

Appendix A:

# **Coordination & Correspondence**

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*Lower Pool 2 Channel Management Study:  
Bou langer Bend to Lock and Dam No. 2*

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## **Coordination Related to Current Tentatively Selected Plan and Report:**

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00001	EA	3/27/2017	86+	Proposed relocation is within the footprint of the proposed training structures. In previous discussions, we had concerns for impacts to mussels not just within the footprint of the proposed structures, but for mussels within the "impact area" meaning areas that also may be affected by the project by a change in hydrology that could result in sedimentation deposition or scouring. Please add a discussion about the indirect impacts to mussels (e.g., from deposition, displacement and changes in hydrology). Please verify that only mussels within the direct footprint of the proposed project (i.e. training structures) are proposed to be relocated and rationale. It would be helpful to develop a figure that indicates the impact area and identifies the locations in which mussels are proposed to be relocated from, due to project activities.	See Section 6.2.4, where the following text was added: "Mussels could also be impacted by indirect effects of the project. There are two primary potential impacts outside of the footprints: flow and deposition. Flow behind the structures is anticipated to be reduced, but not eliminated. The project would be expected to change the habitat in the area slowly over time. This may impact colonization of new mussels, but would not be expected to negatively affect the mussels that currently exist in the area. Deposition rates will likely also change, but as shown on Figures 28 & 29 in the H&H appendix (Appendix D), the largest changes in deposition predicted by the ADH model were ~0.6 feet over the course of approximately 5 years (476 total days were modeled, and the model assumes 100 days of active sediment movement per year. Appendix D describes this further). Mussels would not be negatively impacted by that level of sediment deposition. Therefore, the Corps does not believe the project would cause measurable indirect effects to mussels, and does not propose to relocate these mussels. Nonetheless, surveys to monitor changes in the area will be performed during the relocation effort pre-project and by the Corps 5-years post-project to verify that impacts are absent or negligible."
00002	EA and Appendix I	3/27/2017	86+/-4	Additional information is needed in order to determine if the proposed Draft Mussel Relocation Plan is an acceptable mitigation approach [This information will also go towards addressing the comment above.]. Discussion of mussel mitigation Appendix G - Draft Mussel Relocation Plan: In previous correspondence letters, we have specifically stated as an appropriate mitigation for mussel impacts includes relocation of all mussels within the impact area of the Project according to standards of the Minnesota Freshwater Mussel Survey and Relocation Protocol. Appendix G – Draft Mussel Relocation Plan addresses methodology but no commitment to a specific protocol that will be utilized for proposed relocation purposes. In addition, there have been discussions between the DNR and the USACE on post-construction monitoring and training structure design considerations that may be beneficial to mussels in which we request further discussion or clarification on. We request the following: <ul style="list-style-type: none"> <li>• Additional maps provided during the March 15 meeting included a pdf titled "Change in Displacement" and a pdf page included with the larger pdf file that depicts 2001 and 2015 survey results, project footprint, navigation channel, and draft relocation areas. These two maps are very helpful but make it difficult to fully assess how all these factors are related. We request figures that combine some of these features so we can see exactly where the proposed relocation areas, the project footprint, and previous mussel survey results are with regards to deposition/scour estimations. We would also like to see these features depicted with regards to existing depths (bathymetry). If it is feasible to place all of this information on one figure that would be preferable, but two figures would be acceptable as well.</li> <li>• Clarify the timeframe in which the depths of deposition are depicted in the "Change in Displacement" pdf. The figure shows a number of 476 days but it is unclear if that is the true time in which the amount of deposition/scour that is depicted represents. We request additional clarity and discussion.</li> <li>• Engineering plates provided indicate that the training structures will be made up of 4' diameter boulders and r40 riprap. Please explain in further details the size/dimension of rocks that will be used to construct the structure as well as their locations within the structures (e.g., larger rocks in the front/top, smaller rocks in back....).</li> <li>• More details on proposed monitoring. How will relocation be determined successful? What if it is not successful? More information is necessary.</li> </ul>	<p>(1) A discussion of indirect mussel impacts was added based on comment 001, and also applies to this comment.</p> <p>(2) This is, to the best of our knowledge, the largest mussel relocation proposed in Minnesota to date. The Corps is committed to minimizing our impacts on freshwater mussels, and developed our mitigation plan with this goal in mind. The Draft Mussel Relocation Plan (Appendix G), provides a list of methodologies that would be employed during the relocation. These methods were compiled using guidelines established by Dunn et al. 1997, among other contemporarily accepted mussel relocation protocols. The proposed relocation would be conducted by a contractor qualified and experienced in relocation efforts (Ecological Specialists, Inc.) and overseen by Corps malacologists. There are several differences between the MNDNR protocol and the Corps', none of which would negatively impact the success of the relocation. The rationale for each of these differences follow. MNDNR protocol states that: (A)(2) "the mussel density within the recipient site should be no more than double the pre-existing mussel density." Doing so would be impractical due to the generally low-density areas available in Lower Pool 2 and the large quantity of mussels that would be relocated as a part of this project. The proposed relocation sites would only be increased by 10 mussels per square meter, which is well within the carrying capacity for a mussel bed. MNDNR Mussel Relocation Section (B) addresses the relocation methods and specifies quality control measures. The suggested QC practices would be impractical for such a large relocation effort, and the collection methods proposed in Appendix G of this report are significantly more detailed and systematic than the MNDNR's general protocol. The Corps' cited methods require double-coverage of the area, and have been shown in peer-reviewed literature to result in &gt;90% recovery of mussels, which is, in fact, the stated goal of the MNDNR's protocol. Section (C) addresses placement of mussels at the relocation site, and specifies that T&amp;E species should be hand-placed by divers. Because the wartyback (<i>Quadrula nodulata</i>) is the third most common species in Lower Pool 2, the relocation will encounter thousands of these, again making it impractical to employ hand placement. Due to the pre-screening of the relocation sites and the use of highly-qualified personnel, this would not negatively affect the outcome of the relocation. There are no other significant differences between the proposed methods and the MNDNR's protocol. If the DNR's malacologists feel there are concerns with our proposed methods, we can discuss further.</p> <p>(3) Monitoring for indirect impacts is now described further in Appendix G. Both quantitative and qualitative pre- and post-construction monitoring would be conducted.</p> <p>(4) An 11x17 plate has been added to Appendix G that shows the project features, previous project-sponsored mussel survey points, discusses areas with potential indirect impacts, shows the relocation areas, and displays bathymetry of the area.</p> <p>(5) The PDF map referenced ("Change in Displacement") was taken from the H&amp;H Appendix (D). The figure displays the deposition following a timeframe of approximately 5 years (476 total days were modeled, and the model assumes 100 days of active sediment movement per year.) Refer to Appendix D for further information, and some additional information was added to the main report in Section 6.2.4.</p> <p>(6) The training structures themselves would be constructed entirely of R40 Riprap. The 4' diameter boulders would be embedded only in the top to aide in visibility of the structure and increase safety.</p> <p>(7) The proposed monitoring is designed as a simple effort to qualitatively check that there have not been issues with the relocation itself. An initial qualitative search and inspection is planned in the same season following the relocation to verify that mussels are still present and have burrowed into the substrate. A second qualitative assessment would be performed the following year to again verify that mussels are still in the relocation areas and to assess survival. Surveys would be overseen and assessed by qualified malacologist(s). Mussel relocations using qualified, highly experienced personnel have largely been successful in this region. Relocating the mussels to multiple areas throughout the pool that have each have demonstrated stability for over 15 years will further maximize the chance for success of the relocation. The proposed qualitative monitoring would be enough to determine the success of the relocation. No specific actions are proposed if it is determined that the relocation has not been successful; however, if an issue is discovered, we can cooperatively consider if there are actions available to address the issues.</p>
00003	Appendix I	3/27/2017	I-4	There is no mention of Spring Lake Islands Wildlife Management Area (WMA). This is a fairly new WMA, created in 2010, located upstream of the project area and provides good waterfowl habitat and game opportunities. ACTION: Please acknowledge this WMA's proximity to the proposed Project, describe its wildlife benefits, and discuss how changes in hydrology could affect it. Please add this to the discussion in Section 2.1 - Land Use.	Referenced this WMA in Section 2.1 as suggested, and added it to Figure 2-1.

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00004	Appendix I	3/27/2017	I-4	The description of how the rare features data was reviewed is a little bit confusing. "...updated on 2 December, 2013. The following steps were conducted to locate potentially-affected rare species within the project area using the newest available NHIS layer (January 12, 2016)..." ACTION: Rewrite this section to clarify. Do they mean they double checked the info from 2013 again in 2016?	The "2013" reference was an overlooked old reference. A new NHIS search was conducted in December of 2016. The reference was fixed.
00005	Appendix I	3/27/2017	I-4	In accordance with the EAW guidelines, this item should include a discussion on ..."This item refers to unique natural features or features of special significance, including state-listed endangered, threatened and special concern species; native plant communities that are rare statewide such as prairie remnants or virgin timber; locally rare habitats (regionally significant ecological areas); colonial waterbird nesting colonies; Sites of Biodiversity Significance; and high quality wetland complexes. The DNR Division of Ecological and Water Resources maintain the Natural Heritage Information System (NHIS), a collection of databases that provides the most comprehensive information on Minnesota's rare natural features. The NHIS includes Rare Features Data, including MBS sites of Biodiversity Significance and MBS Native Plant Communities. This information should be incorporated into the EAW, including the correspondence number for reference. If this information was obtained through a license agreement, include the license agreement number. The EAW should also state whether a habitat assessment or other survey work was conducted. Sensitive ecological resources that are not listed in the NHIS, but are known to occur on the project site, should also be identified and described in the EAW. If any MBS sites are within or adjacent to the project area, please provide this map to the DNR when requesting NHIS data." Currently the discussion is limited to MN endangered or threatened species. ACTION: Please revise the discussion to include rare features in addition to state-threatened and endangered species. This could be included as an addition discussion as part of Appendix I. Findings of this more complete review can be discussed with DNR NHIS staff for concurrence. This discussion should expand into the Project effects and mitigation (if applicable) sections of the document.	Added Species of Special Concern, Watchlist Species, and Native Plant communities found in the NHIS search of the project area to report Chapter 2.2.5. Also added discussion of the potential to impact these resources in Chapter 6.2.5.
00006	EAW	3/27/2017	83	Section 5.6.2 of the EA states that stage increases higher than 0.005 feet are unacceptable. To avoid increased flood stages, the rock sill structure top elevation should not exceed 0.4 feet above low control pool.	The reference to 0.4 feet in Section 5.6.2 was a mistake. The rock structures were modeled at 0.8 feet above low control pool; this is shown in Appendix D Hydrology and Hydraulics, and this does not result in stage increases higher than 0.005 feet.  Section 5.6.2 of the report has been updated to state "To avoid increased flood stages, the rock sill structure top elevation should not exceed 0.8 feet above low control pool (+ or - 0.3 feet). Overall the average elevation of the rock sills should be within (+ or - 0.1 feet).  Boulders may be included in the design and may rise about 1 foot above the crest of rock sill. They would be spaced infrequently (250 foot spacing is expected). These boulders should have no additional effect on flood stages." With this revision, this section is now consistent with the modeling that was done and consistent with other references in the report and appendices.

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00007	General Question	3/27/2017		Engineering plates provided indicate that the training structures will be made up of 4' diameter boulders and r40 riprap. Please explain in further detail the size/dimension of rocks that will be used to construct the structure as well as their locations within the structures (e.g., larger rocks in the front/top, smaller rocks in back....), and the spacing. Indicate if the structures that will be constructed to keep water flowing through the channels are going to be marked. Also include information regarding boater risk, Coast Guard responsibility, and height above surface water. The proposal must adequately address public safety or not create a water safety hazard (Minnesota Rules 6115.0210, subp. 3a). Provide more information on the potential the training structures have to create a water safety hazard for all river users, including those outside the navigation channel.	<p>The structures are rock mounds and will include some riprap features to tie the rock mound structures into existing islands. The structures are described as part of the Tentatively Selected Plan in Section 5.6.</p> <p>14 USC 81 Authorizes the Coast Guard to establish aids to navigation in the interest of the commerce of the united states. There are many aids to navigation established in the project vicinity now. The proposed structures are in a shoal area prone to numerous obstructions. With the propsoed project in place, the channel would remain marked by buoys in a very similar manner to the present state. No fixed aids to navigation would be established.</p> <p>In Coast Guard policy, "a short range aids to navigation system is a group of interacting external reference devices intended to collectively provide sufficient and timely information with which to safely navigate within and through a waterway when used in conjunction with updated nautical charts and other commonly available material." The type of aids to navigation used is subject to many considerations, including the physical nature of the area, the characteristics of the user vessels, cost, and survivability of the proposed aid.</p> <p>In a waterway that is generally navigable, the marking of individual, isolated hazards is sometimes sufficient to provide useful assistance to the navigator. In waterways that are prone to extensive areas of shallow water and obstructions--as is the case with the Mississippi River--the only practical solution is to provide marks establishing a safe channel for navigation. Given the aids to navigation scheme that exists now in the project area, vessel operators are on notice that the proposed location of these structures is not safe for navigation.</p>
00008	General Question	3/27/2017		Please change text to read: "In 2016, the MPCA updated their values for SRVs." The SRV's are not final yet. The date is unknown, but assumed to be final in 2017.	Concur. Changed language in the report Section 2.2.8 to read, "The MPCA is currently in the process of updating their values for SRVs, and therefore the Draft values from August 2016 are used in this report. The draft values are expected to be finalized in 2017."
00009	General Question	3/27/2017		General Comment: Only one boring has concn > new residential SRVs, 70M. That location is above the new SRV for Cd (1.7ppm vs 1.6ppm) and BAP (1.15ppm vs 1.0ppm). It does not exceed the current residential SRVs. The new SRV for Hg is greater than the current SRV. These results are < both.	Under current regulations, all of the chemical results for the borings collected in the project area are below MPCA's SRVs. Unless the MPCA adopts new standards before project completion, there shouldn't be any SRV related restrictions on placing the material.
00010	General Question	3/27/2017		Why are SQTs used for comparison. Are they doing a cleanup? Are they reusing the material below the water line?	The SQTs are used for comparison in the event that project construction (placement of fill and dredging) causes significant redistribution of material. However, best management practices will be used to minimize redistribution.
00011	General Question	3/27/2017		An additional permit for the management of dredged material is likely not needed. This dredge cut is listed in the CMMP, thus is covered by MN0050580.	Comment Noted, thanks!
00012	General Question	3/27/2017		What is the volume of material to be dredged?	~306,000 yds of granular material. See report sections 4.6 and 5.3
00013	General Question	3/27/2017		The document needs to identify and describe the location and method of dredge disposal. The environmental effects portion of the document also needs address any impacts from handling and disposal of dredge material.	Report has been updated to identify the proposed placement site (Ch. 5.6). The placement site is a water-filled depression created by aggregate mining activity in a previously upland area on Lower Grey Cloud Island. Environmental Effects of the proposed placement are primarily addressed in Chapter 6.2.2, Aquatic Habitat.
00014	Appendix I	3/27/2017	I-2	Identify where project is located in terms of all: County, City/Township, Watershed, GPS Coordinates and Tax Parcel Number. (If no Tax Parcel number, state this.)	Additional information as requested has been added to EAW Number 5.
00015	Appendix I	3/27/2017	I-2	Complete project description should include: construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes; and significant demolition, removal or remodeling of existing structures; and timing and duration of construction activities. Since this project is being constructed in the metro area, it should also be discussed if there are physical manipulations of, or requirements for, area infrastructure. Chapter 5.6 provides a brief overview, but does not provide a complete description of each of these components. The document needs to describe the two potential methods of dredging (mechanical vs. hydraulic) as well as any differences in construction practices between the two. The environmental effects portion of the document also needs to address any impacts from the two potential dredging methods. Please add additional detail.	Significant detail regarding proposed project construction added to section 5.6.4. A short description of the differences in water quality impacts from dredging equipment types was added to 6.2.8.

