Alexandria, VA 22310-3868
(703) 355-3092

Thomas N. Russo
Patti Leppert-Slack
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426
(202) 219-2792
(202) 219-2767

Dave Somers
The Tulalip Tribes
3901 Totem Beach Road
Marysville, WA 98270-9694
(206) 653-0220

Mark Southerland, Ph.D.
Versar, Inc.
9200 Rumsey Road
Columbia, MD 21045-1934
(410) 964-9200

Ron Webster
Robert Lozar
Department of the Army -
CERL
2902 Newmark Drive
Champaign, IL 61821-1706
1-800-872-2375

Dick Wilderman
Branch of Environmental Projects Coordination
Minerals Management Service
381 Eldon Street, Mail Stop 4320
Herndon, VA 22070
(703) 787-1670

Gary Williams, Ph.D.
Argonne National Laboratory
955 L'Enfant Plaza North, S.W.
Suite 6000
Washington, D.C. 20024
(202) 488-2418

ACKNOWLEDGEMENTS

Peer Review Panel

Richard Carpenter
Rt. 5, Box 277
Charlottesville, VA 22901

Mark Bain, Ph.D.
Cornell University
Department of Natural Resources
208A Fernow Hall
Ithaca, NY 14853

Larry W. Canter, Ph.D.
University of Oklahoma
Environmental and Groundwater Institute
200 Felgar Street, Room 127
Norman, OK 73019-0470

Cheryl Contant, Ph.D.
University of Iowa
Department of Urban and Regional Planning
347 Jefferson Hall
Iowa City, IA 52242-1316

Alex Hoar
U.S. Fish and Wildlife Service
300 Westgate Center Drive
Hadley, MA 01035-9589

Lance McCold
Oak Ridge National Laboratory
P.O. Box 2008
Oak Ridge, TN 37831-6206

B.J. Quinn
North Carolina Department of Transportation
Planning and Environmental Branch
P.O. Box 25201
Raleigh, NC 27611-2501

Michael V. Stimac
HDR Engineering
500 108th Avenue, Suite 1200
Bellevue, WA 98004

APPENDIX 20

Appendix 20

Other Relevant Environmental Laws and Guidance

LAWS:

The Clean Air Act as amended (42 USC 7401 et seq.)

National Historic Preservation Act, as amended (16 USC 470)

Archaeological and Historic Preservation Act

Native American Graves Protection and Repatriation Act

Archaeological Resources Protection Act

Threatened and Endangered Species Act of 1983, as amended (16 USC 1531 et seq.)

American Indian Religious Freedom Act of 1978 (42 USC 1996)

Resource Conservation and Recovery Act of 1976 (43 USC 6901, et seq.)

Comprehensive Environmental Response Compensation, and Liability Act of 1980, as amended (43 USC 9615)

Clean Water Act of 1977 (33 USC 1251 et seq.)

Indian Gaming Regulatory Act (25 USC 2701, et seq.)

Energy Policy Act of 2005

EXECUTIVE ORDERS:

E.O. 12898, Environmental Justice, February 11, 1994

E.O. 11988, Protection of Floodplains, May 24, 1977

E.O. 131189, Responsibilities of Federal Agencies to Protect Migratory Bird, January 10, 2001

E.O. 11990, Protection of Wetlands, May 24, 1977

E.O. 13007, Indian Sacred Sites, May 24, 1996.

APPENDIX 21

PENNSYLVANIA—OZONE
[8-Hour standard]

Designated area	Designation ^a		Category/classification	
	Date ¹	Type	Date ¹	Type
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE:				
Bucks County		Nonattainment		Subpart 2/Moderate. ³
Chester County		Nonattainment		Subpart 2/Moderate. ³
Delaware County		Nonattainment		Subpart 2/Moderate. ³
Montgomery County		Nonattainment		Subpart 2/Moderate. ³
Philadelphia County		Nonattainment		Subpart 2/Moderate. ³

^a Includes Indian Country located in each county or area, except as otherwise specified.

¹ This date is June 15, 2004, unless otherwise noted.

² November 22, 2004.

³ Attainment date extended to June 15, 2011.

* * * * *
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COUNCIL ON ENVIRONMENTAL QUALITY

40 CFR Parts 1500, 1501, 1502, 1505, 1506, 1507, and 1508

Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact

AGENCY: Council on Environmental Quality.

ACTION: Notice of availability.

SUMMARY: The Council on Environmental Quality (CEQ) is issuing its final guidance for Federal departments and agencies on the appropriate use of mitigation in Environmental Assessments (EAs) and Environmental Impact Statements (EISs) under the National Environmental Policy Act (NEPA). The guidance was developed to modernize, reinvigorate, and facilitate and increase the transparency of NEPA implementation.

This guidance outlines principles Federal agencies should apply in the development of their NEPA implementing regulations and procedures to guide their consideration of measures to mitigate adverse environmental impacts in EAs and EISs; their commitments to carry out mitigation made in related decision documents, such as the Record of Decision; the implementation of mitigation; and the monitoring of mitigation outcomes during and after implementation. This guidance also

outlines principles agencies should apply to provide for public participation and accountability in the development and implementation of mitigation and monitoring efforts that are described in their NEPA documentation. Mitigation commitments should be explicitly described as ongoing commitments and should specify measurable performance standards and adequate mechanisms for implementation, monitoring, and reporting.

In addition, this guidance affirms the appropriateness of what is traditionally referred to as a “mitigated Finding of No Significant Impact.” Mitigated Findings of No Significant Impact (FONSIs) can result when an agency concludes its NEPA review with an EA that is based on a commitment to mitigate significant environmental impacts, so that a more detailed EIS is not required. As explained in this guidance, an agency does not have to prepare an EIS when the environmental impacts of a proposed action can be mitigated to a level where the agency can make a FONSI determination, provided that the agency or a project applicant commits to carry out the mitigation, and establishes a mechanism for ensuring the mitigation is carried out. When a FONSI depends on successful mitigation, the requisite mitigation commitments should be made public.

DATES: The guidance is effective January 21, 2011.

FOR FURTHER INFORMATION CONTACT: The Council on Environmental Quality (ATTN: Horst Greczmiel, Associate Director for National Environmental Policy Act Oversight), 722 Jackson Place, NW., Washington, DC 20503. Telephone: (202) 395-5750.

SUPPLEMENTARY INFORMATION: This guidance applies to Federal agencies in accordance with sections 1507.2 and

1507.3 of the CEQ Regulations Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR Parts 1500-1508. The National Environmental Policy Act (NEPA), 42 U.S.C. 4321-4370, enacted in 1970, is a fundamental tool used to harmonize our environmental, economic, and social aspirations and is a cornerstone of our Nation’s efforts to protect the environment. NEPA recognizes that many Federal activities affect the environment and mandates that Federal agencies consider the environmental impacts of their proposed actions before deciding to adopt proposals and take action. Additionally, NEPA emphasizes public involvement in government actions affecting the environment by requiring that the benefits and risks associated with proposed actions be assessed and publicly disclosed.

The Council on Environmental Quality (CEQ) is charged with overseeing NEPA’s implementation by Federal agencies. CEQ recognizes that NEPA is a visionary and versatile law that can be used effectively to address new environmental challenges facing our nation and also to engage the public widely and effectively. Furthermore, CEQ recognizes that successful NEPA implementation requires agencies to make information accessible to the public to strengthen citizen involvement in government decisionmaking. This guidance is designed to facilitate agency compliance with NEPA, by clarifying the commitments agency decisionmakers may decide to make when complying with NEPA, and ensuring that information about those commitments is accurate and made available to the public.

On February 18, 2010, CEQ announced the issuance of three

proposed draft guidance documents to modernize and reinvigorate NEPA, in conjunction with the 40th anniversary of the statute's enactment.¹ This guidance document is the second of those three to be issued in final form. The first guidance document, on "Establishing, Applying, and Revising Categorical Exclusions Under the National Environmental Policy Act," was released in final form on November 23, 2010.² The third guidance document, which addresses when and how Federal agencies should consider greenhouse gas emissions and climate change in their proposed actions, will be the next and last guidance document of this series to be finalized.

In a **Federal Register** notice published on February 23, 2010, CEQ announced the availability of the draft mitigation and monitoring guidance and requested public comments.³ CEQ appreciates the thoughtful responses it has received on the draft guidance. CEQ received more than sixty comments. Commenters included private citizens, corporations, environmental organizations, trade associations, and federal and state agencies. All of these comments can be viewed online at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/comments>. Those comments that suggested editorial revisions or requested clarification of terms are addressed in the text of the final guidance. Those comments that raised policy or substantive concerns have been grouped thematically, summarized, and addressed in the following sections of this Notice.

Mitigation Planning

Some commenters expressed concern that this guidance would impose an obligation on agencies to develop detailed mitigation plans as a standard part of every EA and EIS process. Several commenters asserted that a detailed mitigation planning stage would needlessly increase complexity and reduce project flexibility. Commenters also suggested that mitigation planning might actually decrease mitigation effectiveness, as the burden created would pressure agencies, as well as applicants, to undertake less comprehensive mitigation.

This guidance provides a flexible template for the development of agency

regulations and procedures allowing continued discretion for agencies to respond to individual project characteristics. Not every EA or EIS will require the development of detailed mitigation plans. Plans should be developed and implemented when mitigation described in an EA serves as the basis for the FONSI (that is, the effects might be significant but for the proposed mitigation). CEQ disagrees that increased attention to mitigation planning in appropriate circumstances will needlessly increase complexity or reduce project flexibility. Rather, the purpose of detailed mitigation planning is to ensure that mitigation plans appropriately reflect project or program characteristics, and careful consideration of a range of options for adequate implementation and monitoring should increase agency flexibility in responding to changing or unforeseen circumstances. CEQ also disagrees that increased attention to mitigation planning would decrease mitigation effectiveness. To the extent that this guidance may prompt agencies to propose actions with lesser adverse environmental impacts allowing for the selection of less comprehensive (or no) mitigation alternatives, such a response would likely indicate that agencies have appropriately structured their proposed actions to avoid and minimize impacts up front to the extent feasible. This is the fundamental goal of NEPA. This would increase rather than decrease the likelihood that mitigation would be effective. Furthermore, CEQ believes that a focus on monitoring will help to ensure the actual effectiveness of proposed mitigation efforts. The guidance has been revised to ensure that agencies focus on establishing monitoring plans for important cases.

Source of Agency Authority To Make Mitigation Commitments

Several commenters, citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989), expressed concern that the tone and wording of this guidance reframes NEPA by imposing substantive rather than procedural requirements. Another commenter suggested that if an agency would lack future authority to rectify a substantial mitigation failure, then that lack of authority should be included in the agency's initial analysis of impacts, significance, and mitigation effectiveness.

This guidance is not intended to impose new substantive requirements on agencies or project applicants. Rather, it ensures that the public and decisionmakers are fully informed of any promised mitigation and an agency's clear commitment to perform

or ensure the performance of that mitigation, which in turn strengthens the basis for the NEPA analysis and documentation that an agency has prepared. This guidance is designed to enhance the integrity of the NEPA analysis when it relies on mitigation. It is an agency's underlying authority that provides the basis for the agency to commit to perform or require the performance of particular mitigation. That authority also allows the agency to implement and monitor, or to require the implementation and monitoring of, those mitigation commitments to ensure their effectiveness. It further provides the authority to take remedial steps, so long as there remains federal decisional involvement in a project or other proposed action. The guidance has been revised to further clarify that existing authorities provide the basis for agency commitments to implement mitigation and monitor its success.

NEPA in itself does not compel the selection of a mitigated approach. But where an agency chooses to base the use of less extensive NEPA analysis on mitigation, then this guidance is designed to assist agencies in ensuring the integrity of that decision.

Use of Outside Experts

Several commenters requested that in recommending the use of third party experts, this guidance should clarify that such experts should be neutral and unbiased parties without conflicts of interest. For example, third party experts participating in development of mitigation and monitoring plans should not have financial stakes in the implementation of the mitigation and monitoring. CEQ agrees with this suggestion but also recognizes that applicants and delegated parties can, in appropriate circumstances, participate in the development and implementation of mitigation and monitoring. The text of this guidance document has been edited to address and incorporate these concerns.

Effect of Non-Implemented or Ineffective Mitigation

Several commenters asserted that the guidance document was too rigid in providing guidelines for agencies to use when adopting regulations and procedures for responses to mitigation failure. These commenters argued that flexibility should be allowed in response to mitigation failure, with the type of response dependent upon the project's size and scope. Some comments additionally argued that a "NEPA restart" should not be required in response to mitigation failure, and

¹ For more information about this announcement, see <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa>.

² National Environmental Policy Act (NEPA) Final Guidance, Establishing, Revising and Using Categorical Exclusions, 75 FR 75628, Dec. 6, 2010.

³ Draft Guidance for NEPA Mitigation and Monitoring, 75 FR 8046, Feb. 23, 2010.

that any such requirement lacked legal basis.

Mitigation failure occurs when a previously adopted mitigation commitment has not been implemented or is not as effective as predicted in lessening the significance of the impacts. Where an EA with a mitigated FONSI was predicated on the implementation of the mitigation, failure of that mitigation calls into question the basis for the FONSI because impacts were not reduced to below the level of significance in the manner anticipated. In the case of other EAs and EISs, mitigation failure could similarly indicate mistaken environmental consideration in the original analysis. In any case, this guidance imposes no requirement to restart a NEPA process; rather, it suggests that if there is Federal action remaining, it is appropriate for agencies to consider preparing supplemental NEPA analysis and documentation and to pursue remaining opportunities to address the effects of that remaining action. The agency should also consider whether it is appropriate for future NEPA analyses to consider the mitigation failure in order to ensure that unsupported assumptions about mitigation outcomes are not included in future analyses and documentation. Subsequent environmental baselines must, of course, reflect true conditions, as informed by any past experience with mitigation results. The guidance has been revised to include recommendations that agencies employ adaptive management or assess multiple mitigation alternatives, so that they have already-developed options they can use to address situations where mitigation is not implemented or is not as effective as predicted in the NEPA analysis.

Another commenter felt that the document does not clearly distinguish between the role of mitigation in support of a mitigated FONSI and the role of mitigation in other circumstances. The guidance now discusses mitigated FONSIs and other mitigation commitments in separate sections and the text has been revised to clearly distinguish between those two scenarios.

Clarity With Respect to Mitigation

One commenter asserted that clarification is needed to understand the exact nature of many mitigation measures. This commenter suggested explicitly amending the guidance document to require unambiguous and exact language in explaining potential and adopted mitigation. Although CEQ cannot mandate exact requirements for every agency or project, CEQ agrees

with this commenter that individual agency regulations and procedures should require mitigation to be clearly described where appropriate and mitigation goals to be carefully specified in terms of measurable performance standards to the greatest extent possible. No change to the guidance has been made in response to this comment.

Other commenters suggested providing additional guidelines to clarify how the principles in the guidance would apply to various types of multi-agency projects, in which lead federal agencies may rely in part on NEPA work done by co-lead or cooperating agencies. CEQ cannot specify how this guidance should apply in every situation. CEQ views the guidance as appropriately clear; each individual agency should, based on existing authority, work to ensure appropriate cooperation with other agencies in the development and implementation of mitigation and monitoring. Specifically, the guidance notes that mitigation and monitoring authority may be shared among joint lead or cooperating agencies “so long as the oversight is clearly described in the NEPA documents or associated decision documents” and “responsible parties, mitigation requirements, and any appropriate enforcement clauses are included in documents such as authorizations, agreements, permits or contracts.” With respect to public engagement, the guidance states that “it is the responsibility of the lead agency to make the results of relevant monitoring available to the public.” No change to the guidance has been made in response to these comments.