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00016	Appendix I	3/27/2017	I-2	EA Chapter 6.2.2 includes acreage discussions of project components which will change as a result of the project. This is good information, but does not satisfy the Project Magnitude requirement of the EAW. Project Magnitude should be a single value which encompasses the entire project, in acres and in linear feet. (I agree that the other magnitudes on the EAW are not applicable here.)	Added total project acreage impacted to item 6c. Acreages are split among the footprint of the rock structure, dredging, and placement. Dredging and placement estimates are conservative.
00017	Appendix I	3/27/2017	I-2	Recommend greater specificity of EA reference: Project purpose appears to be located in 1.3 with additional information in 3.2.	Concurred. Incorporated more detailed references in Appendix I.
00018	Appendix I	3/27/2017	I-2	Identify the beneficiaries of this action.	Added identification of beneficiaries and described how they would be benefited in Appendix I, Section 6d.
00019	Appendix I	3/27/2017	I-2	This is not the appropriate place for referencing cumulative potential effects. Recommend deleting the second sentence.	Concurred. Sentence deleted.
00020	Appendix I	3/27/2017	I-2	Add a brief overview of what the Nine-Foot Navigation Channel Project is before the reference to 1.4.	Incorporated a few sections in Appendix I, Section 6f to describe the 9-foot navigation channel.
00021	Appendix I	3/27/2017	I-3	This item is should illustrate--via acreage numbers--the change in the cover types within the project area. If the appropriate habitat types aren't included, add them into additional rows in the table provided.	Modified EAW item 7 to include additional detail, and added a table from the report that shows the change in acres for each habitat type.
00022	Appendix I	3/27/2017	I-3	Regardless of whether the project proposes a change to land use or not, describe the existing planned land use as identified in any applicable comprehensive plans (if available). If unavailable or not included in comprehensive plans, identify this. Identify any other applicable existing plans for land use, water, or resources management by a local, regional, state, or federal agency. This item should discuss conditions as they are and plans that currently exist, regardless of the project's proposal or potential impacts.	Information regarding planned land use, including references to local comprehensive plans and other planning documents has been added to Chapter 6.1.5, and is referenced in the EAW bridge 9.a.ii.
00023	Appendix I	3/27/2017	I-3	Regardless of whether the proposed project will alter any zoning, existing applicable zoning (including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc), should be identified here.	Zoning interests identified in the project area were integrated into the discussion of land use as described in Chapter 6.1.5.
00024	Appendix I	3/27/2017	I-3	Recommend changing "N/A" to "Since no land use incompatibilities were identified, no mitigation has been proposed."	Concur - changed sentence as suggested
00025	Appendix I	3/27/2017	I-3	Recommend identifying what section of Appendix J satisfies this item. In my review, I did not see any descriptions of NRCS (SCS) soils classifications. In addition, if there are any plans for shoreland work--including staging of heavy equipment, temporary removal of vegetation for the project construction purposes, etc. any soils limitations for these activities should be described and any corrective measures discussed.	This text added to Appendix J Section 4 "The channel excavation and rock-sill structure construction will occur in the river. Channel bottom material has not been characterized by the NRCS. The west rock-sill structure will tie into an existing island which has been characterized as Algansee Sandy Loam. The east rock-sill structure will tie into a much smaller existing island which has not been characterized by the NRCS." The NRCS classification shown on the Web Soil Survey for the staging site is Udorthents, wet; however, the proposed staging area has been highly modified and paved for construction of the Lock and Dam.
00026	Appendix I	3/27/2017	I-3	I believe it should be "2.2.1.3 Hydrology and Hydraulics"	Concur - changed reference.
00027	Appendix I	3/27/2017	I-3	The first part of this section should describe the existing surface water resources in the area, not only those affected by the project. The information provided sufficiently answers the second part of the EAW question, but does not appear to answer the first part (existing resources). There may be additional links necessary to the EA document.	Additional description as requested has been added to 11a.i, including nearby river designations and other water resources in the area, including several maps.
00028	Appendix I	3/27/2017	I-3	The EAW item requires: "Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this" This information must be provided.	Requested well details have been added to 11a.ii.

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00029	Appendix I	3/27/2017	I-4	Instead of "N/A", recommend a short sentence such as, "no hazardous waste expected to be stored or generated during project construction or operation"	Concur. Added.
00030	Appendix I	3/27/2017	I-5	6.3 (p. 102, 1st paragraph) of the EA text states, "The Corps has determined that the Project will have no potential to effect historic properties". Is there a SHPO letter per the EAW form to concur?	The Corps has coordinated with the SHPO, and a concurrence letter added to the Coordination and Correspondence Appendix.
00031	Appendix I	3/27/2017	I-5	Instead of "N/A", recommend a short sentence such as, "no transportation impacts are expected during construction or operation of the proposed project."	Concur. Added.
00032	Appendix I	3/27/2017	I-5	19a is not adequately defined--the environmentally relevant timeline is stated, but the environmentally relevant geography specific to the project-related environmental effects are not identified.	The following text was added to Ch. 6.4.1: "The environmental analysis for the proposed project did not identify significant effects outside of the direct project area. Therefore, the geographic scale analyzed for cumulative impacts was limited to potential actions that have or would have effects in the immediate project area. However, this does not mean that only activities with footprints overlapping the proposed project were considered - this is because the proposed project is a part of a large river system, which necessitates considering if actions upstream or downstream could also impact this particular reach of the river."
00033	Appendix I	3/27/2017	I-4	Provide more information regarding the value of the impounded habitat and the floodplain shallow aquatic and note if there could be net loss in valuable habitat.	The description in Chapter 6.2.2 (Aquatic Habitat Effects) has been updated to address this comment. See specifically the last paragraph in that section: "Overall, these changes would not have a net negative impact on the value of the habitat in Lower Pool 2. The habitat types that would be lost – main channel border, impounded aquatic, and wing dam habitats – are abundant in Lower Pool 2 near the project area. No special habitat characteristics or values have been identified in the project footprint or affected areas that would be unique to the area. The channel control structures may increase habitat diversity in Lower Pool 2 by help to promote vegetative growth by restricting reducing wind and wave action in the shallow area between Boulanger Slough and the current main navigation channel, and which could serve to protect and stabilize the areas near them and promote aquatic vegetation growth."
00034	-	5/4/2017	-	DNR Comment 00002 requested that relocation of all mussels within the impact area of the Project be conducted according to the standards of the DNR's Minnesota Freshwater Mussel Survey and Relocation Protocol. The DNR Protocol has served as the standard used by numerous mussel relocation projects throughout Minnesota for many years, and the request that the Project adhere to the DNR Protocol is not unreasonable. Nonetheless, the COE has proposed to implement an older methodology in their Mussel Relocation Plan, and states that their Response addresses all differences between the DNR Protocol and the COE Methodology. This analysis includes differences regarding a) selection of the recipient site, b) quality control measures, and c) method of placing translocated mussels into the recipient site. The DNR accepts these alternative methods as reasonable.	Thanks for your concurrence.
00035	-	5/4/2017	-	However, the COE Response does not identify a critical difference between the DNR Protocol and the COE Methodology. The DNR Protocol (Page 1, Temperature and Time Limitations) requires that "Relocations must be conducted within two months of the onset of work on a development project." In contrast, the COE's Mussel Relocation Plan (Section III. Relocation Description) states that "Relocation would be scheduled to occur as close prior to the construction as feasible, no more one year prior to proposed construction." This departure from the DNR Protocol is not acceptable to the DNR, and the DNR requests that this sentence be revised to read "... no more than six months prior to proposed construction." This compromise is still a significant departure from the DNR Protocol, but comes closer to insuring that there is not sufficient time between the relocation and the onset of work for mussels to recolonize the project footprint.	We have investigated two scheduling ideas to attempt to minimize potential impacts, and the proposed schedules are outlined below. These would be incorporated into the report. The first schedule is our new preferred schedule, and would meet the request of your comment entirely. This involves conducting the mussel relocation and project rock placement in the same season. Tentatively speaking, this would involve: (1) Late May/June 2018 - Begin Mussel Relocation; (2) July 1 - Begin Rock Channel Training Structure Construction; and (3) Nov 15 or End of Calendar Year 2018 - Complete Construction.  The second schedule is similar to what we had proposed before, and is included as a contingency plan. For instance, if the mussel relocation is delayed too long in 2018 such that rock placement would not be able to be finished during the same construction season, we would shift to this schedule instead. Under this schedule, mussels would be moved in the late summer and fall. No activity would occur over the winter, and minimal mussel movement or mussel recruitment would be anticipated during the winter months. Construction of the rock structures in the cleared footprints would begin as soon as water levels allowed in the spring. We feel that it is unlikely that more than negligible mussel populations would recolonize the footprint area over this winter time frame. Nevertheless, the goal will be to utilize the preferred schedule. Tentatively, the backup schedule is as follows: (1) August through September 2017 - Mussel relocation; (2) Winter 2017-2018 - No project activity; (3) Spring 2018, as early as water levels, flow, and weather allow - Begin Project Construction.

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00036	-	5/4/2017	-	<p>Point 7 in the COE response to Comment 00002 states that the "... proposed monitoring is designed as a simple effort to qualitatively check that there have not been issues with the relocation itself." The response goes on to state that the monitoring will "... assess survival." These are laudable goals, but the description of the monitoring methods in the COE's Mussel Relocation Plan fails to describe how issues will be identified and survival will be assessed. The DNR recommends that the monitoring portion of the Relocation Plan be revised to include substantial detail about the monitoring methodology, including a specified number of dives (we recommend one dive per relocation area), during which a specified number of live or dead mussels (we recommend 100 per relocation area) will be retrieved and classified as marked or unmarked, and live or dead. Success of the relocation would then reflect the proportion of marked mussels to unmarked mussels, and degree to which the ratio of live to dead marked mussels is similar to the ratio of live to dead unmarked mussels.</p>	<p>This is a good comment and suggestion. We have incorporated the following specifics into the monitoring plan for the relocation areas:</p> <p>In Year 0 (the same calendar year the relocation is completed), 2 of the approximately 10 relocation sites will be inspected to assess the acclimation to the site. Divers would perform a visual inspection to the extent possible to qualitatively assess whether it appears that the majority of relocated mussels have burrowed into the substrate. 100 relocated (marked) mussels will be collected from the substrate, taken to the water surface, and assessed for mortality.</p> <p>In Year 1 (the calendar year directly following the relocation), each relocation site would be inspected to assess mortality. At each relocation site, a diver would perform a qualitative search until 100 relocated (marked) mussels have been collected. All mussels collected would be identified and determined to be living or dead. The relocation would be determined to be successful if the overall average mortality of all relocation sites is below 15 percent.</p>
00037	-	5/4/2017	-	<p>Finally, the Project fails to commit to any action should the monitoring determine that the relocation plan has failed. Given that the relocation plan is intended to avoid and mitigate for the impact of the project on mussels, the Plan should at least commit to negotiating a mitigation alternative with the DNR should the monitoring determine that the relocation effort has failed to mitigate the impacts of the Project. Better yet, the Plan could propose alternative mitigation should the monitoring determine that the relocation effort has failed.</p>	<p>The Corps has included a threshold level of 15% mortality to be used to determine that further mitigation may be necessary. If relocation failure is revealed by the Year 1 relocation site survey, the Corps will commit to discussing potential measures for remedying the failure and loss of ecological function.</p>



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**Subject:** Lower Pool 2 Channel Management Study - Boring Results (UNCLASSIFIED)  
**Date:** Tuesday, November 29, 2011 8:30:00 AM  
**Attachments:** [P2\\_Boring\\_Locations.pdf](#)  
[P2\\_results.xls](#)

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Classification: UNCLASSIFIED  
Caveats: NONE

Dear Sirs,

We're continuing to evaluate the condition of the Mississippi River Pool 2 navigation channel around Boulanger Bend (RM 818-820). As you are aware, one of the alternatives is to re-align the channel through Boulanger Slough. This alternative would include dredging approximately 450,000 cubic yards of material.