Monitoring Mitigation

One commenter requested that the guidance define “important” in 40 CFR 1505.3, which states that agencies should provide for monitoring in “important cases.” CEQ appreciates this concern. Because of the wide range of situations in which NEPA is applied, it would be difficult to define in advance what cases are “important,” and CEQ has edited the guidance document to note that agencies should apply professional judgment and the rule of reason in determining which cases are “important.”

Other commenters noted that analyzing resource conditions prior to implementation can be useful in providing a baseline for judgments of mitigation effectiveness during the monitoring stage. CEQ agrees and has added language to the guidance incorporating this suggestion.

Public Participation in Mitigation Implementation and Monitoring

A number of comments addressed the role of the public in mitigation implementation and monitoring. Some commenters felt that allowing the public to directly participate in this process could present safety risks. The guidance states that public participation in mitigation implementation and monitoring should be provided where appropriate. Public involvement will not be appropriate in every situation, and the guidance was left unchanged.

Others felt that the guidance’s discussion of the release of monitoring results could inappropriately encourage the release of confidential information or that the need for public access could be met by relying on citizen requests rather than affirmative reporting by agencies. The guidance does not require that all information be released in every instance, and CEQ believes that agencies will be able to balance their responsibilities to provide opportunities for public participation under the Freedom of Information Act (FOIA), NEPA, CEQ regulations and this guidance with the need to protect confidential information as appropriate. CEQ notes, however, that environmental monitoring results are rarely considered confidential information and are explicitly required to be made available to the public under some environmental statutes. The guidance has been changed to include the need to balance competing privacy or confidentiality concerns with the benefits of public disclosure.

Definition of Significant

A number of commenters requested that CEQ provide additional guidance on the meaning of “significant” impacts. CEQ has already issued regulations on this, e.g., in 40 CFR 1508.27. No change to the guidance has been made in response to these comments.

Inclusion of Appendix or Examples

Several commenters suggested supplementing the Appendix with additional examples of agency practices or regulations in addition to the Department of the Army regulations detailed in the proposed guidance. Objections to the example were made based on concerns that the example is focused on actions an agency would directly perform, and that the example is a regulation and thereby implies that mitigation and monitoring must be established through a regulatory process. While CEQ appreciates the suggestions, we believe the Department of the Army regulations detailed in the

proposed guidance provide a clear and useful example and that the addition of other examples is unnecessary. Text introducing the example was added to address the regulatory concern.

The Final Guidance

For reasons stated in the preamble, above, CEQ issues the following guidance on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact. The final guidance is provided here and is available on the National Environmental Policy Act Web site (<http://www.nepa.gov>) at http://ceq.hss.doe.gov/ceq_regulations/guidance.html and on the CEQ Web site at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa>.

Memorandum for Heads of Federal Departments and Agencies

From: Nancy H. Sutley, Chair, Council on Environmental Quality.

Subject: Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact.

The Council on Environmental Quality (CEQ) is issuing this guidance for Federal departments and agencies on establishing, implementing, and monitoring mitigation commitments identified and analyzed in Environmental Assessments, Environmental Impact Statements, and adopted in the final decision documents. This guidance also clarifies the appropriate use of mitigated "Findings of No Significant Impact" under the National Environmental Policy Act (NEPA). This guidance is issued in accordance with NEPA, 42 U.S.C. 4321 *et seq.*, and the CEQ Regulations for Implementing the Procedural Provisions of NEPA (CEQ Regulations), 40 CFR Parts 1500–1508.⁴ The guidance explains the requirements of NEPA and the CEQ Regulations, describes CEQ policies, and recommends procedures for agencies to use to help them comply with the requirements of NEPA and the CEQ Regulations when they establish mitigation planning and implementation procedures.⁵

⁴ The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (CEQ Regulations) are available on <http://www.nepa.gov> at http://ceq.hss.doe.gov/ceq_regulations/regulations.html.

⁵ CEQ is issuing this guidance as an exercise of its duties and functions under section 204 of the National Environmental Policy Act (NEPA), 42 U.S.C. 4344, and Executive Order No. 11,514, 35 FR 4,247 (Mar. 5, 1970), as amended by Executive

NEPA was enacted to promote efforts that will prevent or eliminate damage to the human environment.⁶ Mitigation measures can help to accomplish this goal in several ways. Many Federal agencies and applicants include mitigation measures as integral components of a proposed project's design. Agencies also consider mitigation measures as alternatives when developing Environmental Assessments (EA) and Environmental Impact Statements (EIS). In addition, agencies have increasingly considered mitigation measures in EAs to avoid or lessen potentially significant environmental effects of proposed actions that would otherwise need to be analyzed in an EIS.⁷ This use of mitigation may allow the agency to comply with NEPA's procedural requirements by issuing an EA and a Finding of No Significant Impact (FONSI), or "mitigated FONSI," based on the agency's commitment to ensure the mitigation that supports the FONSI is performed, thereby avoiding the need to prepare an EIS.

This guidance addresses mitigation that an agency has committed to implement as part of a project design and mitigation commitments informed by the NEPA review process. As discussed in detail in Section I, below, agencies may commit to mitigation measures considered as alternatives in an EA or EIS so as to achieve an environmentally preferable outcome. Agencies may also commit to mitigation measures to support a mitigated FONSI, so as to complete their review of potentially significant environmental impacts without preparing an EIS. When agencies do not document and, in important cases, monitor mitigation commitments to determine if the mitigation was implemented or

Order No. 11,991, 42 FR 26,927 (May 24, 1977). This guidance is not a rule or regulation, and the recommendations it contains may not apply to a particular situation based upon the individual facts and circumstances. This guidance does not change or substitute for any law, regulation, or other legally binding requirement and is not legally enforceable. The use of language such as "recommend," "may," "should," and "can" is intended to describe CEQ policies and recommendations. The use of mandatory terminology such as "must" and "required" is intended to describe controlling requirements under the terms of NEPA and the CEQ Regulations, but this document does not independently establish legally binding requirements.

⁶ 42 U.S.C. 4321 (stating that the purposes of NEPA include promoting efforts which will prevent or eliminate damage to the environment).

⁷ This trend was noted in CEQ's Twenty-Fifth Anniversary report on the effectiveness of NEPA implementation. See CEQ, "NEPA: A Study of its Effectiveness After Twenty-Five Years" 20 (1997), available at <http://ceq.hss.doe.gov/nepa/nepa25fn.pdf>.

effective, the use of mitigation may fail to advance NEPA's purpose of ensuring informed and transparent environmental decisionmaking. Failure to document and monitor mitigation may also undermine the integrity of the NEPA review. These concerns and the need for guidance on this subject have long been recognized.⁸ While this guidance is designed to address these concerns, CEQ also acknowledges that NEPA itself does not create a general substantive duty on Federal agencies to mitigate adverse environmental effects.⁹

Accordingly, in conjunction with the 40th Anniversary of NEPA, CEQ announced that it would issue this guidance to clarify the appropriateness of mitigated FONSI and the importance of monitoring environmental mitigation commitments.¹⁰ This new guidance affirms CEQ's support for the appropriate use of mitigated FONSI, and accordingly amends and supplements previously issued

⁸ See, e.g., CEQ, 1987–1988 Annual Report, available at <http://www.slideshare.net/whitehouse/august-1987-1988-the-eighteenth-annual-report-of-the-council-on-environmental-quality> (stating that CEQ would issue guidance on the propriety of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) rather than requiring an Environmental Impact Statement (EIS) when the environmental effects of a proposal are significant but mitigation reduces those impacts to less than significant levels). In 2002, CEQ convened a Task Force on Modernizing NEPA Implementation, which recommended that CEQ issue guidance clarifying the requirements for public involvement, alternatives, and mitigation for actions that warrant longer EAs including those with mitigated FONSI. CEQ NEPA Task Force, "Modernizing NEPA Implementation" 75 (2003), available at <http://ceq.hss.doe.gov/ntf/report/totaldoc.html>. NEPA experts and public stakeholders have expressed broad support for this recommendation, calling for consideration of monitoring and public involvement in the use of mitigated FONSI. CEQ, "The Public and Experts' Review of the National Environmental Policy Act Task Force Report 'Modernizing NEPA Implementation'" 7 (2004), available at http://ceq.hss.doe.gov/ntf/CEQ_Draft_Final_Roundtable_Report.pdf; see also CEQ, "Rocky Mountain Roundtable Report" 8 (2004), available at <http://ceq.hss.doe.gov/ntf/RockyMtnRoundTableReport.pdf> (noting that participants in a regional roundtable on NEPA modernization identified "developing a means to enforce agency commitments to monitoring and mitigation" as one of the top five aspects of NEPA implementation needing immediate attention); "Eastern Round Table Report" 4 (2003), available at <http://ceq.hss.doe.gov/ntf/EasternRoundTableReport.pdf> (reporting that, according to several panelists at a regional roundtable, "parties responsible for monitoring the effects of * * * mitigation measures are rarely identified or easily held accountable," and that a lack of monitoring impedes agencies' ability to address the cumulative effects of EA actions).

⁹ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).

¹⁰ CEQ, "New Proposed NEPA Guidance and Steps to Modernize and Reinventorize NEPA" (Feb. 18, 2010), available at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa>.

guidance.¹¹ This guidance is intended to enhance the integrity and credibility of the NEPA process and the information upon which it relies.

CEQ provides several broad recommendations in Section II, below, to help improve agency consideration of mitigation in EISs and EAs. Agencies should not commit to mitigation measures considered in an EIS or EA absent the authority or expectation of resources to ensure that the mitigation is performed. In the decision documents concluding their environmental reviews, agencies should clearly identify any mitigation measures adopted as agency commitments or otherwise relied upon (to the extent consistent with agency authority or other legal authority), so as to ensure the integrity of the NEPA process and allow for greater transparency.

Section III emphasizes that agencies should establish implementation plans based on the importance of the project and its projected effects. Agencies should create new, or strengthen existing, monitoring to ensure that mitigation commitments are implemented. Agencies should also use effectiveness monitoring to learn if the mitigation is providing the benefits predicted. Importantly, agencies should encourage public participation and accountability through proactive disclosure of, and provision of access to, agencies' mitigation commitments as well as mitigation monitoring reports and related documents.

Although the recommendations in this guidance are broad in nature, agencies should establish, in their NEPA implementing procedures and/or guidance, specific procedures that create systematic accountability and the mechanisms to accomplish these goals.¹² This guidance is intended to assist agencies with the development and review of their NEPA procedures, by specifically recommending:

- How to ensure that mitigation commitments are implemented;
 - How to monitor the effectiveness of mitigation commitments;
 - How to remedy failed mitigation;
- and
- How to involve the public in mitigation planning.

¹¹ This previous guidance is found in CEQ, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18,026, Mar. 23, 1981, available at <http://ceq.eh.doe.gov/nepa/regs/40/40P1.htm> (suggesting that the existence of mitigation measures developed during the scoping or EA stages "does not obviate the need for an EIS").

¹² 40 CFR 1507.3 (requiring agencies to issue, and continually review, policies and procedures to implement NEPA in conformity with NEPA and CEQ Regulations).

Finally, to assist agencies in the development of their NEPA implementing procedures, an overview of relevant portions of the Department of the Army NEPA regulations is appended to this guidance as an example for agencies to consider when incorporating the recommendations of this guidance as requirements in their NEPA programs and procedures.¹³

I. The Importance of Mitigation Under NEPA

Mitigation is an important mechanism Federal agencies can use to minimize the potential adverse environmental impacts associated with their actions. As described in the CEQ Regulations, agencies can use mitigation to reduce environmental impacts in several ways. Mitigation includes:

- Avoiding an impact by not taking a certain action or parts of an action;
- Minimizing an impact by limiting the degree or magnitude of the action and its implementation;
- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and
- Compensating for an impact by replacing or providing substitute resources or environments.¹⁴

Federal agencies typically develop mitigation as a component of a proposed action, or as a measure considered in the course of the NEPA review conducted to support agency decisionmaking processes, or both. In developing mitigation, agencies necessarily and appropriately rely upon the expertise and experience of their professional staff to assess mitigation needs, develop mitigation plans, and oversee mitigation implementation. Agencies may also rely on outside resources and experts for information about the ecosystem functions and values to be protected or restored by mitigation, to ensure that mitigation has the desired effects and to develop appropriate monitoring strategies. Any outside parties consulted should be neutral parties without a financial interest in implementing the mitigation and monitoring plans, and should have expert knowledge, training, and experience relevant to the resources potentially affected by the actions and—if possible—the potential effects from

¹³ See *id.*; see also *id.* § 1507.2 (requiring agencies to have personnel and other resources available to implement NEPA reviews and meet their NEPA responsibilities).

¹⁴ *Id.* § 1508.20 (defining mitigation to include these activities).

similar actions.¹⁵ Further, when agencies delegate responsibility for preparing NEPA analyses and documentation, or when other entities (such as applicants) assume such responsibility, CEQ recommends that any experts employed to develop mitigation and monitoring should have the kind of expert knowledge, training, and experience described above.

The sections below clarify practices Federal agencies should use when they employ mitigation in three different contexts: As components of project design; as mitigation alternatives considered in an EA or an EIS and adopted in related decision documents; and as measures identified and committed to in an EA as necessary to support a mitigated FONSI. CEQ encourages agencies to commit to mitigation to achieve environmentally preferred outcomes, particularly when addressing unavoidable adverse environmental impacts. Agencies should not commit to mitigation, however, unless they have sufficient legal authorities and expect there will be necessary resources available to perform or ensure the performance of the mitigation. The agency's own underlying authority may provide the basis for its commitment to implement and monitor the mitigation. Alternatively, the authority for the mitigation may derive from legal requirements that are enforced by other Federal, state, or local government entities (e.g., air or water permits administered by local or state agencies).

A. Mitigation Incorporated Into Project Design

Many Federal agencies rely on mitigation to reduce adverse environmental impacts as part of the planning process for a project, incorporating mitigation as integral components of a proposed project design before making a determination about the significance of the project's environmental impacts.¹⁶ Such mitigation can lead to an environmentally preferred outcome and in some cases reduce the projected impacts of agency actions to below a threshold of significance. An example of mitigation measures that are typically included as part of the proposed action are agency standardized best

¹⁵ See *id.* § 1506.5 (providing that agencies are responsible for the accuracy of environmental information submitted by applicants for use in EISs and EAs, and requiring contractors selected to prepare EISs to execute disclosure statement specifying that they have no financial or other interest in the outcome of the project).

¹⁶ CEQ NEPA Task Force, "Modernizing NEPA Implementation" at 69.

management practices such as those developed to prevent storm water runoff or fugitive dust emissions at a construction site.

Mitigation measures included in the project design are integral components of the proposed action, are implemented with the proposed action, and therefore should be clearly described as part of the proposed action that the agency will perform or require to be performed. Consequently, the agency can address mitigation early in the decisionmaking process and potentially conduct a less extensive level of NEPA review.