This fall, we conducted some sediment sampling within Boulanger Slough. The sediment boring results are attached, and a description of the methods is below. Based on the results, the Corps plans to collect 24 - 30 additional samples between sample 11-2M and River Mile 818 (8 - 10 bore holes X 3 samples for each bore hole) to be analyzed for the same parameters as the current data.

Please let me know if you have any comments on the results or the planned sampling no later than December 13.

(I used the public meeting attendance list to determine who within your agency to send this to. If you notice that anyone else should be copied, please forward it along. Thanks!)

Methods:

Thirty-two samples were collected from eighteen randomly selected boreholes by district staff between August 22-24, 2011. All of the boreholes were drilled to 14 feet below the water surface and the cores were then split into two composite samples at a depth of 11.5 feet. The 11.5 foot depth corresponds to the projected extent of required dredging if the channel cut-off becomes the future realignment of the navigation channel. Under the propose cut-off plan, the upper-layer sample characterizes the dredged material needing future disposal and the lower-layer sample represents the material that will be left in place and will become exposed to the water column. The two samples from each of the 18 cores were immediately processed after collection and sent to labs to be analyzed for physical and chemical parameters to determine grain size and possible contamination.

Thanks!  
Aaron

-----  
Aaron M McFarlane  
Biologist  
St. Paul District, Corps of Engineers  
Office Phone: (651) 290-5660  
E-mail: [Aaron.M.McFarlane@usace.army.mil](mailto:Aaron.M.McFarlane@usace.army.mil)

Classification: UNCLASSIFIED  
Caveats: NONE

# Minnesota Department of Natural Resources

Division of Ecological and Water Resources  
1200 Warner Road  
Saint Paul, MN 55106-6793



Paul Machajewski  
Channel Maintenance Coordinator  
Corps of Engineers  
(507) 454-6150 ext. 5  
[Paul.r.machajewski@usace.army.mil](mailto:Paul.r.machajewski@usace.army.mil)

January 3, 2012

Re: Navigation-Lower Pool 2 Channel Management Study – Boulanger Bend to Lock & Dam #2, Hastings, Minnesota

Mr. Machajewski,

The Minnesota Department of Natural Resources (DNR) was recently invited to provide comments for sediment sampling completed within the Boulanger Slough in August 2011. As it is understood, the Corps is evaluating the condition of the Mississippi River Pool 2 navigation channel around Boulanger Bend (RM 818-820). One of the proposed alternatives would be to re-align the existing channel through Boulanger Slough. The alternative would result in approximately 450,000 cubic yards of material being removed. The DNR appreciates the opportunity to participate in this project during the early planning phases. This letter serves to respond to the sediment sampling results, proposed supplemental sampling and to provide general comments in regards to the Lower Pool 2 Channel Management Study.

### *Sediment Sampling*

The DNR defers to the Minnesota Pollution Control Agency (MPCA) for comments pertaining to sediment sampling methods, results and the need for supplemental sampling. From recent communications, it is unclear what the MPCA involvement has been in this project to date. However, the DNR provides some comments for consideration. How does the data compare to other areas within the pool? It may be relevant to compare the results with the recent sediment analysis at Grey Cloud for the proposed Nelson Mine Expansion project. It may also be helpful to review comments provided by the MPCA and the Environmental Protection Agency provided to The City of Cottage Grove and the Corps for the proposed Nelson Mine Expansion project as they pertain to water quality and turbidity concerns. These comment letters were provided in response to an Agency Review Draft Environmental Impact Statement (EIS) dated September 2010. In addition, the DNR is aware that there are substantiated concerns with PFOS/PFOA contaminants from the 3M site at Crystal Cove. The Corps should consider the potential for these chemicals to be present in the sediment in the vicinity of Boulanger Slough and should consider testing for the presence of these chemicals.

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DNR Information: 651-296-6157

1-888-646-6367

651-296-5484

1-800-657-3929

*General Comments*

Please clarify if a Federal Environmental Assessment or Federal EIS will be completed for this project. The DNR would like to participate in the development of this document as a reviewer and commenter during scoping and from a technical aspect if such agency participation is being coordinated. Concerns would include but are not limited to how sediment would respond in regards to scouring or sloughing. How would a new channel affect shoreline stability and flood impacts? How would a new channel affect mussel and fish habitat? State-listed species of mussels have been identified in the area. Impacts to these populations should be evaluated. Have hydrologic models been run to determine what may happen to sediment transfer should flow be restored to Grey Cloud Slough or should the Grey Cloud Island Backwater area be cut off if the proposed Nelson Mine Expansion project proceeds?

It should be noted that the existing DNR permit (1994-5082) and MOU applies only to historic dredge cuts. A DNR work in public waters permit application will need to be submitted as soon as more adequate information is available. Please note that a permit cannot be issued until the environmental review process is complete. Completion of the environmental review process does not guarantee that a permit will be issued.

It has come to the DNR's attention that there is confusion over property ownership within Pool 2. The DNR manages and owns the Spring Lake Wildlife Management Area located west of Boulanger Slough. The DNR is also aware that there are a couple of large parcels identified to be owned by the State of Minnesota within the project area. Ownership should be verified legally prior to proceeding with the project.

We have had several management and staff changes recently. Please update your contact list to identify Melissa Doperalski, Regional Environmental Assessment Ecologist, as the point contact for this project. Melissa's contact information is 651.259.5738, [melissa.doperalski@state.mn.us](mailto:melissa.doperalski@state.mn.us), 1200 Warner Road-St.Paul, MN-55106.

Sincerely,



Melissa Doperalski  
Regional Environmental Assessment Ecologist

CC'

Terri Yearwood, DNR  
Molly Shodeen, DNR  
Brad Parsons, DNR  
Gerald Johnson, DNR  
Joel Stiras, DNR  
Michele Hanson, DNR  
Tim Bremicker, DNR  
Lisa Joyal, DNR  
Richard Baker, DNR  
Keith Parker, DNR

Karen Kromar, MPCA  
Phil Delphy, USFWS  
Nancy Duncan, National Park Service  
Jim Larson, Metropolitan Council  
Aaron McFarlane, Corps

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**DEPARTMENT OF THE ARMY**  
**ST. PAUL DISTRICT, CORPS OF ENGINEERS**  
**902 E. 2ND ST. SUITE 302**  
**WINONA, MN 55987-4649**

January 31, 2012

Operations Division  
Channels and Harbors

Melissa Doperalski  
Regional Environmental Assessment Ecologist  
Minnesota Department of Natural Resources  
1200 Warner Road  
St. Paul, MN 55106

Subject: Lower Pool 2 Channel Management Study – Boulanger Bend to Lock and Dam No. 2

Dear Ms. Doperalski:

Thank you for your letter dated January 3, 2012. An Environmental Assessment is currently being prepared for this project by the Environmental Compliance Branch of the St. Paul District, U.S. Army Corps of Engineers (Corps) for the subject project. As we proceed, we will continue to coordinate with the Minnesota Department of Natural Resources (DNR), as well as the other stakeholder groups and agencies. We welcome your participation and any technical assistance you can provide.

*Sediment Sampling*

As previously described, sediment sampling was conducted in the identified Boulanger channel during August 2011. In general, the results from the sediment sampling are in-line with the results from the Corps' routine channel sediment sampling, with the exception of the downstream samples 11-2M and 11-18M where higher levels of contamination were detected. The Minnesota Pollution Control Agency (MPCA) reviewed the sediment sampling results and provided comments to us regarding the need for additional sampling on November 17, 2011. The MPCA agreed with the Corps' determination that more sampling should be conducted, specifically between sample points 11-2M and river mile 818. The MPCA also requested that the CAS number be supplied for Endosulfan to aide in review. The MPCA had no further comments.

In regards to potential PFOS/PFOA contamination: although PFOS/PFOAs were not tested during the 2011 sediment sampling of the proposed Boulanger Bend cut-off location, the Corps has been aware of possible contamination in the area and has done previous testing of several locations in lower Pool 2. As part of the Corps' routine channel maintenance program, twenty Upper Mississippi River sediment samples (top 10 cm) were analyzed for PFCs. The samples were collected in October 2008 from channel dredge cuts, harbors dredge cuts and three off-channel locations just below the 3M plant in Cottage Grove, MN (Table 1). The samples were sent to Columbia Analytical, Kelso Washington, for high performance liquid chromatography with mass spectrometry (HPLC/MS) analysis. Each sample was analyzed for 17 different PFC compounds listed in Table 2. The majority of the results were below the detection limit, but perfluorooctane sulfonate (PFOS), which is known to strongly sorb to solids and may be a major sink for PFCs (Higgins et al. 2005), was above detection limits in more than half the samples. From the samples that had measurable concentrations of PFCs, Lake Pepin had the highest detection (5.9 ng/g for PFOS). The three 3M sites had a few measurable concentrations of PFCs, but they were in-line to the levels detected at the boat harbors. Of the four below Lake Pepin samples, only Alma small boat harbor had a quantifiable detection.

Overall, the results from the Mississippi River (Table 3) were very low compared to PFCs found in other matrixes, such as sewage sludge, where concentrations of total perfluoroalkyl sulfonyl-based chemicals have been measured in the thousands parts per billion (Higgins et al. 2005), but within the same magnitude of other river sediment studies in Japan (Senthilkumar K., E. 2007) and in the San Francisco Bay area (Higgins et al. 2005).

Considering the proximity of these 2008 samples to the proposed channel modification project at Boulanger bend (Figure 1), it seems likely that PFOS/PFOA levels at the proposed cut-off are in-line with the 2008 levels for lower pool 2, at least for the surficial sediments where the 2008 samples were collected. However, because the 2008 samples were collected only from the top 10 cm and the proposed cut-off channel would be dredged to 11.5 feet, it may be necessary to collect and analyze samples at depths down to 11.5 ft and below to characterize what sediment will be removed and what will remain as the new sediment surface.

Overall, the Corps will continue to coordinate sediment testing plans and results with the MPCA in order to ensure that the effects of the potential project on water quality are adequately considered.

#### *General Concerns*

The environmental effects of the subject study are currently being evaluated. Hydraulic analyses are being conducted to determine the effects of the project alternatives on channel stability, scouring, sediment transport, and floodplain impacts. Mussel surveys were conducted in August 2011 within the area identified for the Boulanger channel, and the results are being reviewed. The federal actions that occur as a part of the Nelson Mine Expansion project will be considered in our assessment of the subject project as a part of the cumulative impacts. Other concerns that have been identified or are identified in the future will be considered and evaluated as part of the environmental assessment.

We understand that an individual Minnesota DNR Public Waters Work Permit may be required for this project, depending on the alternative chosen. We will submit a permit application as soon as adequate information is available.

As for property ownership within Pool 2, Ken Beck of our Real Estate office responded separately to you via email on January 6, 2012 on this issue. In summary, the Real Estate activities by the Corps of Engineers during the 1930's in essence acquired the property rights held under federal navigation servitude, which includes the right to modify the bed of the river to improve navigation.

At this time I am anticipating another interagency meeting to be held in the spring of 2012 timeframe to review and discuss our (COE) findings and alternatives identification for this project. I will provide our documentation prior to the meeting for your review.

If you have any questions or comments prior to our next meeting please feel free to contact me at (507) 454-6150x5 or via email at paul.r.machajewski@usace.army.mil.

Sincerely,

Paul Machajewski  
Channel Maintenance Coordinator

CC

Aaron McFarlane, USACE  
Paul Kosterman, USACE  
Brian Zekus, USCG MSD-St. Paul  
Burt Ford, USCG AToNs  
Phil Delphy, USFWS  
John Anfinson, NPS  
Judy Mader, MPCA  
Dick Lambert, MnDOT  
Kurt Chatfield, Dakota County  
Lee Nelson, RIAC  
Greg Genz, UMWA  
Brad Peek, NNG

**Table 1. Locations of 2007-2008 samples tested for PFCs**

Sample	Sample Date
3M 1	10/23/2008
3M 2	10/23/2008
3M 3	10/23/2008
Above L/D 2	10/23/2008
Alma SBH	10/22/2008
Below L/D 2	10/23/2008
Boulangier 1	10/23/2008
Boulangier 2	10/23/2008
Boulangier 3	10/23/2008
Cannon River	10/23/2008
Fountain City	10/22/2008
Grand Encampment	10/22/2008
Hasings SBH	10/23/2008
Pepin	10/23/2008
Pepin (split)	10/23/2008
Pine Bend	10/23/2008
Prescott	10/23/2008
Redwing CH	10/23/2008
Redwing SBH	10/23/2008
W.Newton 2	10/22/2008

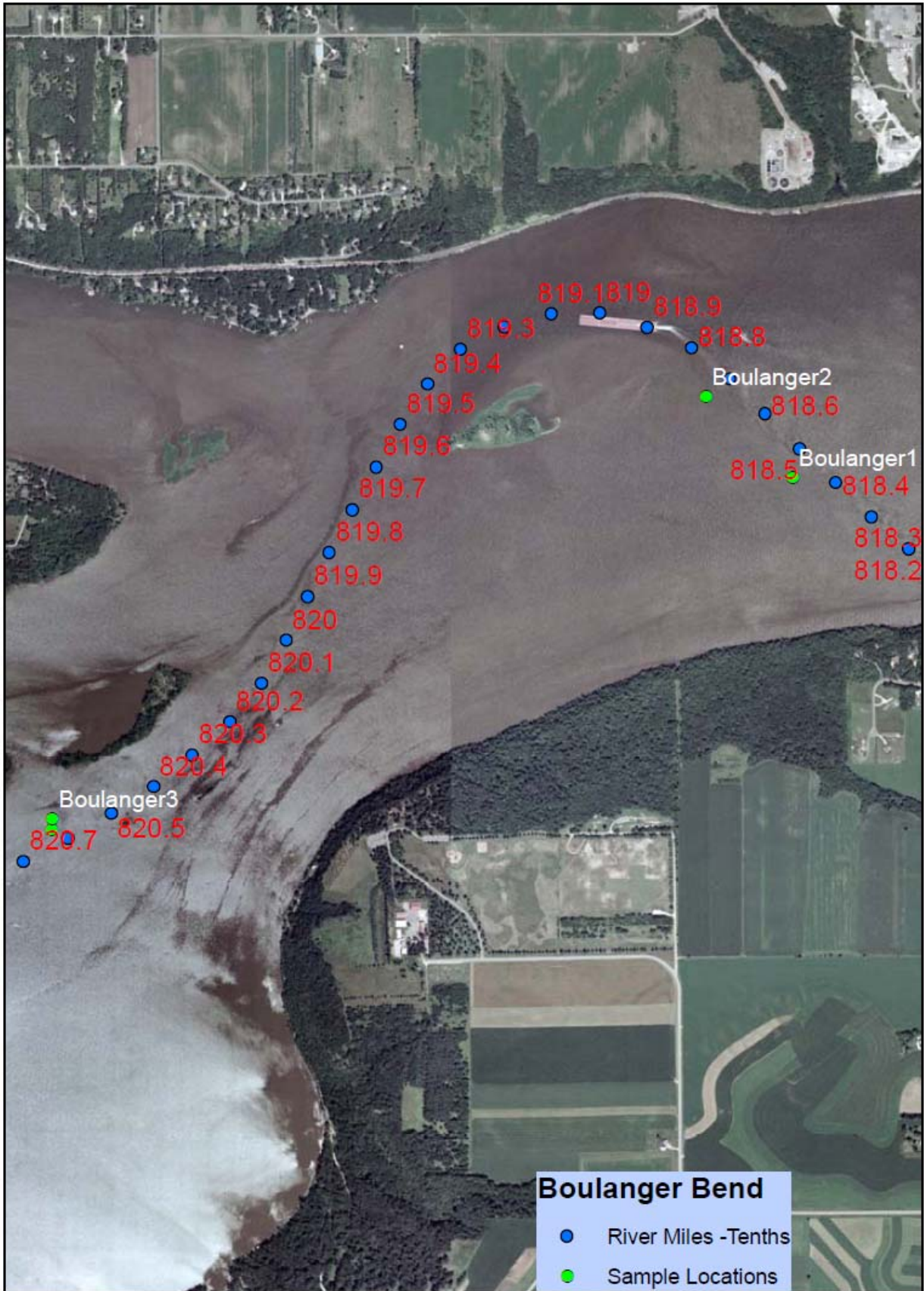
**Table 2. PFC compounds analyzed for 2007-2008 survey**

PFCs
Perfluoridecanoic Acid
Perfluorobutanesulfonic Acid
Perfluorodecanoic Acid
Perfluoroheptanoic Acid
Perfluorohexanoic Acid
Perfluorohexylsulfonic Acid
Perfluorononanoic Acid
Perfluorooctanoic Acid (PFOA)
Perfluorooctylsulfonic Acid (PFOS)
Perfluoropentanoic Acid
Perfluorounecanoic Acid
Perfluoridecanoic Acid
Perfluorobutanesulfonic Acid
Perfluorodecanoic Acid
Perfluoroheptanoic Acid
Perfluorohexanoic Acid
Perfluorohexylsulfonic Acid

**Table 3. PFC results above the detection limit.**

Sample	Sample Date	Analyte	result - ng/g (ppb)
3M 1	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	0.91
		Perfluorobutanesulfonic Acid	1.4
3M 2	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	1.1
		Perfluorobutanesulfonic Acid	1.2
		Perfluorooctanoic Acid (PFOA)	2.1
3M 3	10/23/2008	Perfluorobutanesulfonic Acid	1.7
		Perfluorooctylsulfonic Acid (PFOS)	2
Above L/D 2	10/23/2008	Perfluorobutanesulfonic Acid	2.1
		Perfluorooctylsulfonic Acid (PFOS)	3.2
Alma SBH	10/22/2008	Perfluorooctylsulfonic Acid (PFOS)	2.1
Boulangier 1	10/23/2008	Perfluorobutanesulfonic Acid	1.4
		Perfluorooctylsulfonic Acid (PFOS)	1.4
Boulangier 2	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	1.1
		Perfluorobutanesulfonic Acid	1.4
Boulangier 3	10/23/2008	Perfluorobutanesulfonic Acid	1.4
		Perfluorooctylsulfonic Acid (PFOS)	1.4
Hasings SBH	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	4
Pepin	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	5.9
Pepin (split)	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	4.6
Pine Bend	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	0.72
		Perfluorobutanesulfonic Acid	1.4
Redwing CH	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	2
Redwing SBH	10/23/2008	Perfluorooctylsulfonic Acid (PFOS)	2.6

**Figure 1 – PFC Sampling Points near Boulanger Bend**





**From:** [Machajewski, Paul R MVP](#)  
**To:** [Jester, Laura](#); [Chatfield, Kurt](#); [Arthur.B.Ford@uscg.mil](mailto:Arthur.B.Ford@uscg.mil); [Brian.S.Zekus@uscg.mil](mailto:Brian.S.Zekus@uscg.mil); [Phil\\_delphey@fws.gov](mailto:Phil_delphey@fws.gov); [john\\_anfinson@nps.gov](mailto:john_anfinson@nps.gov); [melissa.doperalski@state.mn.us](mailto:melissa.doperalski@state.mn.us); [Mader, Judy \(MPCA\)](#); [MDOT - Dick Lambert](#); [Lee Nelson](#); [Greg.Genz](mailto:Greg.Genz); [brad.peek@nngco.com](mailto:brad.peek@nngco.com); [tim.leach@metc.state.mn.us](mailto:tim.leach@metc.state.mn.us)  
**Cc:** [Coder, Justin S USCG](#); [Nay, John MSSD4](#); [paul\\_labovitz@nps.gov](mailto:paul_labovitz@nps.gov); [molly.shodeen@state.mn.us](mailto:molly.shodeen@state.mn.us); [Kimmel, Zachary MVP](#); [Kosterman, Paul R MVP](#); [McFarlane, Aaron M MVP](#); [Goodfellow, Scott M MVP](#); [Opatz, Leon P MVP](#); [Beck, Kenneth L MVP](#); [Grow, Jeff K MVP](#); [Noren, James B MVP](#); [Nelson, Kevin S MVP](#); [McGrath, Jeffrey L MVP](#); [LeClaire, Keith R MVP](#); [Walker, Michael R MVP](#)  
**Subject:** Lower Pool 2 Channel Management Study: Next interagency meeting Monday April 9th, 2012 (UNCLASSIFIED)  
**Date:** Monday, March 19, 2012 4:46:03 PM  
**Attachments:** [Alternatives to Date with Map - 19Mar12.pdf](#)

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Classification: UNCLASSIFIED  
Caveats: NONE

Partners,

As you are aware, the St. Paul District is evaluating alternatives to improve maintenance and navigational safety of the Mississippi River between River Miles 818 – 821 (Boulanger Bend). In recent years, it has become difficult for the Corps to maintain the authorized channel width at this location due to increased sedimentation. The alternatives currently under consideration (in addition to the no action alternative) are described in the attached. Please keep in mind that the alternatives are conceptual and not necessarily shown to scale or in the exact locations on the map. Everything right now is only a draft and no decisions have been made.

We will be holding the next interagency meeting to discuss the status of the study on Monday, April 9th, 2012. The meeting will be held at Schaar's Bluff Gathering Center (8395 127th St. E., Hastings, MN) from 9:30am until about 3:00pm. We will use the morning part of the meeting to discuss the current alternatives and identify any others. After lunch the meeting will focus on determining the methods for identifying and evaluating the biological resources that would be impacted by each of the alternatives.

Please let me know if your agency unable to be represented at this meeting.

Due to the location of the meeting it is suggested that you bring your own lunch to avoid having to run into Hastings to grab some lunch. There is a refrigerator on site in which to store your lunch.

As part of the environmental evaluation, we will need to identify and describe the aquatic habitat and fisheries resources that are currently present. We need to answer questions such as (but not necessarily limited to):

- What are the general aquatic habitat conditions?
- What communities of fish are known to utilize this area?
- Are there any unique or important fisheries?
- Are there any unique or important aquatic habitat areas?
- How should we measure the current habitat so that we can compare it with the future habitat?

We would like to know what data exists that would help us answer these questions. Please provide any information you have, including evaluation methods, to Aaron McFarlane ([aaron.m.mcfarlane@usace.army.mil](mailto:aaron.m.mcfarlane@usace.army.mil) or 651.290.5660) by COB Wednesday, April 4th, 2012 so that we can incorporate that info into the meeting.

I look forward to continuing to work with you on this project. Call or email me if you have any questions.

Thanks,

Paul Machajewski  
Channel Maintenance Coordinator  
St. Paul District, US Army Corps of Engineers

# Lower Pool 2 Channel Management Study

## DRAFT Boulanger Bend Alternatives

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**No Action** – The navigation channel in this area would continue to be maintained up to the authorized 200 foot-wide limit as practical. During periods of high deposition, the area would likely remain a challenge to navigation.

**Channel Realignment Options:**

*Channel Re-alignment through Boulanger Slough* – Under this alternative, the flow of the main channel would be directed through Boulanger Slough by dredging the slough to the authorized width and depth of the 9-foot navigation channel, and by placing a notched closing structure to reduce most flows down the existing main channel. The straightened channel would provide improved navigation and would reduce dredging in the area. Estimates place the dredging need for this alternative at approximately 450,000 cubic yards. Initial sediment testing has not revealed any substantial contaminants, and mussel surveys found low densities and no Federally-endangered species.

*Channel Re-alignment through Nininger Slough* – Under this alternative, the flow of the main channel would be directed through Nininger Slough by dredging the slough to the authorized width and depth 9-foot navigation channel. The straightened channel would provide improved navigation and would reduce dredging in the area. No mussel surveys or sediment testing have been conducted in this area to-date.

*Material Placement Options* – Several options are available for the placement of material from the above channel realignment options:

*Upland Placement* – Material could be moved to an upland placement site, most likely on Grey Cloud Island.

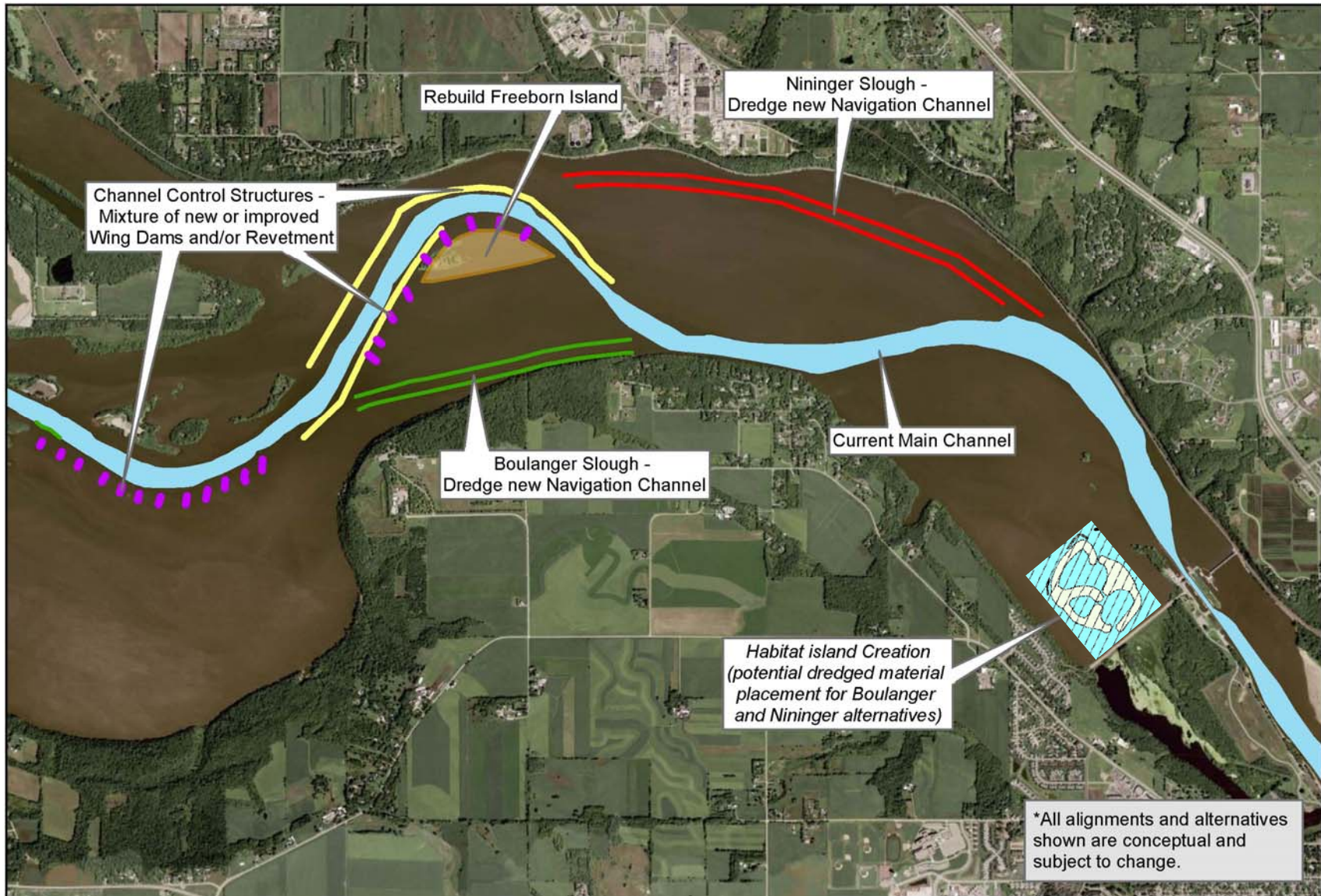
*Habitat Island Immediately Upstream of LD #2* – Create a large habitat island immediately upstream of LD #2. An island at this location is expected to have minimal impact on flood stages. No mussel surveys or sediment testing have been conducted in this area to-date.

**Channel Control Structure Options:**

*Revetment along the Main Channel* – Islands or rock mounds would be placed along the outside of the channel to an elevation of 688.0 (equivalent to project pool +0.8 feet). These structures would be placed parallel to the flow of the main channel. The outcome of this would be to concentrate flows and reduce deposition within the main channel. The main channel would maintain its current path, but would be easier to maintain by requiring less dredging.