B. Mitigation Alternatives Considered in Environmental Assessments and Environmental Impact Statements

Agencies are required, under NEPA, to study, develop, and describe appropriate alternatives when preparing EAs and EISs.¹⁷ The CEQ Regulations specifically identify procedures agencies must follow when developing and considering mitigation alternatives when preparing an EIS. When an agency prepares an EIS, it must include mitigation measures (not already included in the proposed action or alternatives) among the alternatives compared in the EIS.¹⁸ Each EIS must contain a section analyzing the environmental consequences of the proposed action and its alternatives, including “[m]eans to mitigate adverse environmental impacts.”¹⁹

When a Federal agency identifies a mitigation alternative in an EA or an EIS, it may commit to implement that mitigation to achieve an environmentally-preferable outcome. Agencies should not commit to mitigation measures considered and analyzed in an EIS or EA if there are insufficient legal authorities, or it is not reasonable to foresee the availability of sufficient resources, to perform or ensure the performance of the mitigation. Furthermore, the decision document following the EA should—and a Record of Decision (ROD) must—identify those mitigation measures that the agency is adopting and committing to implement, including any monitoring

and enforcement program applicable to such mitigation commitments.²⁰

C. Mitigation Commitments Analyzed in Environmental Assessments To Support a Mitigated FONSI

When preparing an EA, many agencies develop and consider committing to mitigation measures to avoid, minimize, rectify, reduce, or compensate for potentially significant adverse environmental impacts that would otherwise require full review in an EIS. CEQ recognizes the appropriateness, value, and efficacy of providing for mitigation to reduce the significance of environmental impacts. Consequently, when such mitigation measures are available and an agency commits to perform or ensure the performance of them, then these mitigation commitments can be used to support a FONSI, allowing the agency to conclude the NEPA process and proceed with its action without preparing an EIS.²¹ An agency should not commit to mitigation measures necessary for a mitigated FONSI if there are insufficient legal authorities, or it is not reasonable to foresee the availability of sufficient resources, to perform or ensure the performance of the mitigation.²²

Mitigation commitments needed to lower the level of impacts so that they are not significant should be clearly described in the mitigated FONSI document and in any other relevant decision documents related to the proposed action. Agencies must provide for appropriate public involvement during the development of the EA and FONSI.²³ Furthermore, in addition to

²⁰ *Id.* § 1505.2(c) (providing that a record of decision must state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not; and providing that a monitoring and enforcement program must be adopted and summarized where applicable for any mitigation).

²¹ This guidance approves of the use of the “mitigated FONSI” when the NEPA process results in enforceable mitigation measures. It thereby amends and supplements previously issued CEQ guidance that suggested that the existence of mitigation measures developed during the scoping or EA stages “does not obviate the need for an EIS.” See CEQ, “Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations,” 46 FR 18,026, Mar. 23, 1981, available at <http://ceq.eh.doe.gov/nepa/regs/40/40P1.htm>.

²² When agencies consider and decide on an alternative outside their jurisdiction (as discussed in 40 CFR 1502.14(c)), they should identify the authority for the mitigation and consider the consequences of it not being implemented.

²³ 40 CFR 1501.4(b) (requiring agencies to involve environmental agencies, applicants, and the public, to the extent practicable); *id.* § 1501.4(e)(1) (requiring agencies to make FONSIs available to the affected public as specified in § 1506.6); *id.* § 1501.4(e)(2) (requiring agencies to make FONSIs available for public review for thirty days before making any final determination on whether to prepare an EIS or proceed with an action when the

those situations where a 30-day public review of the FONSI is required,²⁴ agencies should make the EA and FONSI available to the public (e.g., by posting them on an agency Web site). Providing the public with clear information about agencies’ mitigation commitments helps ensure the value and integrity of the NEPA process.

II. Ensuring That Mitigation Commitments Are Implemented

Federal agencies should take steps to ensure that mitigation commitments are actually implemented. Consistent with their authority, agencies should establish internal processes to ensure that mitigation commitments made on the basis of any NEPA analysis are carefully documented and that relevant funding, permitting, or other agency approvals and decisions are made conditional on performance of mitigation commitments.

Agency NEPA implementing procedures should require clear documentation of mitigation commitments considered in EAs and EISs prepared during the NEPA process and adopted in their decision documents. Agencies should ensure that the expertise and professional judgment applied in determining the appropriate mitigation commitments are described in the EA or EIS, and that the NEPA analysis considers when and how those mitigation commitments will be implemented.

Agencies should clearly identify commitments to mitigation measures designed to achieve environmentally preferable outcomes in their decision documents. They should also identify mitigation commitments necessary to reduce impacts, where appropriate, to a level necessary for a mitigated FONSI. In both cases, mitigation commitments should be carefully specified in terms of measurable performance standards or expected results, so as to establish clear performance expectations.²⁵ The agency

proposed action is, or is closely similar to, one which normally requires the preparation of an EIS under agency NEPA implementing procedures, or when the nature of the proposed action is one without precedent); *id.* § 1506.6 (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

²⁴ *Id.* § 1501.4(e)(2).

²⁵ In 2001, the Committee on Mitigating Wetland Losses, through the National Research Council (NRC), conducted a nationwide study evaluating compensatory mitigation, focusing on whether the process is achieving the overall goal of “restoring and maintaining the quality of the nation’s waters.” NRC Committee on Mitigating Wetland Losses, “Compensating for Wetland Losses Under the Clean Water Act” 2 (2001). The study’s recommendations were incorporated into the 2008 Final Compensatory Mitigation Rule promulgated jointly

¹⁷ 42 U.S.C. 4332(2)(C) (mandating that agencies’ detailed statements must include alternatives to the proposed action); *Id.* § 4332(E) (requiring agencies to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources).

¹⁸ 40 CFR 1502.14(f) (listing mitigation measures as one of the required components of the alternatives included in an EIS); *id.* § 1508.25(b)(3) (defining the “scope” of an EIS to include mitigation measures).

¹⁹ *Id.* § 1502.16(h).

should also specify the timeframe for the agency action and the mitigation measures in its decision documents, to ensure that the intended start date and duration of the mitigation commitment is clear. When an agency funds, permits, or otherwise approves actions, it should also exercise its available authorities to ensure implementation of any mitigation commitments by including appropriate conditions on the relevant grants, permits, or approvals.

CEQ views funding for implementation of mitigation commitments as critical to ensuring informed decisionmaking. For mitigation commitments that agencies will implement directly, CEQ recognizes that it may not be possible to identify funds from future budgets; however, a commitment to seek funding is considered essential and if it is reasonably foreseeable that funding for implementation of mitigation may be unavailable at any time during the life of the project, the agency should disclose in the EA or EIS the possible lack of funding and assess the resultant environmental effects. If the agency has disclosed and assessed the lack of funding, then unless the mitigation is essential to a mitigated FONSI or necessary to comply with another legal requirement, the action could proceed. If the agency committing to implementing mitigation has not disclosed and assessed the lack of funding, and the necessary funding later becomes unavailable, then the agency should not move forward with the proposed action until funding becomes available or the lack of funding is appropriately assessed (*see* Section III, below).

A. Establishing a Mitigation Monitoring Program

Federal agencies must consider reasonably foreseeable future impacts and conditions in a constantly evolving environment. Decisionmakers will be better able to adapt to changing circumstances by creating a sound mitigation implementation plan and through ongoing monitoring of environmental impacts and their mitigation. Monitoring can improve the quality of overall agency decisionmaking by providing feedback on the effectiveness of mitigation techniques. A comprehensive approach to mitigation planning, implementation, and monitoring will therefore help agencies realize opportunities for

reducing environmental impacts through mitigation, advancing the integrity of the entire NEPA process. These approaches also serve NEPA's goals of ensuring transparency and openness by making relevant and useful environmental information available to decisionmakers and the public.²⁶

Adaptive management can help an agency take corrective action if mitigation commitments originally made in NEPA and decision documents fail to achieve projected environmental outcomes and there is remaining federal action. Agencies can, in their NEPA reviews, establish and analyze mitigation measures that are projected to result in the desired environmental outcomes, and can then identify those mitigation principles or measures that it would apply in the event the initial mitigation commitments are not implemented or effective. Such adaptive management techniques can be advantageous to both the environment and the agency's project goals.²⁷ Agencies can also, short of adaptive management, analyze specific mitigation alternatives that could take the place of mitigation commitments in the event the commitment is not implemented or effective.

Monitoring is fundamental for ensuring the implementation and effectiveness of mitigation commitments, meeting legal and permitting requirements, and identifying trends and possible means for improvement. Under NEPA, a Federal agency has a continuing duty to ensure that new information about the environmental impact of its proposed actions is taken into account, and that the NEPA review is supplemented when significant new circumstances or information arise that are relevant to environmental concerns and bear on the proposed action or its impacts.²⁸ For agency decisions based on an EIS, the CEQ Regulations explicitly require that "a monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation."²⁹ In addition, the CEQ Regulations state that agencies may "provide for monitoring to assure that their decisions are carried out and should do so in important cases."³⁰ Accordingly, an agency should also commit to mitigation monitoring in

important cases when relying upon an EA and mitigated FONSI. Monitoring is essential in those important cases where the mitigation is necessary to support a FONSI and thus is part of the justification for the agency's determination not to prepare an EIS.

Agencies are expected to apply professional judgment and the rule of reason when identifying those cases that are important and warrant monitoring, and when determining the type and extent of monitoring they will use to check on the progress made in implementing mitigation commitments as well as their effectiveness. In cases that are less important, the agency should exercise its discretion to determine what level of monitoring, if any, is appropriate. The following are examples of factors that agencies should consider to determine importance:

- Legal requirements of statutes, regulations, or permits;
- Human health and safety;
- Protected resources (e.g., parklands, threatened or endangered species, cultural or historic sites) and the proposed action's impacts on them;
- Degree of public interest in the resource or public debate over the effects of the proposed action and any reasonable mitigation alternatives on the resource; and
- Level of intensity of projected impacts.

Once an agency determines that it will provide for monitoring in a particular case, monitoring plans and programs should be described or incorporated by reference in the agency's decision documents.³¹ Agencies have discretion, within the scope of their authority, to select an appropriate form and method for monitoring, but they should identify the monitoring area and establish the appropriate monitoring system.³² The form and method of monitoring can be informed by an agency's past monitoring plans and programs that tracked impacts on similar resources, as well as plans and programs used by other agencies or entities, particularly those with an interest in the resource being monitored. For mitigation commitments that warrant rigorous oversight, an Environmental Management System (EMS), or other

by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. *See* U.S. Army Corps of Engineers & U.S. Environmental Protection Agency, "Compensatory Mitigation for Losses of Aquatic Resources," 73 FR 19,594, Apr. 10, 2008.

²⁶ 40 CFR 1500.1(b).

²⁷ *See* CEQ NEPA Task Force, "Modernizing NEPA Implementation" at 44.

²⁸ 40 CFR 1502.9(c) (requiring supplementation of EISs when there are substantial changes to the proposed action, or significant new information or circumstances arise that are relevant to the environmental effects of the proposed action).

²⁹ *Id.* § 1505.2(c).

³⁰ *Id.* § 1505.3.

³¹ The mitigation plan and program should be described to the extent possible based on available and reasonably foreseeable information in cases where the NEPA analysis and documentation are completed prior to final design of a proposed project.

³² The Department of the Army regulations provide an example of this approach. *See* 32 CFR part 651 App. C. These regulations are summarized in the Appendix to this guidance.

data or management system could serve as a useful way to integrate monitoring efforts effectively.³³ Other possible monitoring methods include agency-specific environmental monitoring, compliance assessment, and auditing systems. For activities involving third parties (e.g., permittees or grantees), it may be appropriate to require the third party to perform the monitoring as long as a clear accountability and oversight framework is established. The monitoring program should be implemented together with a review process and a system for reporting results.

Regardless of the method chosen, agencies should ensure that the monitoring program tracks whether mitigation commitments are being performed as described in the NEPA and related decision documents (i.e., implementation monitoring), and whether the mitigation effort is producing the expected outcomes and resulting environmental effects (i.e., effectiveness monitoring). Agencies should also ensure that their mitigation monitoring procedures appropriately provide for public involvement. These recommendations are explained in more detail below.

B. Monitoring Mitigation Implementation

A successful monitoring program will track the implementation of mitigation commitments to determine whether they are being performed as described in the NEPA documents and related decision documents. The responsibility for developing an implementation monitoring program depends in large part upon who will actually perform the mitigation—the lead Federal agency or cooperating agency; the applicant, grantee, or permit holder; another responsible entity or cooperative non-

Federal partner; or a combination of these. The lead agency should ensure that information about responsible parties, mitigation requirements, as well as any appropriate enforcement clauses are included in documents such as authorizations, agreements, permits, financial assistance awards, or contracts.³⁴ Ultimate monitoring responsibility rests with the lead Federal agency or agencies to assure that monitoring is occurring when needed and that results are being properly considered. The project's lead agency can share monitoring responsibility with joint lead or cooperating agencies or other entities, such as applicants or grantees. The responsibility should be clearly described in the NEPA documents or associated decision documents, or related documents describing and establishing the monitoring requirements or expectations.

C. Monitoring the Effectiveness of Mitigation

Effectiveness monitoring tracks the success of a mitigation effort in achieving expected outcomes and environmental effects. Completing environmental data collection and analyses prior to project implementation provides an understanding of the baseline conditions for each potentially affected resource for reference when determining whether the predicted efficacy of mitigation commitments is being achieved. Agencies can rely on agency staff and outside experts familiar with the predicted environmental impacts to develop the means to monitor mitigation effectiveness, in the same way that they can rely on agency and outside experts to develop and evaluate the effectiveness of mitigation (see Section I, above).

When monitoring mitigation, agencies should consider drawing on sources of information available from the agency, from other Federal agencies, and from state, local, and tribal agencies, as well as from non-governmental sources such as local organizations, academic institutions, and non-governmental organizations. Agencies should especially consider working with agencies responsible for overseeing land management and impacts to specific resources. For example, agencies could consult with the U.S. Fish and Wildlife and National Marine Fisheries Services (for information to evaluate potential impacts to threatened and endangered

species) and with State Historic Preservation Officers (for information to evaluate potential impacts to historic structures).

D. The Role of the Public

Public involvement is a key procedural requirement of the NEPA review process, and should be fully provided for in the development of mitigation and monitoring procedures.³⁵ Agencies are also encouraged, as a matter of transparency and accountability, to consider including public involvement components in their mitigation monitoring programs. The agencies' experience and professional judgment are key to determining the appropriate level of public involvement. In addition to advancing accountability and transparency, public involvement may provide insight or perspective for improving mitigation activities and monitoring. The public may also assist with actual monitoring through public-private partnership programs.

Agencies should provide for public access to mitigation monitoring information consistent with NEPA and the Freedom of Information Act (FOIA).³⁶ NEPA and the CEQ Regulations incorporate the FOIA by reference to require agencies to provide public access to releasable documents related to EISs, which may include documents regarding mitigation monitoring and enforcement.³⁷ The CEQ Regulations also require agencies to involve the public in the EA preparation process to the extent practicable and in certain cases to make a FONSI available for public review before making its final determination on whether it will prepare an EIS or proceed with the action.³⁸ Consequently, agencies should

³⁵ 40 CFR 1506.6 (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

³⁶ 5 U.S.C. 552.