*Improve and/or add Wing Dams* – Remnants of the wing dams built alongside the main channel in the early 1900s remain in place. These structures are perpendicular to the flow of the main channel. Flow would be further concentrated in the main channel by rebuilding some already in-place structures and adding new ones. The main channel would maintain its current path, but would be easier to maintain by requiring less dredging.

*Rebuild Freeborn Island* – A mixture of dredged material and rocks would be placed to rebuild the island which used to abut the main channel. The effect would be similar to revetment just in this small area by helping to concentrate flows in the main channel.



**CONCEPTUAL / DRAFT - Lower Pool 2 Channel Management Alternatives**



6 February 2012

## MEMORANDUM FOR Record

SUBJECT: Pool 2 Channel Management Study – 2<sup>nd</sup> Interagency Meeting

1. The subject meeting was held on Monday, April 9th, 2012 at the Schaar's Bluff Gathering Center near Hastings, MN. See attached attendance list.

2. The purpose of the meeting was to update our partners on the status of the study since our 1<sup>st</sup> meeting, specifically the alternatives being considered and discuss the potential environmental impacts of those alternatives and the methodology for quantifying those potential impacts. Below are my bullet notes from the meeting:

A) Summary of my presentation:

- Purpose/Problems:
  - COE: High frequency dredging; has increased recently.
    - Increased channel maintenance & dredged material management costs.
  - USCG: Difficult to maintain Aids to Navigation (AtoNs).
  - Towing Industry: Difficult to navigate, multiple groundings & delays.
    - Navigational safety issue with rec traffic too.
- Hydraulic Analysis:
  - Alternatives analyzed
    - No Action
      - Maintain status quo.
      - Maintain to authorized dimensions.
    - Channel Control Structures
      - Revetment/linear island.
      - Modify wing dams.
      - Rebuild historic Freeborn Island.
    - Channel Realignment
      - Boulanger Slough Channel.
      - Nininger Slough Channel
- Issues/Concerns:
  - Gas pipeline
  - Effects on Spring Lake
  - Recreational Boating
  - Private Boat Docks
  - Uses of Dredged Material
  - Environmental Impacts/NEPA documentation

## B) Specific Comments/Discussion Items by Category & Responses:

- Alternatives
  - Channel control structures
    - Concern regarding flood stage increases.
    - Per Molly Shodeen (MnDNR) FEMA considers a 0.01 increase as unacceptable but anything below 0.005 would be rounded down to 0.0.
    - Molly will need plans ASAP to evaluate potential stage impacts.
    - The Lee Nelson & Greg Genz, representing the towing industry, are concerned with any underwater structures that could be struck by the tows. They are also concerned with the currents/flows that could be created by these underwater structures which might push or draw the tows into the structures.
      - Scott Goodfellow stated that these concerns are noted and that all channel control structures would be constructed outside of the current channel.
  - Realignments
    - Nininger Slough
      - Concern raised regarding potential soil contamination from the 3M chemical plant.
      - The length of this proposed channel is problematic based on the assumed amount of material that would have to be dredged.
      - The COE will survey the area and determine a quantity.
    - Boulanger Slough
      - Strong support restated by partners regarding island building with this alternative.
      - Jerry, Friends of Pool 2, asked if recreational beaches can be considered when building the islands?
        - I stated that recreational opportunities will be considered if/when the islands are planned & designed.
      - Laura Jester, Dakota County, stated that island building in lower pool 2 will aid in the improvement of overall water quality by reducing wind fetch.
      - The question was asked if the flood stages would be decreased with this channel dredging.
        - Scott Goodfellow responded that it was a possibility that needs further consideration/investigation.
      - The question was asked if the Boulanger channel was moved further north would there be a cost savings (i.e. shorter channel)?

- Probably not being there is deeper water where originally proposed, thus less dredging.
  - Also, the towing industry probably would not support this channel move because more steering would be needed to get into and out of this channel alignment.
- General Comments/Discussions
  - Per Lee Nelson, RIAC, this is the #1 project of concern for the towing industry on the UMR.
  - There is strong political and industry support for project.
  - Greg Genz, UMWA, asked where the COE preferred the material to settle out (pool 2, 3, 4...etc).
    - My initial response was for the material to deposit and be dredged in pool 3 based on placement site availability. More analysis will be needed to support this response.
  - Lee Nelson asked about the possibility of a sediment trap in pool 2.
    - My response was that sediment traps are a difficult thing to manage even when the conditions are right.
    - Scott Goodfellow stated that he did not believe a sediment trap would be effective in pool2.
  - Greg Genz suggested additional closures at Baldwin Lake and CF Industries.
    - Scott Goodfellow was going to look into the effectiveness of these options.
  - Additional sedimentation in Lake Pepin as a result of this project was raised as a concern.
    - The sediment budget for this reach of the river was explained.
    - Scott Goodfellow explained that primarily only sand, not fine material, is what makes up the bed load in this reach. Neither the current channel maintenance practices nor the proposed modifications would change the fine material deposition in Lake Pepin.
  - Greg Genz stated that the No Action alts (maintaining the existing or improving the existing) will increase flows and potentially carry additional material downstream as well.
  - As shown on the CONCEPTUAL/DRAFT alternatives map, a concern was raised regarding sedimentation with the proposed island located directly above LD #2.
  - Funding for island construction was discussed. It was recommended that the Fish & Wildlife Work Group, of the River Resources Forum, be approached about this possibility with EMP funds.
    - Paul Kosterman was going to follow up with Tom Novak, the Project Manager for the COE's EMP.

- Environmental Review
  - Aaron McFarlane prepared a separate MFR regarding his portion of the meeting (see 4/11/2012 email from Aaron).
  - Other environmental items to note:
    - The MnDNR EAW would be conducted concurrently with the COE's EA.
    - The MnDNR Public Waters Permit would need to be applied for after the FONSI is signed by the MVP DE and once final plans are set.
      - There is a 30 – 60 day review time.
- Based on how I felt the meeting was going I asked each agency rep their unofficial opinion on the Boulanger Slough channel being the preferred alternative. Below is a quick summary of those comments:
  - FWS: Concern with mussel & fisheries impacts.
  - MPCA: Concern with downstream sedimentation. Less concerns with sedimentation with channel modification alternatives.
  - MnDNR: No preferred alt; echo MPCA concerns.
  - Dakota County: Concern with sedimentation, look to improve water quality in Spring Lake. Support island construction.
  - NPS: Least favorite is Nininger Slough channel.
  - UMWA: Support improvements to pool 2.
  - RIAC: Support the ID of the preferred alternative ASAP. Desire implementation by 2014 navigation season.

C) Next Steps/schedule:

- Analyze alternatives May/June 2012
- Environmental Review of alternatives begin April 2012
- Select a Preferred Alternative June 2012
  - Least Costly, Environmentally Acceptable
- Public meeting regarding preferred alternative summer 2012
- Finalize Report late summer/early fall 2012
- RRF Endorsement December 2012
- Secure funding; “Favorable” FY13 Budget
- Begin Plans & Specs Jan 2013
- Complete Plans & Specs spring 2013
- Award contract summer 2013
- Begin construction Summer/fall 2013

3. Call or email me if you have any questions at (651) 290-5866.

Paul Machajewski  
 Channel Maintenance Coordinator  
 St. Paul District – Corps of Engineers



4-9-12

LP2 CMS

INTER AGENCY MEETING # 2  
@ SCHWAN'S BEUFF

<u>NAME</u>	<u>ORGANIZATION</u>
PAUL MACHTEWSKI	USACE
PAUL KOSTERMAN	USACE
SCOTT GOODFELLOW	USACE
Judy Moder	MPCA
JEFF GROW	USACE
KEVIN BECK	USACE
Gerry Stenstadold	Friends of Pool 2
Laura Jester	Dakota Co. SWCD
LEE NELSON	Upper River Services
Greg Benz	Upper Miss. Waterway Assoc.
Tim Premicker	MNDNR - Wildlife
Kurt Chatfield	Dakota County
Nancy Duncan	NPS - MWRRA
Molly Shaden	
Tim Breniker	MNDNR
Melissa Dopralski	
BRIAD ZEKUS	USCGA
Phil Delphoy	USFWS
ARON McFARLANE	USACE

**From:** McFarlane, Aaron M MVP  
**To:** "[Stiras, Joel K \(DNR\)](#)"  
**Cc:** [Johnson, Gerald J \(DNR\)](#)  
**Subject:** Finalized Past Meeting notes and Plans for Winter Survey (UNCLASSIFIED)  
**Date:** Tuesday, October 30, 2012 12:41:00 PM  
**Attachments:** [LP2 Fisheries Meeting MDNR Notes 27Jul2012.pdf](#)

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Classification: UNCLASSIFIED  
Caveats: NONE

Hi Joel,

Just realized I forgot to finalize the memo from our July meeting and send it back to you. Sorry about that. At any rate, here is the finalized memo, with your comments added in and any responses that I owed you filled in.

Also, I wanted to let you know that we are still planning to do some surveys for overwintering catfish. The water temps are starting to drop below 50, and so I expect the flatheads are making their way to their overwintering locations right about now. We will probably try to go out late November or early December. We have an underwater camera that we plan to use. I'll be mapping out the hotspots to maximize our chances of success (mostly deeper areas, but especially any areas that I would expect to have lower flow or rockier substrate...).

Please let me know if you have any questions or comments, and I look forward to discussing catfish results with you relatively soon!

Aaron

-----Original Message-----

From: Stiras, Joel K (DNR) [<mailto:joel.stiras@state.mn.us>]  
Sent: Wednesday, August 01, 2012 4:25 PM  
To: McFarlane, Aaron M MVP  
Cc: Johnson, Gerald J (DNR)  
Subject: RE: Meeting Notes for July 30, 2012 (UNCLASSIFIED)

Don't know if you want to add anything in regards to more sediment contaminant testing to be performed...to include PFOS/PFOA? Also, that islands are likely off the table for mitigation and that the channel control structure modification option may impact flood levels and is likely off the table as an option.

Joel

-----Original Message-----

From: McFarlane, Aaron M MVP [<mailto:Aaron.M.McFarlane@usace.army.mil>]  
Sent: Monday, July 30, 2012 10:19 AM  
To: Stiras, Joel K (DNR); Johnson, Gerald J (DNR); Potter, David F MVP  
Subject: Meeting Notes for July 30, 2012 (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Hi guys,

Thanks for meeting with us and for hosting at your shop - it was good to get a dialogue going on the subject. Attached are my draft meeting notes. Let me know by Friday if you would like to modify or add anything, otherwise I will finalize them.

Thanks again, and good to meet you both!  
Aaron

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Aaron McFarlane  
Biologist  
St. Paul District, Corps of Engineers  
ph. 651-290-5660  
aaron.m.mcfarlane@usace.army.mil

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

## LP2 Channel Management – Boulanger Bend to Lock and Dam 2 Meeting Notes – 27 July 2012

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1. Meeting held at Minnesota DNR Central Regional Office, 9:00 a.m.
2. Purpose of the meeting was to discuss the proposed plan for fisheries evaluation.
3. Attendees: Joel Stiras, MDNR; Jerry Johnson, MDNR; David Potter, USACE; Aaron McFarlane, USACE.

Aaron discussed the general work that has been done for the study to date, including gathering bathymetry data, sediment sampling, mussel sampling, and the ongoing hydrologic model building.

Aaron discussed the fisheries-specific work that has been done to date, mainly the review of previously conducted nearby surveys. The most recent nearby survey - the Nelson Mine Expansion Survey found no Species of Greatest Conservation Need (SGCN). The 2006-2008 Minnesota DNR UMR Fish Assessment found six SGCN within Pool 2, although it is not clear in the data the Corps has currently available where exactly in the Pool those fish were found. Species noted were: American eel, shoal chub, blue sucker, black buffalo, river redhorse, and greater redhorse. Joel and Jerry expressed that they believed paddlefish to be present in the Pool as well.

Aaron discussed the initial assessment of general impacts from the Boulanger Bend cut alternative:

- Temporary dredging disturbance
- Change in habitat – Main channel become Side channel and vice-versa
- Habitats remain connected
- Likely benefit some species and detrimental to others in each area
- Overall, Boulanger channel appears to contain habitat very similar to main channel

Aaron discussed the proposed assessment strategy: Assimilate habitat data and categorize habitat types present in project area. Develop list of fish species most likely found in Pool 2 and associated with present habitat categories. Make predictions about the changes that would occur under project conditions, and categorize and compare those habitat types to the existing conditions. Because of concerns about flathead catfish by the DNR, we will also plan to conduct a targeted sampling event in the late Fall of 2012 (after water temps have dropped below 55F) to assess the potential for impacts to this species.