³⁷ 42 U.S.C. 4332(2)(C) (requiring Federal agencies to make EISs available to the public as provided by the FOIA); 40 CFR 1506.6(f) (requiring agencies to make EISs, comments received, and any underlying documents available to the public pursuant to the provisions of the FOIA without regard to the exclusion for interagency memoranda where such memoranda transmit comments of Federal agencies on the environmental impact of the proposed action).

³⁸ 40 CFR 1501.4(b) (requiring agencies to involve environmental agencies, applicants, and the public, to the extent practicable); *id.* § 1501.4(e)(1) (requiring agencies to make FONSI available to the affected public as specified in § 1506.6); *id.* § 1501.4(e)(2) (requiring agencies to make a FONSI available for public review for thirty days before making its final determination on whether it will prepare an EIS or proceed with the action when the nature of the proposed action is, or is similar to, an action which normally requires the preparation of an EIS); *id.* § 1506.6 (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

³³ An EMS provides a systematic framework for a Federal agency to monitor and continually improve its environmental performance through audits, evaluations of legal and other requirements, and management reviews. The potential for EMS to support NEPA work is further addressed in CEQ, "Aligning National Environmental Policy Act Processes with Environmental Management Systems" 4 (2007) available at ceq.hss.doe.gov/nepa/nepapubs/Aligning_NEPA_Processes_with_Environmental_Management_Systems_2007.pdf (discussing the use of EMSs to track implementation and monitoring of mitigation). In 2001, the Department of the Army announced that it would implement a recognized environmental management standard, ISO 14001, across Army installations. ISO 14001 represents a standardized system to plan, track, and monitor environmental performance within the agency's operations. To learn more about how EMS implementation has resulted in an effective EMS for monitoring purposes at an Army installation, see the Sustainability Web site for the Army's Fort Lewis installation, available at sustainablefortlewis.army.mil.

³⁴ Such enforcement clauses, including appropriate penalty clauses, should be developed as allowable under the applicable statutory and regulatory authorities.

involve the public when preparing EAs and mitigated FONSI's.³⁹ NEPA further requires all Federal agencies to make information useful for restoring, maintaining, and enhancing the quality of the environment available to States, counties, municipalities, institutions, and individuals.⁴⁰ This requirement can include information on mitigation and mitigation monitoring.

Beyond these requirements, agencies are encouraged to make proactive, discretionary release of mitigation monitoring reports and other supporting documents, and to make responses to public inquiries regarding mitigation monitoring readily available to the public through online or print media. This recommendation is consistent with the President's Memorandum on Transparency and Open Government directing agencies to take affirmative steps to make information public without waiting for specific requests for information.⁴¹ The Open Government Directive, issued by the Office of Management and Budget in accordance with the President's Memorandum, further directs agencies to use their web sites and information technology capabilities to disseminate, to the maximum extent practicable, useful information under FOIA, so as to promote transparency and accountability.⁴²

Agencies should exercise their judgment to ensure that the methods and media used to provide mitigation and monitoring information are commensurate with the importance of the action and the resources at issue, taking into account any risks of harm to affected resources. In some cases, agencies may need to balance competing privacy or confidentiality concerns (e.g., protecting confidential business information or the location of sacred sites) with the benefits of public disclosure.

III. Remedying Ineffective or Non-Implemented Mitigation

Through careful monitoring, agencies may discover that mitigation commitments have not been implemented, or have not had the

environmental results predicted in the NEPA and decision documents. Agencies, having committed to mitigation, should work to remedy such inadequacies. It is an agency's underlying authority or other legal authority that provides the basis for the commitment to implement mitigation and monitor its effectiveness. As discussed in Section I, agencies should not commit to mitigation considered in an EIS or EA unless there are sufficient legal authorities and they expect the resources to be available to perform or ensure the performance of the mitigation. In some cases, as discussed in Section II, agencies may exercise their authority to make relevant funding, permitting, or other agency approvals and decisions conditional on the performance of mitigation commitments by third parties. It follows that an agency must rely on its underlying authority and available resources to take remedial steps. Agencies should consider taking remedial steps as long as there remains a pending Federal decision regarding the project or proposed action. Agencies may also exercise their legal authority to enforce conditions placed on funding, grants, permits, or other approvals.

If a mitigation commitment is simply not undertaken or fails to mitigate the environmental effects as predicted, the responsible agency should further consider whether it is necessary to prepare supplemental NEPA analysis and documentation.⁴³ The agency determination would be based upon its expertise and judgment regarding environmental consequences. Much will depend upon the agency's determination as to what, if any, portions of the Federal action remain and what opportunities remain to address the effects of the mitigation failure. In cases where an EIS or a supplementary EA or EIS is required, the agency must avoid actions that would have adverse environmental impacts and limit its choice of reasonable alternatives during the preparation of an EIS.⁴⁴

In cases where there is no remaining agency action to be taken, and the mitigation has not been fully implemented or has not been as

effective as predicted, it may not be appropriate to supplement the original NEPA analysis and documentation. However, it would be appropriate for future NEPA analyses of similar proposed actions and relevant programs to consider past experience and address the potential for environmental consequences as a result of mitigation failure. This would ensure that the assumed environmental baselines reflect true conditions, and that similar mitigation is not relied on in subsequent decisions without more robust provisions for adaptive management or analysis of mitigation alternatives that can be applied in the event of mitigation failure.

IV. Conclusion

This guidance is intended to assist Federal agencies with the development of their NEPA procedures, guidance, and regulations; foster the appropriate use of Findings of No Significant Impact; and ensure that mitigation commitments are appropriately and effectively documented, implemented, and monitored. The guidance also provides Federal agencies with recommended actions in circumstances where mitigation is not implemented or fails to have the predicted effect. Questions regarding this guidance should be directed to the CEQ Associate Director for NEPA Oversight.

Appendix

Case Study: Existing Agency Mitigation Regulations & Guidance

A number of agencies have already taken actions to improve their use of mitigation and their monitoring of mitigation commitments undertaken as part of their NEPA processes. For example, the Department of the Army has promulgated regulations implementing NEPA for military installations and programs that include a monitoring and implementation component.⁴⁵ These NEPA implementing procedures are notable for their comprehensive approach to ensuring that mitigation proposed in the NEPA review process is completed and monitored for effectiveness. These procedures are described in detail below to illustrate one approach agencies can use to meet the goals of this Guidance.

a. Mitigation Planning

Consistent with existing CEQ guidelines, the Army's NEPA implementing regulations place significant emphasis on the planning and implementation of mitigation

³⁹ *Id.* § 1501.4.

⁴⁰ 42 U.S.C. 4332(2)(G).

⁴¹ Presidential Memorandum for Heads of Executive Departments and Agencies Concerning the Freedom of Information Act, 74 FR 4,683, Jan. 21, 2009; *accord* DOJ, Memorandum for Heads of Executive Departments and Agencies Concerning the Freedom of Information Act (Mar. 19, 2009), available at <http://www.usdoj.gov/ag/foia-memo-march2009.pdf>.

⁴² Office of Mgmt. & Budget, Executive Office of the President, *Open Government Directive*, (Dec. 8, 2009), available at <http://www.whitehouse.gov/open/documents/open-government-directive>.

⁴³ 40 CFR 1502.9(c) (requiring an agency to prepare supplements to draft or final EISs if the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts).

⁴⁴ *Id.* § 1506.1(a) (providing that until an agency issues a Record of Decision, no action concerning the proposal may be taken that would have an adverse environmental impact or limit the choice of reasonable alternatives).

⁴⁵ The Department of the Army promulgated its NEPA implementing procedures as a regulation.

throughout the environmental analysis process. The first step of mitigation planning is to seek to avoid or minimize harm.⁴⁶ When the analysis proceeds to an EA or EIS, however, the Army regulation requires that any mitigation measures be “clearly assessed and those selected for implementation will be identified in the [FONSI] or the ROD,” and that “[t]he proponent must implement those identified mitigations, because they are commitments made as part of the Army decision.”⁴⁷ This is notable as this mitigation is a binding commitment documented in the agency NEPA decision. In addition, the adoption of mitigation that reduces environmental impacts below the NEPA significance threshold is similarly binding upon the agency.⁴⁸ When the mitigation results in a FONSI in a NEPA analysis, the mitigation is considered legally binding.⁴⁹ Because these regulations create a clear obligation for the agency to ensure any proposed mitigation adopted in the environmental review process is performed, there is assurance that mitigation will lead to a reduction of environmental impacts in the implementation stage and include binding mechanisms for enforcement.

Another important mechanism in the Army’s regulations to assure effective mitigation results is the requirement to fully fund and implement adopted mitigation. It is acknowledged in the regulations that “unless money is actually budgeted and manpower assigned, the mitigation does not exist.”⁵⁰ As a result, a proposed action cannot proceed until all adopted mitigation is fully resourced or until the lack of funding is addressed in the NEPA analysis.⁵¹ This is an important step in the planning process, as mitigation benefits are unlikely to be realized unless financial and planning resources are committed through the NEPA planning process.

b. Mitigation Monitoring

The Army regulations recognize that monitoring is an integral part of any mitigation system.⁵² As the Army regulations require, monitoring plans and implementation programs should be summarized in NEPA documentation, and should consider several important factors. These factors include anticipated changes in environmental conditions or project activities,

unexpected outcomes from mitigation, controversy over the selected alternative, potential impacts or adverse effects on federally or state protected resources, and statutory permitting requirements.⁵³ Consideration of these factors can help prioritize monitoring efforts and anticipate possible challenges.

The Army regulations distinguish between implementation monitoring and effectiveness monitoring. Implementation monitoring ensures that mitigation commitments made in NEPA documentation are implemented. To further this objective, the Army regulations specify that these conditions must be written into any contracts furthering the proposed action. In addition, the agency or unit proposing the action is ultimately responsible for the performance of the mitigation activities.⁵⁴ In a helpful appendix to its regulations, the Army outlines guidelines for the creation of an implementation monitoring program to address contract performance, the role of cooperating agencies, and the responsibilities of the lead agency.⁵⁵

The Army’s effectiveness monitoring addresses changing conditions inherent in evolving natural systems and the potential for unexpected environmental mitigation outcomes. For this monitoring effort, the Army utilizes its Environmental Management System (EMS) based on the standardized ISO 14001 protocols.⁵⁶ The core of this program is the creation of a clear and accountable system for tracking and reporting both quantitative and qualitative measures of the mitigation efforts. An action-forcing response to mitigation failure is essential to the success of any mitigation program. In the context of a mitigated FONSI, the Army regulations provide that if any “identified mitigation measures do not occur, so that significant adverse environmental effects could be reasonably expected to result, the [agency actor] must publish a [Notice of Intent] and prepare an EIS.”⁵⁷ This is an essential response measure to changed conditions in the proposed agency action. In addition, the Army regulations address potential failures in the mitigation systems identified

through monitoring. If mitigation is ineffective, the agency entity responsible should re-examine the mitigation and consider a different approach to mitigation. However, if mitigation is required to reduce environmental impacts below significance levels are found to be ineffective, the regulations contemplate the issuance of a Notice of Intent and preparation of an EIS.⁵⁸

The Army regulations also provide guidance for the challenging task of defining parameters for effectiveness monitoring. Guidelines include identifying a source of expertise, using measurable and replicable technical parameters, conducting a baseline study before mitigation is commenced, using a control to isolate mitigation effects, and, importantly, providing timely results to allow the decision-maker to take corrective action if necessary.⁵⁹ In addition, the regulations call for the preparation of an environmental monitoring report to determine the accuracy of the mitigation impact predictions made in the NEPA planning process.⁶⁰ The report is essential for agency planning and documentation and promotes public engagement in the mitigation process.

c. Public Engagement

The Army regulations seek to integrate robust engagement of the interested public in the mitigation monitoring program. The regulations place responsibility on the entity proposing the action to respond to inquiries from the public and other agencies regarding the status of mitigation adopted in the NEPA process.⁶¹ In addition, the regulations find that “concerned citizens are essential to the credibility of [the] review” of mitigation effectiveness.⁶² The Army specifies that outreach with the interested public regarding mitigation efforts is to be coordinated by the installation’s Environmental Office.⁶³ These regulations bring the public a step closer to the process by designating an agency source responsible for enabling public participation, and by acknowledging the important role the public can play to ensure the integrity and tracking of the mitigation process. The success of

⁵³ *Id.* §§ 651.15(h)(1)–(4) Appendix C to 32 CFR part 651, 67 FR 15,290, 15,326–28, Mar. 29, 2002.

⁵⁴ *Id.* § 651.15(i)(1).

⁵⁵ *See* Appendix C to 32 CFR part 651, 67 FR 15,290, 15,326–28, Mar. 29, 2002.

⁵⁶ *See also* CEQ, “Aligning NEPA Processes with Environmental Management Systems” (2007), available at http://ceq.hss.doe.gov/nepa/nepapubs/Aligning_NEPA_Processes_with_Environmental_Management_Systems_2007.pdf.

⁵⁷ 32 CFR 651.15(c).

⁵⁸ *See id.* § 651.35(g) (describing the implementation steps, including public availability and implementation tracking, that must be taken when a FONSI requires mitigation); *id.* § 651.15(k).

⁵⁹ *See* subsections (g)(1)–(5) of Appendix C to 32 CFR part 651, 67 FR at 15,327.

⁶⁰ 32 CFR 651.15(l).

⁶¹ *Id.* § 651.15(b).

⁶² *Id.* § 651.15(k).

⁶³ 32 CFR 651.15(j).

⁴⁶ *See* 40 CFR 1508.2.

⁴⁷ 32 CFR 651.15(b).

⁴⁸ *Id.* § 651.35(g).

⁴⁹ *Id.* § 651.15(c).

⁵⁰ *Id.* § 651.15(d).

⁵¹ *Id.* § 651.15(d).

⁵² *Id.* § 651.15(i).

agency mitigation efforts will be bolstered by public access to timely information on NEPA mitigation monitoring.

Nancy H. Sutley,

Chair, Council on Environmental Quality.

[FR Doc. 2011-1188 Filed 1-20-11; 8:45 am]

BILLING CODE 3125-W0-P

NATIONAL SCIENCE FOUNDATION

45 CFR Part 680

RIN 3145-AA51

National Science Foundation Rules of Practice and Statutory Conflict-of-Interest Exemptions

AGENCY: National Science Foundation.

ACTION: Final rule.

SUMMARY: The National Science Foundation (NSF) is amending its regulations to remove the provisions concerning statutory conflict-of-interest exemptions.

DATES: The final rule is effective on January 21, 2011.

FOR FURTHER INFORMATION CONTACT: Robin Clay, Deputy Ethics Official, Office of the General Counsel, National Science Foundation, 4201 Wilson

Boulevard, Room 1265, Arlington, Virginia 22230; Telephone: (703) 292-8060; Facsimile: (703) 292-9041; e-mail: *COI@nsf.gov*.

SUPPLEMENTARY INFORMATION: The National Science Foundation (NSF) is amending its regulations to remove the provisions in 45 CFR 680.20 (subpart B) in their entirety. On December 18, 1996 (61 FR 66830), the Office of Government Ethics (OGE) issued executive branch-wide regulations on exemptions and waivers for financial interests under 18 U.S.C. 280(b) (codified at 5 CFR part 2640). The portion of the OGE regulations on exemptions under 18 U.S.C. 208(b)(2) supersedes the provisions of subpart B of the NSF regulations (45 CFR part 680).