### **Comments, Concerns, and Questions that were voiced by the DNR during the meeting:**

The main channel may fill in due to lack of flow. **USACE response** – *some sedimentation will occur, but we would try to mitigate for that by maintaining some flow in that channel in order to maintain habitat and recreational access.*

There is a project in progress to open up the Grey Cloud channel, as well as the proposed levees to be built around the Nelson Mine Expansion Area. Could this additional flow alleviate current problem without requiring action? **USACE response:** *Based on hydraulic models, the Grey Cloud channel would convey approximately 4% of the river flow at that cross section of the river. This would cause a decrease in flow in the main channel, and could actually increase sedimentation rates in the main channel proportionally between the inflow and outflow of the Grey Cloud Channel. On the other hand, the proposed barrier islands/levees as part of the Nelson Mine Project would have the opposite effect, by concentrating approximately 1-2% more flow in the main channel. Overall, this would probably result in a minor increase in dredging requirements for this area. Just for comparison, Spring Lake currently receives approximately 25% of the river flow.*

It seems likely that paddlefish are present in Pool 2, even if they did not show up in the 2006-2008 survey. **USACE response** – *although we could conduct a sample for this species in particular, we feel that due to the difficulty of searching for a particular rare species, it would be more prudent for us to assume in our impact assessment that paddlefish may occasionally utilize this area, and present potential impacts in our NEPA documentation accordingly.*

Aaron said he would look for historic aerial photos of the area and send them to Joel and Jerry. – **Photos were emailed, and are attached below for reference.**

Joel has been conducting a catfish tagging study, and offered to send the preliminary data to be included in the USACE analysis. – **report and data received by USACE 7/31 and 8/2.**

The WEST model was cited as showing that Spring Lake would fill in heavily. *Aaron mentioned that he thought this was a model anomaly, but promised to provide a better explanation from our H&H staff. ....* **(Update 30 Oct 2012:** *Via H&H staff: "Spring Lake and [the] inlet channels are only very roughly modeled. It is not very detailed because it was not an original focus of the study. The modeling indicates splotchy increases in deposition in areas in Spring Lake and outside of Spring Lake that don't entirely make sense or who's magnitude is much greater than would seem reasonable." In addition, Under the Boulanger Channel Alternative, the Corps is now investigating potential modifications to the flows of Spring Lake to minimize interference with the Boulanger Channel. Further details will be coordinated with the DNR as information is developed.)*

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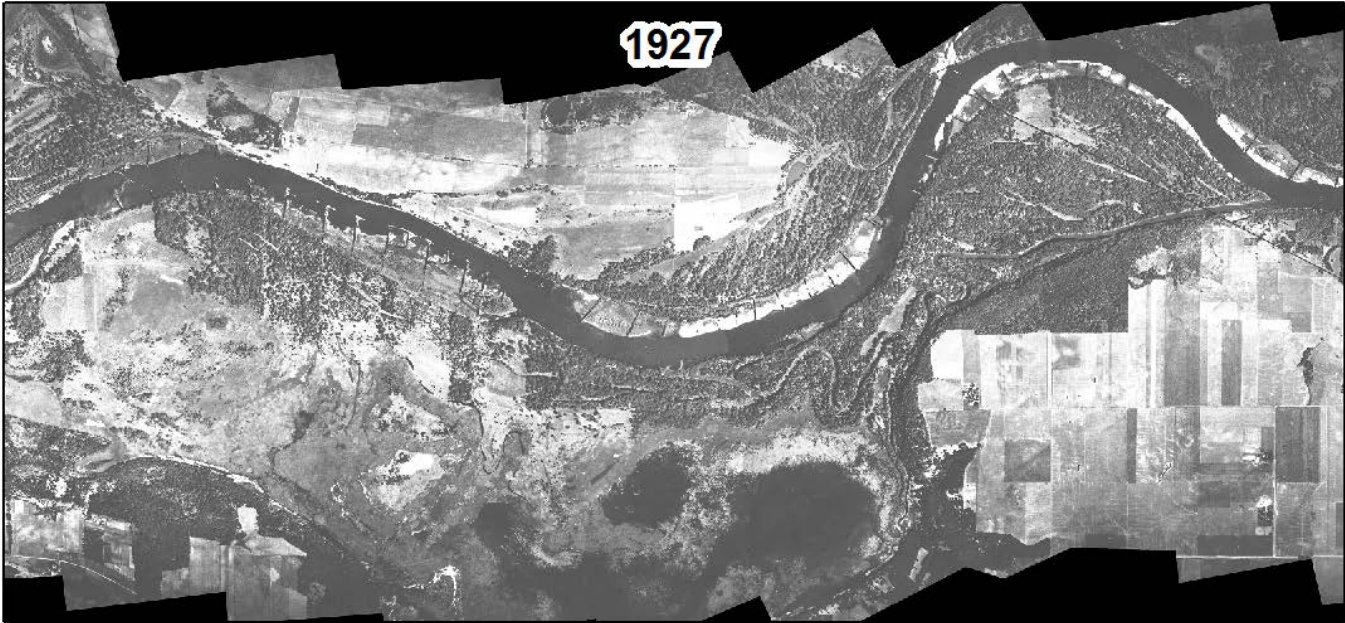
Aaron asked if Joel and Jerry were supportive of the overall fisheries analysis plan as presented, which Joel and Jerry responded positively. The USACE will continue to provide updates on the analysis for comment.

**Update 1 August 2012** – Joel Stiras emailed these points to add to the memo:

- Clarification that more sediment testing will be performed, and is in progress.

- Islands are unlikely candidates for mitigation, due to potential for flood stage increases and the extensive study time required.
- The channel control structure modification is also likely to affect flood stages, and therefore an unlikely alternative.

Aaron McFarlane  
Biologist  
30 July, 2012  
*Finalized 30 Oct, 2012*



**From:** [Machajewski, Paul R MVP](#)  
**To:** ["Chatfield, Kurt"](#); [Stwora, Erin](#); ["Phil\\_delphey@fws.gov"](#); ["john\\_anfinson@nps.gov"](#); ["molly.shodeen@state.mn.us"](#); ["melissa.doperalski@state.mn.us"](#); ["joel.stiras@state.mn.us"](#); [Nelson, Lee MVS External Stakeholder](#); [Genz, Greg MVS External Stakeholder](#); ["Emily.Schnick@state.mn.us"](#); [Kosterman, Paul R MVP](#); [Kimmel, Zachary MVP](#); [McFarlane, Aaron M MVP](#); [Goodfellow, Scott M MVP](#); [Perkl, Bradley E MVP](#); [Johnson, Gerald J \(DNR\)](#); [jim.larsen@metc.state.mn.us](#)  
**Cc:** ["Arthur.B.Ford@uscg.mil"](#); ["Brian.S.Zekus@uscg.mil"](#); ["MDOT - Dick Lambert"](#); ["Wayne.sandberg@co.washington.mn.us"](#); ["brad.peek@nngco.com"](#); ["tim.leach@metc.state.mn.us"](#); [Coder, Justin S USCG](#); ["Nay, John MSSD4"](#); ["paul\\_labovitz@nps.gov"](#); [Opatz, Leon P MVP](#); [Noren, James B MVP](#); [Nelson, Kevin S MVP](#); [McGrath, Jeffrey L MVP](#); [Tschida, David M MVP](#); [McClary, Shaun P MVP](#); [Clark, Steven J MVP](#); ["corey.hanson@state.mn.us"](#); ["Henry.A.Myers@uscg.mil"](#); ["Nancy\\_duncan@nps.gov"](#); ["Randall.Doneen@state.mn.us"](#); ["Jill.Townley@state.mn.us"](#); ["Jiwani, Suzanne \(DNR\)"](#); [Jester, Laura](#); [westlake.kenneth@epa.gov](#); [jim.brist@state.mn.us](#)  
**Subject:** RE: Lower Pool 2 Channel Management Study - Boulanger Bend to Lock & Dam No. 2 Initial Alternative Recommendation (UNCLASSIFIED)  
**Date:** Monday, March 04, 2013 12:50:32 PM  
**Attachments:** [Pool 2 Channel Management Study - Initial Alternative Partner Meeting - 28 Feb 2013 - Combined.pdf](#)

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Classification: UNCLASSIFIED  
Caveats: NONE

All -

To those in the "To..." line, attached is the presentation that Aaron and I went through at last week's meeting at Schaar's Bluff. As discussed, our current schedule is as follows:

2/28/13: Partner meeting to discuss COE Initial Alternative Recommendation.  
Mid-March: Detailed Preliminary DPR incorporating comments/areas of concern identified at 2/28 meeting.  
Mid-April: Draft DPR.  
June 2013: Public meeting(s).  
July 2013: Final DPR/EA/FONSI.

Those in the "Cc..." line, presentation FYI.

Call or email me if you have any questions.

Thanks again to all who were able to attend and provide input (and to Kurt for arranging the use of the beautiful Schaar's Bluff facility).

Paul Machajewski  
Channel Maintenance Coordinator  
St. Paul District, US Army Corps of Engineers  
651.290.5866 (o)  
651.724.4259 (c)

-----Original Message-----

From: Kosterman, Paul R MVP  
Sent: Friday, February 15, 2013 5:27 PM  
To: Kosterman, Paul R MVP; 'Chatfield, Kurt'; 'Arthur.B.Ford@uscg.mil'; 'Brian.S.Zekus@uscg.mil'; 'Phil\_delphey@fws.gov'; 'john\_anfinson@nps.gov'; 'melissa.doperalski@state.mn.us'; 'MDOT - Dick Lambert'; 'Vanderpoel, Jane'; 'Wayne.sandberg@co.washington.mn.us'; Nelson, Lee MVS External Stakeholder; Genz, Greg MVS External Stakeholder; 'brad.peek@nngco.com'; 'tim.leach@metc.state.mn.us'; Coder, Justin S USCG; 'Nay, John MSSD4'; 'paul\_labovitz@nps.gov'; 'molly.shodeen@state.mn.us'; Kimmel, Zachary MVP; McFarlane, Aaron M MVP; Goodfellow, Scott M MVP; Opatz, Leon P MVP; Noren, James B MVP; Nelson, Kevin S MVP; McGrath, Jeffrey L MVP; Tschida,



David M MVP; 'Emily.Schnick@state.mn.us'; McClary, Shaun P MVP; Clark, Steven J MVP; Perkl, Bradley E MVP; Tapp, Steven D MVP; 'corey.hanson@state.mn.us'; 'Henry.A.Myers@uscg.mil'; 'Nancy\_duncan@nps.gov'; 'joel.stiras@state.mn.us'; 'Randall.Doneen@state.mn.us'; 'Jill.Townley@state.mn.us'; 'Jiwani, Suzanne (DNR)'; Machajewski, Paul R MVP; Johnson, Gerald J (DNR)  
Subject: RE: Lower Pool 2 Channel Management Study - Boulanger Bend to Lock & Dam No. 2 Initial Alternative Recommendation (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Our meeting location will be Schaar's Bluff Gathering Center.

Directions can be found at

<http://www.co.dakota.mn.us/parks/parksTrails/SpringLake/Pages/schaars-bluff-trailhead-map.aspx>

PK  
651.290.5526

-----Original Message-----

From: Kosterman, Paul R MVP  
Sent: Wednesday, February 13, 2013 10:37 AM  
To: Kosterman, Paul R MVP; 'Chatfield, Kurt'; 'Arthur.B.Ford@uscg.mil'; 'Brian.S.Zekus@uscg.mil'; 'Phil\_delphey@fws.gov'; 'john\_anfinson@nps.gov'; 'melissa.doperalski@state.mn.us'; 'MDOT - Dick Lambert'; 'Vanderpoel, Jane'; 'Wayne.sandberg@co.washington.mn.us'; Nelson, Lee MVS External Stakeholder; Genz, Greg MVS External Stakeholder; 'brad.peek@nngco.com'; 'tim.leach@metc.state.mn.us'; Coder, Justin S USCG; 'Nay, John MSSD4'; 'paul\_labovitz@nps.gov'; 'molly.shodeen@state.mn.us'; Kimmel, Zachary MVP; McFarlane, Aaron M MVP; Goodfellow, Scott M MVP; Opatz, Leon P MVP; Noren, James B MVP; Nelson, Kevin S MVP; McGrath, Jeffrey L MVP; Tschida, David M MVP; 'Emily.Schnick@state.mn.us'; McClary, Shaun P MVP; Clark, Steven J MVP; Perkl, Bradley E MVP; Tapp, Steven D MVP; 'corey.hanson@state.mn.us'; 'Henry.A.Myers@uscg.mil'; 'Nancy\_duncan@nps.gov'; 'joel.stiras@state.mn.us'; 'Randall.Doneen@state.mn.us'; 'Jill.Townley@state.mn.us'; 'Jiwani, Suzanne (DNR)'; Machajewski, Paul R MVP  
Subject: RE: Lower Pool 2 Channel Management Study - Boulanger Bend to Lock & Dam No. 2 Initial Alternative Recommendation (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Folks,

Our meeting is scheduled for Feb 28 at 1:00 pm. Meeting location to be determined.

Thanks for participating.

PK  
651.290.5526

-----Original Message-----

From: Kosterman, Paul R MVP  
Sent: Monday, February 11, 2013 10:52 AM  
To: 'Chatfield, Kurt'; 'Arthur.B.Ford@uscg.mil'; 'Brian.S.Zekus@uscg.mil'; 'Phil\_delphey@fws.gov'; 'john\_anfinson@nps.gov'; 'melissa.doperalski@state.mn.us'; 'MDOT - Dick Lambert'; Vanderpoel, Jane; Wayne.sandberg@co.washington.mn.us; Nelson, Lee MVS External Stakeholder; Genz, Greg MVS

External Stakeholder; 'brad.peek@nngco.com'; 'tim.leach@metc.state.mn.us'; Coder, Justin S USCG; 'Nay, John MSSD4'; 'paul\_labovitz@nps.gov'; 'molly.shodeen@state.mn.us'; Kimmel, Zachary MVP; McFarlane, Aaron M MVP; Goodfellow, Scott M MVP; Opatz, Leon P MVP; Noren, James B MVP; Nelson, Kevin S MVP; McGrath, Jeffrey L MVP; Tschida, David M MVP; 'Emily.Schnick@state.mn.us'; McClary, Shaun P MVP; Clark, Steven J MVP; Perkl, Bradley E MVP; Tapp, Steven D MVP; 'corey.hanson@state.mn.us'; Henry.A.Myers@uscg.mil; Nancy\_duncan@nps.gov; joel.stiras@state.mn.us; Randall.Doneen@state.mn.us; Jill.Townley@state.mn.us; Jiwani, Suzanne (DNR)  
Subject: RE: Lower Pool 2 Channel Management Study - Boulanger Bend to Lock & Dam No. 2 Initial Alternative Recommendation (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Folks,

USACE's initial recommendation summary is attached.

If you wish to attend the upcoming meeting, please visit the Doodle survey link below. The meeting date and time will be identified soon.