Background

In accordance with OGE's issuance of the final rule regarding 18 U.S.C. 208(b) exemptions and waivers (5 CFR 2640), the Foundation is issuing this final rule removing 45 CFR part 680 subpart B in its entirety.

Because the Foundation is required to delete the superseded provisions of 45 CFR part 680 subpart B relating to 208(b)(2) exemptions, with no discretion in the matter, the Foundation finds, pursuant to 5 U.S.C. 533(b)(B), that there is good cause not to seek

public comment on this rule, as such comment is unnecessary. Furthermore, for the reasons stated above, the Foundation finds, pursuant to 5 U.S.C. 533(d)(3), that good cause exists to make this rule effective upon publication of this notice.

List of Subjects in 45 CFR Part 680

Conflict of interests.

Accordingly, 45 CFR part 680 is amended as follows:

PART 680—NATIONAL SCIENCE FOUNDATION RULES OF PRACTICE

■ 1. The authority citation for part 680 is revised to read as follows:

Authority: 5 U.S.C. 7301; 42 U.S.C. 1870(a); 5 CFR 2635.105(c)(3).

■ 2. The heading of part 680 is revised to read as set forth above.

Subpart B—[Removed and Reserved]

■ 3. Subpart B, consisting of § 680.20, is removed and reserved.

Dated: January 10, 2011.

Lawrence Rudolph,

General Counsel.

[FR Doc. 2011-890 Filed 1-20-11; 8:45 am]

BILLING CODE 7555-01-P

APPENDIX 22

COUNCIL ON ENVIRONMENTAL QUALITY

40 CFR Parts 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, and 1508

Final Guidance for Federal Departments and Agencies on Establishing, Applying, and Revising Categorical Exclusions Under the National Environmental Policy Act

AGENCY: Council on Environmental Quality.

ACTION: Notice of availability.

SUMMARY: The Council on Environmental Quality (CEQ) is issuing its final guidance on categorical exclusions. This guidance provides methods for substantiating categorical exclusions, clarifies the process for establishing categorical exclusions, outlines how agencies should engage the public when establishing and using categorical exclusions, describes how agencies can document the use of categorical exclusions, and recommends periodic agency review of existing categorical exclusions. A categorical exclusion is a category of actions that a Federal agency determines does not normally result in individually or cumulatively significant environmental effects. This guidance clarifies the rules for establishing, applying, and revising categorical exclusions. It applies to categorical exclusions established by Federal agencies in accordance with CEQ regulations for implementing the procedural provisions of the National Environmental Policy Act. The guidance was developed to assist agencies in making their implementation of the National Environmental Policy Act (NEPA) more transparent and efficient.

DATES: The guidance is effective December 6, 2010.

FOR FURTHER INFORMATION CONTACT: The Council on Environmental Quality (ATTN: Horst Greczmiel, Associate Director for National Environmental Policy Act Oversight), 722 Jackson Place, NW., Washington, DC 20503. Telephone: (202) 395-5750.

SUPPLEMENTARY INFORMATION: This guidance applies to categorical exclusions established by Federal agencies in accordance with § 1507.3 of the CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, 40 CFR parts 1500-1508.

Enacted in 1970, the National Environmental Policy Act (NEPA), 42 U.S.C. 4321-4370, is a fundamental tool used to harmonize our environmental, economic, and social aspirations and is a cornerstone of our Nation's efforts to

protect the environment. NEPA recognizes that many Federal activities affect the environment and mandates that Federal agencies consider the environmental impacts of their proposed actions before deciding to adopt proposals and take action.¹ Many Federal actions do not normally have significant effects on the environment. When agencies identify categories of activities that do not normally have the potential for individually or cumulatively significant impacts, they may establish a categorical exclusion for those activities. The use of categorical exclusions can reduce paperwork and delay, so that more resources are available to assess proposed actions that are likely to have the potential to cause significant environmental effects in an environmental assessment (EA) or environmental impact statement (EIS). This guidance clarifies the rules for establishing categorical exclusions by describing: (1) How to establish or revise a categorical exclusion; (2) how to use public involvement and documentation to help define and substantiate a proposed categorical exclusion; (3) how to apply an established categorical exclusion; (4) how to determine when to prepare documentation and involve the public when applying a categorical exclusion; and (5) how to conduct periodic reviews of categorical exclusions to assure their continued appropriate use and usefulness.

On February 18, 2010, the Council on Environmental Quality announced three proposed draft guidance documents to modernize and reinvigorate NEPA, in conjunction with the fortieth anniversary of the statute's enactment.² This guidance document is the first of those three to be released in final form. With respect to the other two guidance documents, one addresses when and how Federal agencies should consider greenhouse gas emissions and climate change in their proposed actions, and the other addresses when agencies need to monitor commitments made in EAs and EISs, and how agencies can appropriately use mitigated "Findings of No Significant Impact." The **Federal Register** notice announcing the draft categorical exclusion guidance and requesting public comments was

¹ A discussion of NEPA applicability is beyond the scope of this guidance. For more information see CEQ, *The Citizen's Guide to the National Environmental Policy Act*, available at ceq.hss.doe.gov/nepa/Citizens_Guide_Dec07.pdf.

² For more information on this announcement, see <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa>.

published on February 23, 2010.³ CEQ appreciates the thoughtful responses to its request for comments on the draft guidance. Commenters included private citizens, corporations, environmental organizations, trade associations, and State agencies. CEQ received fifty-eight comments, which are available online at <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/comments> and at <http://www.nepa.gov>. The comments that suggested editorial revisions and requested clarification of terms are addressed in the text of the final guidance. Comments that raised policy or substantive concerns are grouped into thematic issues and addressed in the following sections of this notice.

Process for Developing and Using Categorical Exclusions

Many commenters expressed support for CEQ's categorical exclusion guidance and for the timely and efficient use of categorical exclusions in the NEPA environmental review process to inform agency decisionmaking. Some commenters favored guidance that would limit the use of categorical exclusions. Others expressed concern that this guidance will discourage the appropriate use of categorical exclusions or make the NEPA process more difficult for agencies, and thereby delay agency decisionmaking.

This guidance was developed to provide for the consistent, proper, and appropriate development and use of categorical exclusions by Federal agencies. It reinforces the process required to establish categorical exclusions by explaining methods available to substantiate categorical exclusions. It also seeks to ensure opportunities for public involvement and increasing transparency when Federal agencies establish categorical exclusions and subsequently use those categorical exclusions to satisfy their NEPA obligations for specific proposed actions. Additionally, this guidance affords Federal agencies flexibility in developing and implementing categorical exclusions while ensuring that categorical exclusions are administered in compliance with NEPA and the CEQ Regulations. When appropriately established and applied, categorical exclusions expedite the environmental review process for proposals that normally do not require additional analysis and documentation in an EA or an EIS.

³ National Environmental Policy Act (NEPA) Draft Guidance, Establishing, Applying, and Revising Categorical Exclusions under the National Environmental Policy Act, 75 FR 8045, Feb. 23, 2010.

Applicability and Limitations

Some commenters expressed concern that the guidance creates additional limitations and constraints on the establishment of categorical exclusions, while others expressed unqualified support for using text that constrains the scope of the actions to which a categorical exclusion could apply. The discussion in the guidance of physical, temporal, or environmental factors that would constrain the use of a categorical exclusion is consistent with NEPA and past CEQ guidance.

Federal agencies that identify physical, temporal, or environmental constraints in the definition of a proposed category of actions may be able to better ensure that a new or revised categorical exclusion is neither too broadly nor too narrowly defined. Some information regarding implementation of mitigation measures that are an integral part of the proposed actions and how those actions will be carried out may be necessary to adequately understand and describe the category of actions and their projected impacts. A better and more comprehensive description of a category of actions provides clarity and transparency for proposed projects that could be categorically excluded from further analysis and documentation in an EA or an EIS.

Public Involvement

Some commenters expressed concern over the timeliness and burden of NEPA reviews when there is greater public involvement. The final guidance makes it clear that CEQ strongly encourages public involvement in the establishment and revision of categorical exclusions. As the guidance explains, engaging the public in the environmental aspects of Federal decisionmaking is a key policy goal of NEPA and the CEQ Regulations. Public involvement is not limited to the provision of information by agencies; it should also include meaningful opportunities for the public to provide comment and feedback on the information made available. Considering recent advances in information technology, agencies should consider employing additional measures to involve the public beyond simply publishing a **Federal Register** notice as required when an agency seeks to establish new or revised categorical exclusions.⁴

The perceived environmental effects of the proposed category of actions are

a factor that an agency should consider when it decides whether there is a need for public involvement in determining whether to apply a categorical exclusion. Accordingly, the guidance clarifies that agencies have flexibility when applying categorical exclusions to focus their public involvement on those proposed actions and issues the agency expects to raise environmental issues and concerns that are important to the public.

In the final guidance, CEQ uses the terms “encourage” and “recommend” interchangeably. The language of the guidance relating to public engagement reflects CEQ’s authority under NEPA and the CEQ regulations to guide agency development and implementation of agency NEPA procedures. It also reflects the importance of allowing agencies to use their expertise to determine the appropriate level of engagement with the public.

Substantiating and Documenting Categorical Exclusions

Some commenters raised the concern that the requirement to substantiate and document categorical exclusions would be burdensome and cause delay. One commenter recommended that the guidance should encourage consultation with State agencies, other Federal agencies with special expertise, and other stakeholders. Another commenter suggested that the guidance permit agencies to consult with industry project proponents that possess information that would be useful in substantiating a categorical exclusion. Along the same lines, another commenter stated that agencies should be encouraged to seek information from the most relevant and reliable sources possible.

The guidance has been revised to reflect that, when substantiating and documenting the environmental effects of a category of actions, a Federal agency need not be limited to its own experiences. Instead, the agency should consider information and records from other private and public entities, including other Federal agencies that have experience with the actions covered in a proposed categorical exclusion. The guidance acknowledges that the reliability of scientific information varies according to its source and the rigor with which it was developed, and that it is the responsibility of the agency to determine whether the information reflects accepted knowledge, accurate findings, and experience with the environmental effects relevant to the actions that would be included in the proposed categorical exclusion.

The guidance addresses the concerns over timeliness and undue burdens by explaining that the amount of information required to substantiate a proposed new or revised categorical exclusion should be proportionate to the type of activities included in the proposed category of actions. Actions that potentially have little or no impact should not require extensive information or documentation. Determining the extent of substantiation and documentation is ultimately the responsibility of the agency and will vary depending on the nature of the proposed action and the effects associated with the action. The guidance encourages agencies to make use of agency Web sites to provide further clarity and transparency to their NEPA procedures. It also recommends using modern technology to maintain and facilitate the use of documentation in future evaluations and benchmarking.

Extraordinary Circumstances

Several commenters requested clearer and more detailed guidance on the application of extraordinary circumstances. Extraordinary circumstances are appropriately understood as those factors or circumstances that will help an agency identify the situations or environmental settings when an otherwise categorically-excludable action merits further analysis and documentation in an EA or an EIS. Specific comments noted that the determination that an extraordinary circumstance will require additional environmental review in an EA or an EIS should depend not solely on the existence of the extraordinary circumstance but rather on an analysis of its impacts. CEQ agrees with this perspective. For example, when an agency uses a protected resource, such as historic property or threatened and endangered species, as an extraordinary circumstance, the guidance clarifies that whether additional review and documentation of a proposed action’s potential environmental impacts in an EA or an EIS is required is based on the potential for significantly impacting that protected resource. However, CEQ recognizes that some agency NEPA procedures require additional analysis based solely on the existence of an extraordinary circumstance. In such cases, the agencies may define their extraordinary circumstances differently, so that a particular situation, such as the presence of a protected resource, is not considered an extraordinary circumstance per se, but a factor to consider when determining if there are extraordinary circumstances, such as a significant impact to that resource. This

⁴ See 40 CFR 1506.6(a) (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

way of structuring NEPA procedures is also appropriate. What is important is that situations or circumstances that may warrant additional analysis and documentation in an EA or an EIS are fully considered before a categorical exclusion is used.

The guidance was also revised to clarify how agencies can use the factors set out in the CEQ Regulations to determine significance. The Federal agencies are ultimately responsible for the determination of specific extraordinary circumstances for a category of actions, as well as the determination of whether to use the significance factors set out in the CEQ Regulations when establishing extraordinary circumstances.⁵ Agency determinations are informed by the public and CEQ during the development of the categorical exclusions.

Documenting the Use of Categorical Exclusions

Commenters were most concerned over the potential for delay and the creation of administrative burdens for projects and programs. The guidance makes it clear that the documentation prepared when categorically excluding an action should be as concise as possible to avoid unnecessary delays and administrative burdens for projects and programs. The guidance explains that each agency should determine the circumstances in which it is appropriate to prepare additional documentation. It also explains that for some activities with little risk of significant environmental effects, there may be no practical need for, or benefit from, preparing any documentation beyond the existing record supporting the underlying categorical exclusion and any administrative record for that activity. The guidance makes it clear that the extent of the documentation prepared is the responsibility of the agency and should be tailored to the type of action involved, the potential for extraordinary circumstances, and compliance requirements of other laws, regulations, and policies.

Cumulative Impacts

Some commenters were concerned that the guidance overlooked the importance of cumulative effects. As specifically set out in the CEQ Regulations and the final guidance, the consideration of the potential cumulative impacts of proposed actions is an important and integral aspect of the NEPA process. The guidance makes

it clear that both individual and cumulative impacts must be considered when establishing categorical exclusions. With regard to the cumulative impacts of actions that an agency has categorically excluded, the guidance recommends that agencies consider the frequency with which the categorically-excluded actions are applied. For some types of categorical exclusions, it may also be appropriate for the agency to track and periodically assess use of the categorical exclusion to ensure that cumulative impacts do not rise to a level that would warrant further NEPA analysis and documentation.

Monitoring

Commenters voiced concerns that the guidance would create a new requirement for monitoring. The final guidance makes it clear that any Federal agency program charged with complying with NEPA should develop and maintain sufficient capacity to ensure the validity of NEPA reviews that predict that there will not be significant impacts. The amount of effort and the methods used for assessing environmental effects should be proportionate to the potential effects of the action that is the subject of a proposed categorical exclusion and should ensure that the use of categorical exclusions does not inadvertently result in significant impacts.

As the guidance explains, agencies seeking to substantiate new or revised categorical exclusions can rely on the information gathered from monitoring actions the agency took in the past, as well as from monitoring the effects of impact demonstration projects. Relying solely on completed EAs and Findings of No Significant Impact (FONSI) is not sufficient without information validating the FONSI which was projected in advance of implementation. The guidance makes it clear that FONSI cannot be relied on as a basis for establishing a categorical exclusion unless the absence of significant environmental effects has been verified through credible monitoring of the implemented activity or other sources of corroborating information. The intensity of monitoring efforts for particular categories of actions or impact demonstration projects is appropriately left to the judgment of the agencies. Furthermore, the guidance explains that in some cases monitoring may not be appropriate and agencies can evaluate other information.

Review of Existing Categorical Exclusions

Several commenters advocated "grandfathering" existing categorical

exclusions. Two other commenters voiced support for the periodic review of agency categorical exclusions and specifically requested that the guidance call for rigorous review of existing categorical exclusions. Two commenters requested that the guidance explicitly provide for public participation during the review process. Several verbal comments focused on the recommended seven year review period and suggested alternative review periods ranging from two to ten years. Several commenters also requested that the guidance describe with greater clarity how the periodic review should be implemented.

CEQ believes it is extremely important to review the categorical exclusions already established by the Federal agencies. The fact that an agency's categorical exclusions were established years ago is all the more reason to review them to ensure that changes in technology, operations, agency missions, and the environment do not call into question the continued use of these categorical exclusions. The guidance also explains the value of such a review. Reviewing categorical exclusions can serve as the impetus for clarifying the actions covered by an existing categorical exclusion. It can also help agencies identify additional extraordinary circumstances and consider the appropriate documentation when using certain categorical exclusions. The guidance states that the review should focus on categorical exclusions that no longer reflect current environmental circumstances or an agency's policies, procedures, programs, or mission.

This guidance recommends that agencies develop a process and timeline to periodically review their categorical exclusions (and extraordinary circumstances) to ensure that their categorical exclusions remain current and appropriate, and that those reviews should be conducted at least every seven years. A seven-year cycle allows the agencies to regularly review categorical exclusions to avoid the use of categorical exclusions that are outdated and no longer appropriate. If the agency believes that a different timeframe is appropriate, the agency should articulate a sound basis for that conclusion, explaining how the alternate timeframe will still allow the agency to avoid the use of categorical exclusions that are outdated and no longer appropriate. As described in the guidance, agencies should use their Web sites to notify the public and CEQ about how and when their reviews of existing categorical exclusions will be conducted. CEQ will perform oversight of agencies' reviews, beginning with

⁵ See 40 CFR 1508.27 (defining "significantly" for NEPA purposes in terms of several context and intensity factors for agencies to consider).

those agencies currently reassessing or experiencing difficulties with implementing their categorical exclusions, as well as with agencies facing challenges to their application of categorical exclusions.

The Final Guidance

The final guidance is provided here and is available on the National Environmental Policy Act Web site (<http://www.nepa.gov>) specifically at ceq.hss.doe.gov/ceq_regulations/guidance.html. For reasons stated in the preamble, above, CEQ issues the following guidance on establishing, applying, and revising categorical exclusions.

MEMORANDUM FOR HEADS OF FEDERAL DEPARTMENTS AND AGENCIES

FROM: NANCY H. SUTLEY
Chair

Council on Environmental Quality
SUBJECT: *Final Guidance for Federal Departments and Agencies on Establishing, Applying, and Revising Categorical Exclusions under the National Environmental Policy Act*

The Council on Environmental Quality (CEQ) is issuing this guidance for Federal departments and agencies on how to establish, apply, and revise categorical exclusions in accordance with section 102 of the National Environmental Policy Act (NEPA), 42 U.S.C. 4332, and the CEQ Regulations for Implementing the Procedural Provisions of NEPA (CEQ Regulations), 40 CFR Parts 1500–1508.⁶ This guidance explains the requirements of NEPA and the CEQ Regulations, describes CEQ policies, and recommends procedures for agencies to use to ensure that their use of categorical exclusions is consistent with applicable law and regulations.⁷ The guidance is based on

⁶ The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (CEQ Regulations), available on www.nepa.gov at ceq.hss.doe.gov/ceq_regulations/regulations.html. This guidance applies only to categorical exclusions established by Federal agencies in accordance with section 1507.3 of the CEQ Regulations, 40 CFR 1507.3. It does not address categorical exclusions established by statute, as their use is governed by the terms of specific legislation and subsequent interpretation by the agencies charged with the implementation of that statute and NEPA requirements. CEQ encourages agencies to apply their extraordinary circumstances to categorical exclusions established by statute when the statute is silent as to the use and application of extraordinary circumstances.

⁷ This guidance is not a rule or regulation, and the recommendations it contains may not apply to a particular situation based upon the individual facts and circumstances. This guidance does not change or substitute for any law, regulation, or any other legally binding requirement and is not legally

NEPA, the CEQ Regulations, legal precedent and agency NEPA experience and practice. It describes:

- How to establish or revise a categorical exclusion;
- How to use public involvement and documentation to help define and substantiate a proposed categorical exclusion;
- How to apply an established categorical exclusion, and determine when to prepare documentation and involve the public;⁸ and
- How to conduct periodic reviews of categorical exclusions to assure their continued appropriate use and usefulness.

This guidance is designed to afford Federal agencies flexibility in developing and implementing categorical exclusions, while ensuring that categorical exclusions are administered to further the purposes of NEPA and the CEQ Regulations.⁹

I. Introduction

The CEQ Regulations provide basic requirements for establishing and using categorical exclusions. Section 1508.4 of the CEQ Regulations defines a “categorical exclusion” as

a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (§ 1507.3) and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.¹⁰

Categories of actions for which exclusions are established can be limited by their terms. Furthermore, the application of a categorical exclusion can be limited by “extraordinary circumstances.” Extraordinary circumstances are factors or circumstances in which a normally excluded action may have a significant environmental effect that then requires further analysis in an environmental

enforceable. The use of non-mandatory language such as “guidance,” “recommend,” “may,” “should,” and “can,” is intended to describe CEQ policies and recommendations. The use of mandatory terminology such as “must” and “required” is intended to describe controlling requirements under the terms of NEPA and the CEQ regulations, but this document does not establish legally binding requirements in and of itself.

⁸ The term “public” in this guidance refers to any individuals, groups, entities or agencies external to the Federal agency analyzing the proposed categorical exclusion or proposed activity.

⁹ 40 CFR 1507.1 (noting that CEQ Regulations intend to allow each agency flexibility in adapting its NEPA implementing procedures to requirements of other applicable laws).

¹⁰ *Id.* at § 1508.4.

assessment (EA) or an environmental impact statement (EIS).¹¹

Categorical exclusions are not exemptions or waivers of NEPA review; they are simply one type of NEPA review. To establish a categorical exclusion, agencies determine whether a proposed activity is one that, on the basis of past experience, normally does not require further environmental review. Once established, categorical exclusions provide an efficient tool to complete the NEPA environmental review process for proposals that normally do not require more resource-intensive EAs or EISs. The use of categorical exclusions can reduce paperwork and delay, so that EAs or EISs are targeted toward proposed actions that truly have the potential to cause significant environmental effects.¹²

When determining whether to use a categorical exclusion for a proposed activity, a Federal agency must carefully review the description of the proposed action to ensure that it fits within the category of actions described in the categorical exclusion. Next, the agency must consider the specific circumstances associated with the proposed activity, to rule out any extraordinary circumstances that might give rise to significant environmental effects requiring further analysis and documentation in an EA or an EIS.¹³ In other words, when evaluating whether to apply a categorical exclusion to a proposed activity, an agency must consider the specific circumstances associated with the activity and may not end its review based solely on the determination that the activity fits within the description of the categorical exclusion; rather, the agency must also consider whether there are extraordinary circumstances that would warrant further NEPA review. Even if a proposed activity fits within the definition of a categorical exclusion and does not raise extraordinary circumstances, the CEQ Regulations make clear that an agency can, at its discretion, decide “to prepare an environmental assessment * * * in order to assist agency planning and decisionmaking.”¹⁴

Since Federal agencies began using categorical exclusions in the late 1970s,

¹¹ *Id.*

¹² *See id.* at §§ 1500.4(p) (recommending use of categorical exclusions as a tool to reduce paperwork), 1500.5(k) (recommending categorical exclusions as a tool to reduce delay).

¹³ 40 CFR 1508.4 (requiring Federal agencies to adopt procedures to ensure that categorical exclusions are not applied to proposed actions involving extraordinary circumstances that might have significant environmental effects).

¹⁴ 40 CFR 1501.3(b).

the number and scope of categorically-excluded activities have expanded significantly. Today, categorical exclusions are the most frequently employed method of complying with NEPA, underscoring the need for this guidance on the promulgation and use of categorical exclusions.¹⁵ Appropriate reliance on categorical exclusions provides a reasonable, proportionate, and effective analysis for many proposed actions, helping agencies reduce paperwork and delay. If used inappropriately, categorical exclusions can thwart NEPA's environmental stewardship goals, by compromising the quality and transparency of agency environmental review and decisionmaking, as well as compromising the opportunity for meaningful public participation and review.

II. Establishing and Revising Categorical Exclusions

A. Conditions Warranting New or Revised Categorical Exclusions

Federal agencies may establish a new or revised categorical exclusion in a variety of circumstances. For example, an agency may determine that a class of actions—such as payroll processing, data collection, conducting surveys, or installing an electronic security system in a facility—can be categorically excluded because it is not expected to have significant individual or cumulative environmental effects. As discussed further in Section III.A.1, below, agencies may also identify potential new categorical exclusions after the agencies have performed NEPA reviews of a class of proposed actions and found that, when implemented, the actions resulted in no significant environmental impacts. Other categories of actions may become appropriate for categorical exclusions as a result of mission changes. When agencies acquire new responsibilities through legislation or administrative restructuring, they should propose new categorical exclusions after they, or other agencies, gain sufficient experience with the new activities to make a reasoned determination that any resulting environmental impacts are not significant.¹⁶

¹⁵ See CEQ reports to Congress on the status and progress of NEPA reviews for Recovery Act funded projects and activities, available on <http://www.nepa.gov> at ceq.hss.doe.gov/ceq_reports/recovery_act_reports.html.

¹⁶ When legislative or administrative action creates a new agency or restructures an existing agency, the agency should determine if its decisionmaking processes have changed and ensure that its NEPA implementing procedures align the

Agencies sometimes employ “tiering” to incorporate findings from NEPA environmental reviews that address broad programs or issues into reviews that subsequently deal with more specific and focused proposed actions.¹⁷ Agencies may rely on tiering to make predicate findings about environmental impacts when establishing a categorical exclusion. To the extent that mitigation commitments developed during the broader review become an integral part of the basis for subsequently excluding a proposed category of actions, care must be taken to ensure that those commitments are clearly presented as required design elements in the description of the category of actions being considered for a categorical exclusion.

If actions in a proposed categorical exclusion are found to have potentially significant environmental effects, an agency can abandon the proposed categorical exclusion, or revise it to eliminate the potential for significant impacts. This can be done by: (1) Limiting or removing activities included in the categorical exclusion; (2) placing additional constraints on the categorical exclusion's applicability; or (3) revising or identifying additional applicable extraordinary circumstances. When an agency revises an extraordinary circumstance, it should make sure that the revised version clearly identifies the circumstances when further environmental evaluation in an EA or an EIS is warranted.

B. The Text of the Categorical Exclusion

In prior guidance, CEQ has generally addressed the crafting of categorical exclusions, encouraging agencies to “consider broadly defined criteria which characterize types of actions that, based on the agency's experience, do not cause significant environmental effects,” and to “offer several examples of activities frequently performed by that agency's personnel which would normally fall in these categories.”¹⁸ CEQ's prior guidance also urges agencies to consider whether the cumulative effects of multiple small actions “would cause sufficient environmental impact to take the actions out of the categorically-excluded class.”¹⁹ This guidance expands on CEQ's earlier guidance, by advising agencies that the text of a

NEPA review and other environmental planning processes with agency decisionmaking.

¹⁷ 40 CFR 1502.4(d), 1502.20, 1508.28.

¹⁸ Council on Environmental Quality, “Guidance Regarding NEPA Regulations,” 48 FR 34,263, 34,265, Jul. 28, 1983, available on <http://www.nepa.gov> at ceq.hss.doe.gov/nepa/regs/1983/1983guid.htm.

¹⁹ *Id.*

proposed new or revised categorical exclusion should clearly define the eligible category of actions, as well as any physical, temporal, or environmental factors that would constrain its use.

Some activities may be variable in their environmental effects, such that they can only be categorically excluded in certain regions, at certain times of the year, or within a certain frequency. For example, because the status and sensitivity of environmental resources varies across the nation or by time of year (e.g., in accordance with a protected species' breeding season), it may be appropriate to limit the geographic applicability of a categorical exclusion to a specific region or environmental setting. Similarly, it may be appropriate to limit the frequency with which a categorical exclusion is used in a particular area. Categorical exclusions for activities with variable impacts must be carefully described to limit their application to circumstances where the activity has been shown not to have significant individual or cumulative environmental effects. Those limits may be spatial (restricting the extent of the proposed action by distance or area); temporal (restricting the proposed action during certain seasons or nesting periods in a particular setting); or numeric (limiting the number of proposed actions that can be categorically excluded in a given area or timeframe). Federal agencies that identify these constraints can better ensure that a categorical exclusion is neither too broadly nor too narrowly defined.

When developing a new or revised categorical exclusion, Federal agencies must be sure the proposed category captures the entire proposed action. Categorical exclusions should not be established or used for a segment or an interdependent part of a larger proposed action. The actions included in the category of actions described in the categorical exclusion must be stand-alone actions that have independent utility. Agencies are also encouraged to provide representative examples of the types of activities covered in the text of the categorical exclusion, especially for broad categorical exclusions. These examples will provide further clarity and transparency regarding the types of actions covered by the categorical exclusion.

C. Extraordinary Circumstances

Extraordinary circumstances are appropriately understood as those factors or circumstances that help a Federal agency identify situations or environmental settings that may require

an otherwise categorically-excludable action to be further analyzed in an EA or an EIS. Often these factors are similar to those used to evaluate intensity for purposes of determining significance pursuant to section 1508.27(b) of the CEQ Regulations.²⁰ For example, several agencies list as extraordinary circumstances the potential effects on protected species or habitat, or on historic properties listed or eligible for listing in the National Register of Historic Places.

When proposing new or revised categorical exclusions, Federal agencies should consider the extraordinary circumstances described in their NEPA procedures to ensure that they adequately account for those situations and settings in which a proposed categorical exclusion should not be applied. An extraordinary circumstance requires the agency to determine how to proceed with the NEPA review. For example, the presence of a factor, such as a threatened or endangered species or a historic resource, could be an extraordinary circumstance, which, depending on the structure of the agency's NEPA implementing procedures, could either cause the agency to prepare an EA or an EIS, or cause the agency to consider whether the proposed action's impacts on that factor require additional analysis in an EA or an EIS. In other situations, the extraordinary circumstance could be defined to include both the presence of the factor and the impact on that factor. Either way, agency NEPA implementing procedures should clearly describe the manner in which an agency applies extraordinary circumstances and the circumstances under which additional analysis in an EA or an EIS is warranted.

Agencies should review their existing extraordinary circumstances concurrently with the review of their categorical exclusions. If an agency's existing extraordinary circumstances do not provide sufficient parameters to limit a proposed new or revised categorical exclusion to actions that do not have the potential for significant environmental effects, the agency should identify and propose additional extraordinary circumstances or revise those that will apply to the proposed categorical exclusion. If extensive extraordinary circumstances are needed to limit a proposed categorical exclusion, the agency should also consider whether the proposed categorical exclusion itself is appropriate. Any new or revised extraordinary circumstances must be

issued together with the new or revised categorical exclusion in draft form and then in final form according to the procedures described in Section IV.