PK  
651.290.5526

-----Original Message-----

From: Kosterman, Paul R MVP  
Sent: Thursday, February 07, 2013 3:14 PM  
To: Chatfield, Kurt; Arthur.B.Ford@uscg.mil; Brian.S.Zekus@uscg.mil; Phil\_delphey@fws.gov; john\_anfinson@nps.gov; melissa.doperalski@state.mn.us; MDOT - Dick Lambert; Nelson, Lee MVS External Stakeholder; Genz, Greg MVS External Stakeholder; brad.peek@nngco.com; tim.leach@metc.state.mn.us; Coder, Justin S USCG; Nay, John MSSD4; paul\_labovitz@nps.gov; molly.shodeen@state.mn.us; Kimmel, Zachary MVP; McFarlane, Aaron M MVP; Goodfellow, Scott M MVP; Opatz, Leon P MVP; Noren, James B MVP; Nelson, Kevin S MVP; McGrath, Jeffrey L MVP; Tschida, David M MVP; Emily.Schnick@state.mn.us; McClary, Shaun P MVP; Clark, Steven J MVP; Perkl, Bradley E MVP; Tapp, Steven D MVP; corey.hanson@state.mn.us  
Subject: Lower Pool 2 Channel Management Study - Boulanger Bend to Lock & Dam No. 2 Initial Alternative Recommendation

You are invited to the Doodle poll "Lower Pool 2 Channel Management Study - Boulanger Bend to Lock & Dam No. 2 Initial Alternative Recommendation".

The purpose of this meeting is to discuss the soon to be furnished USACE recommendation, respond to stakeholder's questions, identify concerns and manage expectations for upcoming activities.

If you are interested in attending, please follow the link to participate in the.

<http://doodle.com/f7pev942ym9y4u29>

Please select all dates/times that you are available. A meeting time will be selected to support broad participation. The location will be either Schaar's Bluff or the St. Paul District office.

Also - the current edition of project POCs is attached. Please respond with any revisions.

Paul Kosterman, PE  
Project Manager  
USACE - St. Paul District  
651.290.5526

**From:** [Kosterman, Paul R MVP](#)  
**To:** [Kosterman, Paul R MVP](#); ["Chatfield, Kurt"](#); ["Arthur.B.Ford@uscg.mil"](#); ["Brian.S.Zekus@uscg.mil"](#); ["Phil\\_delphey@fws.gov"](#); ["John\\_anfinson@nps.gov"](#); ["melissa.doperalski@state.mn.us"](#); ["MDOT - Dick Lambert"](#); ["Vanderpoel, Jane"](#); ["Wayne.sandberg@co.washington.mn.us"](#); [Nelson, Lee MVS External Stakeholder](#); [Genz, Greg MVS External Stakeholder](#); ["brad.peek@nngco.com"](#); ["tim.leach@metc.state.mn.us"](#); [Coder, Justin S USCG](#); ["Nay, John MSSD4"](#); ["paul\\_labovitz@nps.gov"](#); ["molly.shodeen@state.mn.us"](#); [Kimmel, Zachary MVP](#); [McFarlane, Aaron M MVP](#); [Goodfellow, Scott M MVP](#); [Opatz, Leon P MVP](#); [Noren, James B MVP](#); [Nelson, Kevin S MVP](#); [McGrath, Jeffrey L MVP](#); [Tschida, David M MVP](#); ["Emily.Schnick@state.mn.us"](#); [McClary, Shaun P MVP](#); [Clark, Steven J MVP](#); [Perki, Bradley E MVP](#); [Tapp, Steven D MVP](#); ["corey.hanson@state.mn.us"](#); ["Henry.A.Myers@uscg.mil"](#); ["Nancy\\_duncan@nps.gov"](#); ["joel.stiras@state.mn.us"](#); ["Randall.Doneen@state.mn.us"](#); ["Jill.Townley@state.mn.us"](#); ["Jiwani, Suzanne \(DNR\)"](#); [Machajewski, Paul R MVP](#); ["Johnson, Gerald J \(DNR\)"](#)  
**Subject:** RE: Lower Pool 2 Channel Maintenance Study (UNCLASSIFIED)  
**Date:** Tuesday, April 23, 2013 12:08:19 PM  
**Attachments:** [LP2 cms PRELIMINARY DRAFT report+appendices.pdf](#)

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Classification: UNCLASSIFIED  
Caveats: NONE

Folks,

The report's 'preliminary' edition is attached. It is provided to encourage comments which need not wait until the formal review of the draft edition.

We anticipate meeting in one month to discuss significant comments. Please provide your comments to me by May 14th - indicating those you believe need to be discussed at the review meeting. While all your comments are welcome - we don't anticipate providing written responses - but will rather incorporate changes into the draft edition.

We will continue working on it in the meantime and hope to distribute the draft edition not long after our upcoming review meeting.

Regards,

PK  
651.290.5526

-----Original Message-----

**From:** Kosterman, Paul R MVP  
**Sent:** Thursday, April 11, 2013 3:12 PM  
**To:** 'Chatfield, Kurt'; 'Arthur.B.Ford@uscg.mil'; 'Brian.S.Zekus@uscg.mil'; 'Phil\_delphey@fws.gov'; 'John\_anfinson@nps.gov'; 'melissa.doperalski@state.mn.us'; 'MDOT - Dick Lambert'; 'Vanderpoel, Jane'; 'Wayne.sandberg@co.washington.mn.us'; Nelson, Lee MVS External Stakeholder; Genz, Greg MVS External Stakeholder; 'brad.peek@nngco.com'; 'tim.leach@metc.state.mn.us'; Coder, Justin S USCG; 'Nay, John MSSD4'; 'paul\_labovitz@nps.gov'; 'molly.shodeen@state.mn.us'; Kimmel, Zachary MVP; McFarlane, Aaron M MVP; Goodfellow, Scott M MVP; Opatz, Leon P MVP; Noren, James B MVP; Nelson, Kevin S MVP; McGrath, Jeffrey L MVP; Tschida, David M MVP; 'Emily.Schnick@state.mn.us'; McClary, Shaun P MVP; Clark, Steven J MVP; Perki, Bradley E MVP; Tapp, Steven D MVP; 'corey.hanson@state.mn.us'; 'Henry.A.Myers@uscg.mil'; 'Nancy\_duncan@nps.gov'; 'joel.stiras@state.mn.us'; 'Randall.Doneen@state.mn.us'; 'Jill.Townley@state.mn.us'; 'Jiwani, Suzanne (DNR)'; Machajewski, Paul R MVP; Johnson, Gerald J (DNR)  
**Subject:** Lower Pool 2 Channel Maintenance Study (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Folks,

An update on the progress of subject activity.

We anticipate providing you the preliminary edition report by April 19. I'm coordinating the review schedule with Melissa and will share that when the report is distributed next week.

Thank you for your patience.

Paul Kosterman, PE  
Project Manager  
USACE - St. Paul District  
651.290.5526

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

## USFWS Comments – May 14, 2013

### Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2

#### General Comments

In the draft channel management study the Corps describes locations downstream of the project where sedimentation may increase as a result of the proposed activities (p. 54). In the subsequent section where effects to native mussels are addressed (p. 59), however, it does not discuss whether increased

A-1 → sedimentation may affect federally listed mussels that occur in some affected areas. The next draft of the study should address this issue. For example, describe any locations where increases in sedimentation are

A-2 → likely to occur that are inhabited by federally-listed mussels. This may include Wisconsin Channel where Higgins eye (*Lampsilis higginsii*) has been reintroduced and where increases in sedimentation are apparently anticipated as a result of the project (p. 54 of draft channel management study and p. 51 of Preliminary Hydraulic Appendix).

A-3 → The Corps estimates the proportional increase in sediment deposition that is likely to occur in Lake Pepin as a result of the project, but seems to make no attempt to describe the nature of those impacts on important ecological attributes, such as submerged aquatic vegetation. Regardless of how precisely these impacts may be described, the study should at least describe the character of these impacts – e.g., is the anticipated increase in sedimentation more likely to have a negative or positive effect on submerged aquatic vegetation.

The Minnesota Department of Natural Resources mussel survey report attached to the draft study refers to the discovery of a live Higgins eye near the proposed project location and states that “it could be affected by changes in flow and sediment transport associated with the project’s hydraulic engineering features.”

A-4 → Based on the draft channel management study, it seems clear that this is not the current conclusion of the Corps. This contradiction should be addressed directly in the appropriate section(s) of the channel management study.

#### Specific Comments

p. 20-21 – “The winged mapleleaf historically occurred in the Mississippi River, but the only Affected Environment 21 current extant population known within the Mississippi River System is in a 20- kilometer reach of the St. Croix River.” Note that a small number (9) of propagated winged mapleleaf were released

A-5 → into upper Pool 2 in 2012.

p. 33-34 – “Any macroinvertebrates within the footprint of the rock placement, such as 34 Lower Pool 2 Channel Management Study freshwater mussels, would be killed.” Please clarify that it may be warranted

A-6 → to relocate mussels out of impact area if a dense and diverse mussel bed would be significantly and adversely affected.

p. 35 – “Some state-listed endangered species have been found within the project footprint, but these species, although rare in Minnesota as a whole, are very prevalent throughout Pool 2.” Please provide a

A-7 → map that depicts locations where state listed species are likely present in Pool 2 to allow the reader to

- A-7** → better understand the actual distribution of these species. If data use restrictions prevent depicting the precise locations of species by name, it may be acceptable to mask the species' identities by referring to them as State-Listed Species 1, State-Listed Species 2, etc.
- p. 41 – “According to initial surveys, no federally endangered mussels are known to exist at the project location, but additional verification is needed for indirectly affected locations.” Please describe precisely
- A-8** → where the areas are that would need “additional verification.
- p. 41 – “Some state-listed endangered species have been found within the project footprint, but these species, although rare in Minnesota as a whole, are very prevalent throughout Pool 2.” Please provide a
- A-9** → map that depicts locations where state listed species are likely present in Pool 2 to allow the reader to better understand the actual distribution of these species.
- p. 41 – “Some positive environmental impacts would also be expected to occur from this alternative. The total acres of side channel habitat would be increased, while the main channel habitat would be decreased.” Please describe – as precisely as possible – the net change in side channel habitat or – if
- A-10** → appropriate – state that you are uncertain about the amount of this increase in side channel habitat. Please also be clear, at some point in the document, what constitutes side channel habitat.
- p. 48 – “The central 60 feet of the island would be covered with a layer of topsoil.” Please clarify what
- A-11** → type of vegetation will be allowed to develop on this island.
- p. 60 – “Overall, any macroinvertebrates living in the areas within the footprint of the project features (the dredge cuts, island construction, or rock placement) would be directly impacted. Those within the dredge cuts would be removed from the substrate and placed on land by the dredging process, and those within the island or rock footprints would be buried.” It does not appear that much of the area to be directly
- A-12** → affected by the sand island has been surveyed for mussels. The study needs to address this and determine where or not there is a reasonable likelihood for this area to contain any significant mussel beds that may include any federally listed species. If there is habitat or other information that was used to determine that a mussel survey in this area was not warranted, that information should be provided in future drafts of the channel management study and other environmental review documents developed for this project.
- p. 61 – “The winged mapleleaf and the spectaclecase are known to exist in the St. Croix River, but not in Pool 2 of the Mississippi River.” See comment above – nine winged mapleleaf were released into upper
- A-13** → Pool 2 in 2012.

# Minnesota Department of Natural Resources

Division of Ecological and Water Resources  
1200 Warner Road  
St. Paul, MN 55106  
651-259-5738



May 17, 2013

Transmitted Via E-mail

Paul Kosterman, PE  
Project Manager  
USACE – St. Paul District  
651.290.5526  
[Pual.r.kosterman@usace.army.mil](mailto:Pual.r.kosterman@usace.army.mil)

RE: Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2  
Preliminary Draft Environmental Assessment

Dear Mr. Kosterman:

The Department of Natural Resources (DNR) has completed a technical review of the Preliminary Draft Environmental Assessment (Draft EA) for the Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2. As part of the review process, DNR technical staff met internally and has also met with Minnesota Pollution Control (MPCA) representatives to discuss the proposed project. The DNR acknowledges that the U.S. Army USACE of Engineers' (USACE) has specifically requested feedback as it pertains to items of concern that may require additional coordination. The following comments primarily focus on items of concern that may require additional coordination. Included in these items are those items that MPCA has identified.

### Summary of items:

The purpose of environmental review is to provide an accurate and thorough description of a proposed project and to provide appropriate avoidance and mitigation measures to address any impacts that may result from proposed actions. The following provides a summary of items that require further information (read further for more discussion):

- Whether a comment letter from the State Historical and Preservation Organization has been requested or received
- Receipt of an additional opinion/interpretation from the DNR's review of the Natural Heritage Information System
- Up-front loading of requirements for the approval of the public waters permit, such as options for avoidance, minimization and mitigation in regards to fisheries, mussels, state-listed threatened and endangered species, recreation, and wildlife enhancement and monitoring of the abandoned channel; and possibly others

- Dredge material placement
- Best Management Practices
- Mussel surveys – further discussion on need or applicability of previous surveys on newly proposed project features
- Wetlands discussion on survey methodologies, including who completed the survey (certified wetland delineator), the potential for wetlands to exist (near islands?) and mitigation if necessary
- Discussion of impacts outside of direct project area (changes in flow and increased sediment transport)

**Discussion of items:**

**DNR State Environmental Review and Permitting process**

The DNR as Responsible Governmental Unit (RGU) for state environmental review intends to use the federally prepared EA as the state EAW; however the EA would need to meet EAW content requirements for this to occur. **As presented, the EA document provides an inadequate description of disposal options for the dredge materials, opportunities for mitigation, and a lack of discussion on cumulative effects; therefore, materials presented to the DNR thus far would be incomplete for the EAW.** Within the next two weeks, the DNR will specify additional information that is needed for state purposes. It is requested that the USACE provide the DNR an updated schedule of completion for the environmental review process. This would allow the DNR to begin the process of synchronizing its State process with the USACE schedule. It would be beneficial that the USACE update the Environmental Review Unit on a weekly or bi-weekly basis on the progress and deadlines, so that our schedule can be adjusted accordingly. Once the data submittal is deemed complete, the DNR has 30 days to publish the EAW in the EQB monitor. The EQB requires a completed copy for review one-week prior to being published in the EQB monitor. It is our understanding that an additional Agency Review would be provided once a more complete document is completed.