III. Substantiating a New or Revised Categorical Exclusion

Substantiating a new or revised categorical exclusion is basic to good decisionmaking. It serves as the agency's own administrative record of the underlying reasoning for the categorical exclusion. A key issue confronting Federal agencies is how to substantiate a determination that a proposed new or revised categorical exclusion describes a category of actions that do not individually or cumulatively have a significant effect on the human environment.²¹ Provided below are methods agencies can use to gather and evaluate information to substantiate proposed new or revised categorical exclusions.

A. Gathering Information To Substantiate a Categorical Exclusion

The amount of information required to substantiate a categorical exclusion depends on the type of activities included in the proposed category of actions. Actions that are reasonably expected to have little impact (for example, conducting surveys or purchasing small amounts of office supplies consistent with applicable acquisition and environmental standards) should not require extensive supporting information.²² For actions that do not obviously lack significant environmental effects, agencies must gather sufficient information to support establishing a new or revised categorical exclusion. An agency can substantiate a categorical exclusion using the sources of information described below, either alone or in combination.²³

²¹ See *id.* at §§ 1508.7, 1508.8, 1508.27.

²² Agencies should still consider the environmental effects of actions that are taken on a large scale. Agency-wide procurement and personnel actions could have cumulative impacts. For example, purchasing paper with higher recycled content uses less natural resources and will have lesser environmental impacts. See "Federal Leadership in Environmental, Energy, and Economic Performance," E.O. No. 13,514, 74 FR 52,117, Oct. 8, 2009.

²³ Agencies should be mindful of their obligations under the Information Quality Act to ensure the quality, objectivity, utility, and integrity of the information they use or disseminate as the basis of an agency decision to establish a categorical exclusion. See Information Quality Act, Pub. L. No. 106-554, section 515 (2000), 114 Stat. 2763, 2763A-153 (codified at 44 U.S.C. 3516 (2001)); see also "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, Republication," 60 FR 8452, Feb. 22, 2002, available at <http://www.whitehouse.gov/omb/inforeg/infopoltech.html>. Additional laws and regulations that establish obligations that apply or may apply

1. Previously Implemented Actions

An agency's assessment of the environmental effects of previously implemented or ongoing actions is an important source of information to substantiate a categorical exclusion. Such assessment allows the agency's experience with implementation and operating procedures to be taken into account in developing the proposed categorical exclusion.

Agencies can obtain useful substantiating information by monitoring and/or otherwise evaluating the effects of implemented actions that were analyzed in EAs that consistently supported Findings of No Significant Impact. If the evaluation of the implemented action validates the environmental effects (or lack thereof) predicted in the EA, this provides strong support for a proposed categorical exclusion. Care must be taken to ensure that any mitigation measures developed during the EA process are an integral component of the actions considered for inclusion in a proposed categorical exclusion.

Implemented actions analyzed in an EIS can also be a useful source of substantiating information if the implemented action has independent utility to the agency, separate and apart from the broader action analyzed in the EIS. The EIS must specifically address the environmental effects of the independent proposed action and determine that those effects are not significant. For example, when a discrete, independent action is analyzed in an EIS as part of a broad management action, an evaluation of the actual effects of that discrete action may support a proposed categorical exclusion for the discrete action. As with actions previously analyzed in EAs, predicted effects (or lack thereof) should be validated through monitoring or other corroborating evidence.

Agencies can also identify or substantiate new categorical exclusions and extraordinary circumstances by using auditing and implementation data gathered in accordance with an Environmental Management System or other systems that track environmental performance and the effects of particular actions taken to attain that performance.²⁴

to the processes of establishing and applying categorical exclusions (such as the Federal Records Act) are beyond the scope of this guidance.

²⁴ An EMS provides a systematic framework for a Federal agency to monitor and continually improve its environmental performance through audits, evaluation of legal and other requirements, and management reviews. The potential for EMS to support NEPA work is further described in CEQ's

Continued

²⁰ *Id.* at § 1508.27(b).

Agencies should also consider appropriate monitoring or other evaluation of the environmental effects of their categorically-excluded actions, to inform periodic reviews of existing categorical exclusions, as discussed in Section VI, below.

2. Impact Demonstration Projects

When Federal agencies lack experience with a particular category of actions that is being considered for a proposed categorical exclusion, they may undertake impact demonstration projects to assess the environmental effects of those actions. As part of a demonstration project, the Federal agency should monitor the actual environmental effects of the proposed action during and after implementation. The NEPA documentation prepared for impact demonstration projects should explain how the monitoring and analysis results will be used to evaluate the merits of a proposed categorical exclusion. When designing impact demonstration projects, an agency must ensure that the action being evaluated accurately represents the scope, the operational context, and the environmental context of the entire category of actions that will be described in the proposed categorical exclusion. For example, if the proposed categorical exclusion would be used in regions or areas of the country with different environmental settings, a series of impact demonstration projects may be needed in those areas where the categorical exclusion would be used.

3. Information From Professional Staff, Expert Opinions, and Scientific Analyses

A Federal agency may rely on the expertise, experience, and judgment of its professional staff as well as outside experts to assess the potential environmental effects of applying proposed categorical exclusions, provided that the experts have knowledge, training, and experience relevant to the implementation and environmental effects of the actions described in the proposed categorical exclusion. The administrative record for the proposed categorical exclusion should document the experts' credentials (*e.g.*, education, training, certifications, years of related experience) and describe how the experts arrived at their conclusions.

Scientific analyses are another good source of information to substantiate a

new or revised categorical exclusion. Because the reliability of scientific information varies according to its source and the rigor with which it was developed, the Federal agency remains responsible for determining whether the information reflects accepted knowledge, accurate findings, and experience relevant to the environmental effects of the actions that would be included in the proposed categorical exclusion. Peer-reviewed findings may be especially useful to support an agency's scientific analysis, but agencies may also consult professional opinions, reports, and research findings that have not been formally peer-reviewed. Scientific information that has not been externally peer-reviewed may require additional scrutiny and evaluation by the agency. In all cases, findings must be based on high-quality, accurate technical and scientific information.²⁵

4. Benchmarking Other Agencies' Experiences

A Federal agency cannot rely on another agency's categorical exclusion to support a decision not to prepare an EA or an EIS for its own actions. An agency may, however, substantiate a categorical exclusion of its own based on another agency's experience with a comparable categorical exclusion and the administrative record developed when the other agency's categorical exclusion was established. Federal agencies can also substantiate categorical exclusions by benchmarking, or drawing support, from private and public entities that have experience with the actions covered in a proposed categorical exclusion, such as State and local agencies, Tribes, academic and professional institutions, and other Federal agencies.

When determining whether it is appropriate to rely on another entity's experience, an agency must demonstrate that the benchmarked actions are comparable to the actions in a proposed categorical exclusion. The agency can demonstrate this based on: (1) Characteristics of the actions; (2) methods of implementing the actions; (3) frequency of the actions; (4) applicable standard operating procedures or implementing guidance (including extraordinary circumstances); and (5) timing and context, including the environmental settings in which the actions take place.

B. Evaluating the Information Supporting Categorical Exclusions

After gathering substantiating information and determining that the category of actions in the proposed categorical exclusion does not normally result in individually or cumulatively significant environmental effects, a Federal agency should develop findings that demonstrate how it made its determination. These findings should account for similarities and differences between the proposed categorical exclusion and the substantiating information. The findings should describe the method and criteria the agency used to assess the environmental effects of the proposed categorical exclusion. These findings, and the relevant substantiating information, should be maintained in an administrative record that will support: Benchmarking by other agencies (as discussed in Section III.A.4, above); applying the categorical exclusions (as discussed in Section V.A, below); and periodically reviewing the continued viability of the categorical exclusion (as discussed in Section VI, below). These findings should also be made available to the public, at least in preliminary form, as part of the process of seeking public input on the establishment of new or revised categorical exclusions, though the final findings may be revised based on new information received from the public and other sources.

IV. Procedures for Establishing a New or Revised Categorical Exclusion

Pursuant to section 1507.3(a) of the CEQ Regulations, Federal agencies are required to consult with the public and with CEQ whenever they amend their NEPA procedures, including when they establish new or revised categorical exclusions. An agency can only adopt new or revised NEPA implementing procedures after the public has had notice and an opportunity to comment, and after CEQ has issued a determination that the procedures are in conformity with NEPA and the CEQ regulations. Accordingly, an agency's process for establishing a new or revised categorical exclusion should include the following steps:

- Draft the proposed categorical exclusion based on the agency's experience and substantiating information;
- Consult with CEQ on the proposed categorical exclusion;
- Consult with other Federal agencies that conduct similar activities to coordinate with their current procedures, especially for programs

Guidebook, "Aligning National Environmental Policy Act Processes with Environmental Management Systems" (2007), available on http://www.nepa.gov/at/ceq.hss.doe.gov/publications/nepa_and_ems.html.

²⁵ See 40 CFR 1500.1(b), 1502.24.

requesting similar information from members of the public (e.g., applicants);

- Publish a notice of the proposed categorical exclusion in the **Federal Register** for public review and comment;
- Consider public comments;
- Consult with CEQ on the public comments received and the proposed final categorical exclusion to obtain CEQ's written determination of conformity with NEPA and the CEQ Regulations;
- Publish the final categorical exclusion in the **Federal Register**;
- File the categorical exclusion with CEQ; and
- Make the categorical exclusion readily available to the public through the agency's Web site and/or other means.

A. Consultation With CEQ

The CEQ Regulations require agencies to consult with CEQ prior to publishing their proposed NEPA procedures in the **Federal Register** for public comment. Agencies are encouraged to involve CEQ as early as possible in the process and to enlist CEQ's expertise and assistance with interagency coordination to make the process as efficient as possible.²⁶

Following the public comment period, the Federal agency must consider the comments received and consult again with CEQ to discuss substantive comments and how they will be addressed. CEQ shall complete its review within thirty (30) days of receiving the final text of the agency's proposed categorical exclusion. For consultation to successfully conclude, CEQ must provide the agency with a written statement that the categorical exclusion was developed in conformity with NEPA and the CEQ Regulations. Finally, when the Federal agency publishes the final version of the categorical exclusion in the **Federal Register** and on its established agency Web site, the agency should notify CEQ of such publication so as to satisfy the requirements to file the final categorical exclusion with CEQ and to make the final categorical exclusion readily available to the public.²⁷

B. Seeking Public Involvement When Establishing or Revising a Categorical Exclusion

Engaging the public in the environmental aspects of Federal decisionmaking is a key aspect of NEPA

and the CEQ Regulations.²⁸ At a minimum, the CEQ Regulations require Federal agencies to make any proposed amendments to their categorical exclusions available for public review and comment in the **Federal Register**,²⁹ regardless of whether the categorical exclusions are promulgated as regulations through rulemaking, or issued as departmental directives or orders.³⁰ To maximize the value of comments from interested parties, the agency's **Federal Register** notice should:

- Describe the proposed activities covered by the categorical exclusion and provide the proposed text of the categorical exclusion;
- Summarize the information in the agency's administrative record that was used to substantiate the categorical exclusion, including an evaluation of the information and related findings;³¹
- Define all applicable terms;
- Describe the extraordinary circumstances that may limit the use of the categorical exclusion; and
- Describe the available means for submitting questions and comments about the proposed categorical exclusion (for example, e-mail addresses, mailing addresses, Web site addresses, and names and phone numbers of agency points of contact).

²⁶ National Environmental Policy Act of 1969, § 2 *et seq.*, 42 U.S.C. 4321 *et seq.*; *see, e.g.*, 40 CFR 1506.6(a) (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures); 40 CFR 1507.3(a) (requiring each agency to consult with CEQ while developing its procedures and before publishing them in the **Federal Register** for comment; providing that an agency's NEPA procedures shall be adopted only after an opportunity for public review; and providing that, once in effect, the procedures must be made readily available to the public).

²⁷ *See* 40 CFR 1507.3 (outlining procedural requirements for agencies to establish and revise their NEPA implementing regulations), 1506.6(a) (requiring agencies to involve the public in rulemaking, including public notice and an opportunity to comment).

²⁸ NEPA and the CEQ Regulations do not require agency NEPA implementing procedures, of which categorical exclusions are a key component, to be promulgated as regulations through rulemaking. Agencies should ensure they comply with all appropriate agency requirements for issuing and revising their NEPA implementing procedures.

³¹ This step is particularly beneficial when the agency determines that the public will view a potential impact as significant, as it provides the agency the opportunity to explain why it believes that impact to be presumptively insignificant. Whenever practicable, the agency should include a link to a Web site containing all the supporting information, evaluations, and findings. Ready access to all supporting information will likely minimize the need for members of the public to depend on Freedom of Information Act requests and enhance the NEPA goals of outreach and disclosure. Agencies should consider using their regulatory development tools to assist in maintaining access to supporting information, such as establishing an online docket using <http://www.regulations.gov>.

When establishing or revising a categorical exclusion, agencies should also pursue additional opportunities for public involvement beyond publication in the **Federal Register** in cases where there is likely to be significant public interest and additional outreach would facilitate public input. The extent of public involvement can be tailored to the nature of the proposed categorical exclusion and the degree of expected public interest.

CEQ encourages Federal agencies to engage interested parties such as public interest groups, Federal NEPA contacts at other agencies, Tribal governments and agencies, and State and local governments and agencies. The purpose of this engagement is to share relevant data, information, and concerns. Agencies can involve the public by using the methods noted in section 1506.6 of the CEQ Regulations, as well as other public involvement techniques such as focus groups, e-mail exchanges, conference calls, and Web-based forums.

CEQ also strongly encourages Federal agencies to post updates on their official Web sites whenever they issue **Federal Register** notices for new or revised categorical exclusions. An agency Web site may serve as the primary location where the public learns about agency NEPA implementing procedures and their use, and obtains efficient access to updates and supporting information. Therefore, agencies should ensure that their NEPA implementing procedures and any final revisions or amendments are easily accessed through the agency's official Web site including when an agency is adding, deleting, or revising the categorical exclusions and/or the extraordinary circumstances in its NEPA implementing procedures.

V. Applying an Established Categorical Exclusion

When applying a categorical exclusion to a proposed action, Federal agencies face two key decisions: (1) Whether to prepare documentation supporting their determination to use a categorical exclusion for a proposed action; and (2) whether public engagement and disclosure may be useful to inform determinations about using categorical exclusions.

A. When To Document Categorical Exclusion Determinations

In prior guidance, CEQ has "strongly discourag[e]d" procedures that would require the preparation of additional paperwork to document that an activity has been categorically excluded," based on an expectation that "sufficient information will usually be available

²⁶ 40 CFR 1507.3(a) (requiring agencies with similar programs to consult with one another and with CEQ to coordinate their procedures).

²⁷ *Id.*

during the course of normal project development” to determine whether an EIS or an EA is needed.³² Moreover, “the agency’s administrative record (for the proposed action) will clearly document the basis for its decision.”³³ This guidance modifies our prior guidance to the extent that it recognizes that each Federal agency should decide—and update its NEPA implementing procedures and guidance to indicate—whether any of its categorical exclusions warrant preparation of additional documentation.

Some activities, such as routine personnel actions or purchases of small amounts of supplies, may carry little risk of significant environmental effects, such that there is no practical need for, or benefit from, preparing additional documentation when applying a categorical exclusion to those activities. For those activities, the administrative record for establishing the categorical exclusion and any normal project development documentation may be considered sufficient.

For other activities, such as decisions to allow various stages of resource development after a programmatic environmental review, documentation may be appropriate to demonstrate that the proposed action comports with any limitations identified in prior NEPA analysis and that there are no potentially significant impacts expected as a result of extraordinary circumstances. In such cases, the documentation should address proposal-specific factors and show consideration of extraordinary circumstances with regard to the potential for localized impacts. It is up to agencies to decide whether to prepare separate NEPA documentation in such cases or to include this documentation in other project-specific documents that the agency is preparing.

In some cases, courts have required documentation to demonstrate that a Federal agency has considered the environmental effects associated with extraordinary circumstances.³⁴ Documenting the application of a categorical exclusion provides the agency the opportunity to demonstrate why its decision to use the categorical exclusion is entitled to deference.³⁵

³² “Guidance Regarding NEPA Regulations,” 48 FR 34,263, 34,265, Jul. 28, 1983, available on <http://www.nepa.gov/ceq.hss.doe.gov/nepa/regs/1983/1983guid.htm>.

³³ *Id.*

³⁴ See, e.g., *California v. Norton*, 311 F.3d 1162, 1175–78 (9th Cir. 2002).

³⁵ The agency determination that an action is categorically excluded may itself be challenged under the Administrative Procedure Act, 5 U.S.C. 501 *et seq.*

Documentation may be necessary to comply with the requirements of other laws, regulations, and policies, such as the Endangered Species Act or the National Historic Preservation Act. When that is the case, all resource analyses and the results of any consultations or coordination should be incorporated by reference in the administrative record developed for the proposed action. Moreover, the nature and severity of the effect on resources subject to additional laws or regulations may be a reason for limiting the use of a categorical exclusion and therefore should, where appropriate, also be addressed in documentation showing how potential extraordinary circumstances were considered and addressed in the decision to use the categorical exclusion.

For those categorical exclusions for which an agency determines that documentation is appropriate, the documentation should cite the categorical exclusion being used and show that the agency determined that: (1) The proposed action fits within the category of actions described in the categorical exclusion; and (2) there are no extraordinary circumstances that would preclude the proposed action from being categorically excluded. The extent of the documentation should be tailored to the type of action involved, the potential for extraordinary circumstances and environmental effects, and any applicable requirements of other laws, regulations, and policies. If lengthy documentation is needed to address these aspects, an agency should consider whether it is appropriate to apply the categorical exclusion in that particular situation. In all circumstances, any documentation prepared for a categorical exclusion should be concise.

B. When To Seek Public Engagement and Disclosure

Most Federal agencies do not routinely notify the public when they use a categorical exclusion to meet their NEPA responsibilities. There are some circumstances, however, where the public may be able to provide an agency with valuable information, such as whether a proposal involves extraordinary circumstances or potentially significant cumulative impacts that can help the agency decide whether to apply a categorical exclusion. CEQ therefore encourages Federal agencies to determine—and specify in their NEPA implementing procedures—those circumstances in which the public should be engaged or notified before a categorical exclusion is used.

Agencies should utilize information technology to provide the public with access to information about the agency’s NEPA compliance. CEQ strongly recommends that agencies post key information about their NEPA procedures and implementation on a publicly available Web site. The Web site should include:

- The text of the categorical exclusions and applicable extraordinary circumstances;
- A synopsis of the administrative record supporting the establishment of each categorical exclusion with information on how the public can access the entire administrative record;
- Those categorical exclusions which the agency determines are and are not likely to be of interest to the public;³⁶ and
- Information on agencies’ use of categorical exclusions for proposed actions, particularly in those situations where there is a high level of public interest in a proposed action.

Where an agency has documented a categorical exclusion, it should also consider posting that documentation online. For example, in 2009, the Department of Energy adopted a policy to post documented categorical exclusion determinations online.³⁷ By adopting a similar policy, other agencies can significantly increase the quality and transparency of their decisionmaking when using categorical exclusions.

VI. Periodic Review of Established Categorical Exclusions

The CEQ Regulations direct Federal agencies to “continue to review their policies and procedures and in consultation with [CEQ] to revise them as necessary to ensure full compliance with the purposes and provisions of [NEPA].”³⁸ Many agencies have categorical exclusions that were established many years ago. Some Federal agencies have internal procedures for identifying and revising categorical exclusions that no longer reflect current environmental circumstances, or current agency policies, procedures, programs, or mission. Where an agency’s categorical exclusions have not been regularly

³⁶ Many agencies publish two lists of categorical exclusions: (1) Those which typically do not raise public concerns due to the low risk of potential environmental effects, and (2) those more likely to raise public concerns.

³⁷ See Department of Energy, Categorical Exclusion Determinations, available at http://www.gc.energy.gov/NEPA/categorical_exclusion_determinations.htm.

³⁸ 40 CFR 1507.3.

reviewed, they should be reviewed by the agency as soon as possible.

There are several reasons why Federal agencies should periodically review their categorical exclusions. For example, a Federal agency may find that an existing categorical exclusion is not being used because the category of actions is too narrowly defined. In such cases, the agency should consider amending its NEPA implementing procedures to expand the description of the category of actions included in the categorical exclusion. An agency could also find that an existing categorical exclusion includes actions that raise the potential for significant environmental effects with some regularity. In those cases, the agency should determine whether to delete the categorical exclusion, or revise it to either limit the category of actions or expand the extraordinary circumstances that limit when the categorical exclusion can be used. Periodic review can also help agencies identify additional factors that should be included in their extraordinary circumstances and consider whether certain categorical exclusions should be documented.

Agencies should exercise sound judgment about the appropriateness of categorically excluding activities in light of evolving or changing conditions that might present new or different environmental impacts or risks. The assumptions underlying the nature and impact of activities encompassed by a categorical exclusion may have changed over time. Different technological capacities of permitted activities may present very different risk or impact profiles. This issue was addressed in CEQ's August 16, 2010 report reviewing the Department of the Interior's Minerals Management Service's application of NEPA to the permitting of deepwater oil and gas drilling.³⁹

Agencies should review their categorical exclusions on an established timeframe, beginning with the categorical exclusions that were established earliest and/or the categorical exclusions that may have the greatest potential for significant environmental impacts. This guidance recommends that agencies develop a process and timeline to periodically

review their categorical exclusions (and extraordinary circumstances) to ensure that their categorical exclusions remain current and appropriate, and that those reviews should be conducted at least every seven years. A seven-year cycle allows the agencies to regularly review categorical exclusions to avoid the use of categorical exclusions that are outdated and no longer appropriate. If the agency believes that a different timeframe is appropriate, the agency should articulate a sound basis for that conclusion, explaining how the alternate timeframe will still allow the agency to avoid the use of categorical exclusions that are outdated and no longer appropriate. The agency should publish its process and time period, along with its articulation of a sound basis for periods over seven years, on the agency's Web site and notify CEQ where on the Web site the review procedures are posted. We recognize that due to competing priorities, resource constraints, or for other reasons, agencies may not always be able to meet these time periods. The fact that a categorical exclusion has not been evaluated within the time established does not invalidate its use for NEPA compliance, as long as such use is consistent with the defined scope of the exclusion and has properly considered any potential extraordinary circumstances.

In establishing this review process, agencies should take into account factors including changed circumstances, how frequently the categorical exclusions are used, the extent to which resources and geographic areas are potentially affected, and the expected duration of impacts. The level of scrutiny and evaluation during the review process should be commensurate with a categorically-excluded activity's potential to cause environmental impacts and the extent to which relevant circumstances have changed since it was issued or last reviewed. Some categorical exclusions, such as for routine purchases or contracting for office-related services, may require minimal review. Other categorical exclusions may require a more thorough reassessment of scope, environmental effects, and extraordinary circumstances, such as when they are tied to programmatic EAs or EISs that analyzed activities whose underlying circumstances have since changed.

To facilitate reviews, the Federal agency offices charged with overseeing their agency's NEPA compliance should develop and maintain sufficient capacity to periodically review their existing categorical exclusions to ensure

that the agency's prediction of no significant impacts is borne out in practice.⁴⁰ Agencies can efficiently assess changed circumstances by utilizing a variety of methods such as those recommended in Section III, above, for substantiating new or revised categorical exclusions. These methods include benchmarking, monitoring of previously implemented actions, and consultation with professional staff. The type and extent of monitoring and other information that should be considered in periodic reviews, as well as the particular entity or entities within the agency that would be responsible for gathering this information, will vary depending upon the nature of the actions and their anticipated effects. Consequently, agencies should utilize the expertise, experience, and judgment of agency professional staff when determining the appropriate type and extent of monitoring and other information to consider. This information will help the agency determine whether its categorical exclusions are used appropriately, or whether a categorical exclusion needs to be revised. Agencies can also use this information when they engage stakeholders in developing proposed revisions to categorical exclusions and extraordinary circumstances.

Agencies can also facilitate reviews by keeping records of their experiences with certain activities in a number of ways, including tracking information provided by agency field offices.⁴¹ In such cases, a Federal agency could conduct its periodic review of an established categorical exclusion by soliciting information from field offices about the observed effects of implemented actions, both from agency personnel and the public. On-the-ground monitoring to evaluate environmental effects of an agency's categorically-excluded actions, where appropriate, can also be incorporated into an agency's procedures for conducting its oversight of ongoing projects and can be included as part of regular site visits to project areas.

Agencies can also conduct periodic review of existing categorical exclusions through broader program reviews. Program reviews can occur at various levels (for example, field office, division office, headquarters office) and on various scales (for example, geographic location, project type, or areas identified in an interagency agreement). While a

³⁹ Council on Environmental Quality, *Report Regarding the Mineral Management Service's National Environmental Policy Act Policies, Practices, and Procedures as They Relate to Outer Continental Shelf Oil and Gas Exploration*, available at ceq.hss.doe.gov/current_developments/docs/CEQ_Report_Reviewing_MMS_OCS_NEPA_Implementation.pdf (Aug. 2010) at 18–20 (explaining that MMS NEPA review for the Macondo Exploratory Well relied on categorical exclusions established in the 1980s, before deepwater drilling became widespread).

⁴⁰ 40 CFR 1507.2.

⁴¹ Council on Environmental Quality, *The NEPA Task Force Report to the Council on Environmental Quality—Modernizing NEPA Implementation*, p. 63 (Sept. 2003), available on <http://www.nepa.gov> at ceq.hss.doe.gov/ntf/report/index.html.

Federal agency may choose to initiate a program review specifically focused on categorical exclusions, it is possible that program reviews with a broader focus may yield information relevant to categorical exclusions and may thus substitute for reviews specifically focused on categorical exclusions. However, the substantial flexibility that agencies have in how they structure their review procedures underscores the importance of ensuring that the review procedures are clear and transparent.

In working with agencies on reviewing their existing categorical exclusions, CEQ will look to the actual impacts from activities that have been subject to categorical exclusions, and will consider the extent and scope of agency monitoring and/or other substantiating evidence. As part of its oversight role and responsibilities under NEPA, CEQ will contact agencies following the release of this guidance to ascertain the status of their reviews of existing categorical exclusions. CEQ will make every effort to align its oversight with reviews being conducted by the agency and will begin with those agencies that are currently reassessing their categorical exclusions, as well as with agencies that are experiencing difficulties or facing challenges to their application of categorical exclusions.

Finally, it is important to note that the rationale and supporting information for establishing or documenting experience with using a categorical exclusion may be lost if an agency has inadequate procedures for recording, retrieving, and preserving documents and administrative records. Therefore, Federal agencies will benefit from a review of their current practices for maintaining and preserving such records. Measures to ensure future availability could include greater centralization of records, use of modern storage systems and improvements in the agency's electronic and hard copy filing systems.⁴²

VII. Conclusion

This guidance will help to guide CEQ and the agencies when an agency seeks to propose a new or revised categorical exclusion. It should also guide the agencies when categorical exclusions are used for proposed actions, when reviewing existing categorical exclusions, or when proposing new categorical exclusions. Questions regarding this guidance should be

directed to the CEQ Associate Director for NEPA Oversight.

Nancy H. Sutley,
Chair.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 660

[Docket No. 100218107-0199-01]

RIN 0648-XY31

Fisheries Off West Coast States; Modifications of the West Coast Commercial and Recreational Salmon Fisheries; Inseason Actions #12 and #13

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Modification of fishing seasons, gear restrictions, and landing and possession limits; request for comments.

SUMMARY: NOAA Fisheries announces two inseason actions in the ocean salmon fisheries. Inseason action #12 modified the commercial fishery in the area from the U.S./Canada Border to Cape Falcon, Oregon. Inseason action #13 modified the commercial and recreational fisheries in the area from U.S./Canada Border to Cape Falcon, Oregon.

DATES: Inseason actions #12 and #13 were effective on August 6, 2010, and remain in effect until the closing date of the 2010 salmon season announced in the 2010 annual management measures or through additional inseason action. Comments will be accepted through December 21, 2010.

ADDRESSES: You may submit comments, identified by 0648-XY31, by any one of the following methods:

- *Electronic Submissions:* Submit all electronic public comments via the Federal eRulemaking Portal <http://www.regulations.gov>.
- *Fax:* 206-526-6736, Attn: Peggy Busby.
- *Mail:* 7600 Sand Point Way, NE., Building 1, Seattle, WA, 98115.

Instructions: No comments will be posted for public viewing until after the comment period has closed. All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying

Information (for example, name, address, *etc.*) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

NMFS will accept anonymous comments (enter N/A in the required fields, if you wish to remain anonymous). You may submit attachments to electronic comments in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only.

FOR FURTHER INFORMATION CONTACT: Peggy Busby, by phone at 206-526-4323.

SUPPLEMENTARY INFORMATION: In the 2010 annual management measures for ocean salmon fisheries (75 FR 24482, May 5, 2010), NMFS announced the commercial and recreational fisheries in the area from the U.S./Canada Border to the U.S./Mexico Border, beginning May 1, 2010.

The Regional Administrator (RA) consulted with representatives of the Council, Washington Department of Fish and Wildlife, and Oregon Department of Fish and Wildlife on August 5, 2010. The information considered during this consultation related to Chinook and coho salmon catch to date and Chinook and coho salmon catch rates compared to quotas and other management measures established preseason.

Inseason action #12 reduced the landing and possession limit for Chinook salmon in the commercial salmon fishery from the U.S./Canada Border to Cape Falcon, Oregon. Previously, inseason action #11 (75 FR 54791, September, 9, 2010) imposed an open period landing and possession limit of 60 Chinook salmon and 50 coho per vessel. Inseason action #12 decreased the Chinook salmon landing and possession limit to 30 Chinook salmon per vessel; the open period landing and possession limit for coho was unchanged by inseason action #12. This action was taken because Chinook salmon catches increased dramatically in the previous week, and there was concern that if the landing limit was not reduced the fishery would quickly exhaust the remaining Chinook salmon quota. On August 5, 2010, the States recommended this action and the RA concurred; inseason action #12 took effect on August 6, 2010. Modification of quota and/or fishing seasons is authorized by 50 CFR 660.409 (b)(1)(i).

Inseason action #13 modified the quotas for the commercial and recreational fisheries through an inseason trade and transfer of quota; 7,000 coho were transferred from the

⁴² Agencies should be mindful of their obligations to maintain and preserve agency records under the Federal Records Act for maintaining and preserving agency records. 44 U.S.C. 3101 *et seq.*