**B-1** →

The DNR requires a Work in Public Waters Permit for proposed activities. As the proposed project triggers a mandatory category for a state environmental assessment worksheet (EAW), a Work in Public Waters Permit cannot be issued until the state environmental review process is deemed complete; however, an application can be submitted prior to completion of environmental review. Up-front loading of permit requirements in the EA/EAW should streamline the permit application process. Please note that completion of an EAW does not guarantee that a permit will be granted. The Work in Public Waters Permit is also subject to a review process. Additional materials can be requested through the application process that are not included with the environmental review documents.

**Description of Project Area**

**B-2** →

**The project area is not clearly defined and appears to focus on the Boulanger Slough channel that will be excavated. The proposed project area should include all areas of direct impact as well as areas that are likely to be affected by the projects activities.** This includes the abandoned main channel and any areas that are likely to be altered or affected by changes in flow and sediment deposition and/or transport. Completed



B-3 → studies and references for potential effects may need to be re-evaluated if these areas were not included or considered earlier. The Preliminary Draft EA also does not provide a clear discussion on avoidance and mitigation measures.

### **Constructed Islands (berm)/structures and Abandoned Main Channel**

The proposed project includes the excavation of the Boulanger Slough channel and the construction of islands from the head of the new channel north to Freeborn Island, wing dams, groins rock spurs and rock sills to divert water flow from the abandoned main channel to the new channel. The inclusion of islands, rock sills and rock spurs are “newer” feature concepts that haven’t been fully evaluated before the sharing of this document and presents some concern and questions.

B-4 → It is unknown if the excavated material is planned to be used to create the islands and other structures identified. This should be discussed in more detail and would need to be included in the State EAW.

B-5 → These islands are presented in multiple somewhat contradictory ways throughout the report. Page 48 states that “in addition to channel excavation, this alternative requires construction of islands...” while page 52 states that “features were designed with recreational users in mind...The large island that would be constructed has significant potential for recreations use.” The islands are also described as providing habitat values. If the structures are required to divert water/flow from the abandoned channel to the proposed channel, then that is their purpose. The secondary benefits of improved recreational opportunities and habitat quality may be accurate but discussion of these benefits is lacking. More detail should be provided to quantify these benefits, especially if the USACE considers these secondary benefits as mitigation which is unclear. Early discussions between the USACE and stakeholders included a conceptual habitat island that would have been proposed as a mitigation option for the proposed project. Discussions at that time brought up unique issues for Pool 2 that include private land ownership, turbidity, flow and wind fetch. From a natural resource perspective wind fetch, flow and turbidity should be considered when determining the habitat value or habitat value potential of any given structure or island. Placement of these features has been designed as a primary response to divert water flow and may not result in desired habitat or vegetative responses for the other reasons mentioned.

B-6 → The DNR is concerned for the stability of the features, specifically the islands. Will the islands be maintained and monitored by the USACE to ensure that their intended function is maintained? This discussion would also go towards discussions on the presumed habitat and recreational use and value for the islands.

Note that *Minnesota Rules, parts 6115.0190 and 6115.0191* provide the criteria for DNR’s review of permit applications for placing fill within public waters. Fill is defined in *Minnesota Rules, Chapter 6115.0170 Subp. 11* as “...any material placed or intended to be placed on the bed or bank of any public water.” At River Mile 820.3, the OHW

B-7 → elevation is considered to be 689.5 feet. The crest of the island is proposed to be at an elevation of 688.8 feet. If a change in engineering occurs, elevations should be taken into consideration as it may affect the DNR permit-ability of the project.

## Mussels

The previous surveys performed in 2011 and 2012 focused efforts on the proposed Boulanger channel, current main channel (portion included in project study), and the Ninger Slough alternative channel. The Boulanger channel alternative (preferred alternative) includes water diversion structures that appear to be located outside of the previously surveyed areas. The DNR has concern for the areas that have not been surveyed that will be affected by proposed actions. It may be necessary to complete additional surveys in those areas to assess the mussel populations that will be affected in those areas and to determine if there are State-listed species that will be impacted.

B-8 →

There is an assumption that the abandoned main channel will become a good mussel and fish habitat - "The 80 acres within and around the abandoned main channel would provide a more stable substrate and reduced current velocities compared to current conditions, which is likely to provide good habitat for mussels." This may be a potential for an improved habitat outcome but, monitoring would have to be included as part of this projects mitigation to help make that determination and to also determine if the existing mussel community near the Spring Lake outlet is still present. The discussion on mussel mitigation would need to be further evaluated and discussed.

B-9 →

B-10 →

The Preliminary Draft EA includes the statement "Some state-listed endangered species have been found within the project footprint, but these species, although rare in Minnesota as a whole, are very prevalent throughout Pool 2". This statement requires further discussion. It is recommended that the USACE include a map that depicts locations where state-listed species are likely present in Pool 2 that includes numbers of individuals and distribution. This would allow the reviewer to understand the actual distribution of these species within the Pool.

The DNR will be providing a separate document related to how the taking of state-listed species should be addressed.

Other comments regarding mussels:

B-11 →

- The placeholder for state-listed species needs to be completed under Section 2.2.2 Aquatic Habitat.
- P. 61: The document states "Although rare throughout the state, the State-endangered wartyback and rock pocketbook have healthy populations in Pool 2 and no long-term adverse impacts to their populations in the pool would be anticipated due to this project." This statement reflects confusion between the federal vs. state

B-12 →

Endangered Species Acts (ESA). The federal ESA evaluates federal actions in terms of "adverse impact", while the State ESA has no such evaluation, but prohibits any taking regardless of impact to the population. Including this statement implies justification for taking state-protected species, which isn't appropriate.

## Wetlands

B-13 →

More information should be included regarding the evaluation of potential wetland areas that was completed for the project. If there are areas that may be impacted by proposed activities that may potentially be considered wetlands (such as areas near Freeborn

**B-13** → Island), these areas should be included in the discussion and it would seem premature to make the statement that no wetland impacts would occur from the proposed project.

The Preliminary Draft EA includes the following statements “Project construction would have substantial beneficial effects on wetlands and aquatic habitat. The islands created by the project would have a sheltering effect that would substantially reduce the wind and wave action in the aquatic area around them....Due to the increase in habitat....suitable habitat for waterfowl and migratory birds would be expected to increase.” Please refer to the above comments on habitat value under the **Constructed Islands/structures and Abandoned Main Channel** heading.

### **Fisheries**

The DNR provided early feedback on recommended survey methods for flathead catfish. Earlier communications identified large mesh gill nets as the best method as they would not only provide a method to survey for overwintering flathead catfish but, would have also surveyed for paddlefish (a state-listed threatened species) which may also be found in the project area. The document does not address the potential for paddlefish. Underwater camera surveys were performed and survey information was provided with the Preliminary Draft EA. The DNR maintains that surveys should have been completed that included large-mesh gill nets in order to fully assess the use of and value of these areas for overwintering flathead catfish and although useful, underwater camera surveys do not provide definitive information to make potential impact determinations. **The**

**B-14** → Preliminary Draft EA does not include a discussion on paddlefish.

### **Sediment and Channel Stability**

In general, when you reduce the stream channel length, you risk inducing a headcut upstream and incision downstream of the new shorter channel. The inclusions of groins/barbs/dams would not reduce this risk as they don't provide grade control. Given that this site is located just upstream of Lock and Dam 2, the channel is already considered unstable due to sediment aggradation above the structure and the channel's response to the change in slope. **It is unclear if the modeling completed on sediment transport may not have included the additional sediment produced from a headcut so it is possible that the amount of sediment that will be transported downstream is underestimated.**

**B-15** →

**Another possible outcome could be the change in flow – channel dynamics – downstream of the site. This could result in the channel to meander outside of the existing channel downstream of the Boulanger channel.**

Thank you for the opportunity to review the Preliminary Draft EA. If you have any questions about these comments, please call me by phone at 651-259-5738, or by e-mail at [melissa.doperalski@state.mn.us](mailto:melissa.doperalski@state.mn.us).

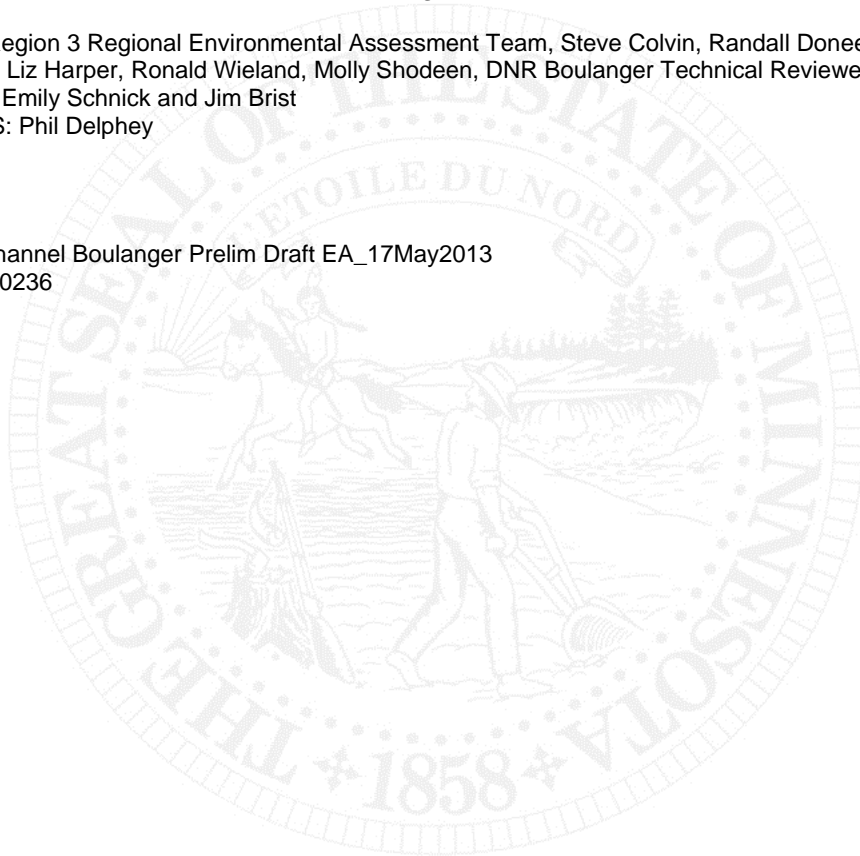
Sincerely,



Melissa Doperalski  
Regional Environmental Assessment Ecologist

CC: DNR: Region 3 Regional Environmental Assessment Team, Steve Colvin, Randall Doneen, Julie Ekman, Liz Harper, Ronald Wieland, Molly Shodeen, DNR Boulanger Technical Reviewers  
MPCA: Emily Schnick and Jim Brist  
USFWS: Phil Delphey

Pool 2 NavChannel Boulanger Prelim Draft EA\_17May2013  
ERDB# 20120236





Physical Development Division

July 3, 2013, 2013

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Office of Planning

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*Fleet Management*  
*Parks*

Transportation  
*Highways*  
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Paul Kosterman, PE  
Project Manager  
U.S. Army Corps of Engineers  
St. Paul District  
180 5<sup>th</sup> Street E., Suite 700  
St. Paul, MN 55101

Mr. Kosterman,

Thank you for the opportunity to review the preliminary draft project report and integrated environmental assessment for the Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2.

Dakota County staff have the following comments:

Based on the preliminary draft environmental assessment, it is understood that dredge materials removed from the new channel location may be contaminated. As such, the County recommends that they be sampled, analyzed, and disposed of properly, in accordance with regulations. It is requested that the environmental assessment define the procedures that will be used so that contaminants will not be released into the river and re-suspended during the dredging of the new channel.

C-1

There are many important archeological sites in this immediate vicinity. Extra caution should be taken to limit disturbance to these sites, many of which are now inundated by Pool 2. Finally, the new channel as proposed is very close to the shoreline of Spring Lake Regional Park Reserve and is a concern that river traffic may accelerate erosion of the shoreline. Dakota County staff suggest the environmental assessment include an evaluation of this issue, and if necessary, recommend moving the navigation channel further north away from the shoreline to reduce erosion.

C-2

C-3

Dakota County staff would also like to suggest that the Corps of Engineers consider mitigation measures that would improve the quality of the Mississippi River, Spring Lake, and Spring Lake Regional Park as part of this project. Staff believe that a partial pool drawdown may dramatically improve the quality of the natural environment. Similarly, newly created islands may reduce wind fetch, improve water quality, and provide wildlife habitat. Dakota County has adopted a master plan for Spring Lake Park Reserve, and is positioned to work in partnership with the Corps of Engineers to mitigate impacts through a combination of environmental and recreational projects.

C-4

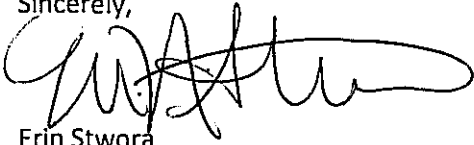
Page 2

Paul Kosterman, PE

July 3, 2013

Thank you again for the opportunity to review this preliminary draft document. We look forward to reviewing the final draft document and encourage the Corp of Engineers to engage County residents in the process, particularly those that live along the river nearest this proposed project. Please let us know if there is anything that the County can do to help facilitate the upcoming public review process.

Sincerely,

A handwritten signature in black ink, appearing to read 'Erin Stwora', written over a horizontal line.

Erin Stwora

Assistant Division Director

Dakota County

Physical Development Division

C: Commissioner Mike Slavik, District 1  
Brandt Richardson, County Administrator  
Kurt Chatfield, Senior Planner

# Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-40\_\_



Transmitted Via E-mail

June 17, 2013

Mr. Aaron McFarlane  
St. Paul District, U.S. Army Corps of Engineers  
CEMVP-PD-E, 180 Fifth Street East, Suite 700  
St. Paul, Minnesota 55101

Re: Comment on EA/EAW Content  
Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2  
Preliminary Draft Environmental Assessment

Dear Aaron:

As noted in the DNR comment letter provided to Mr. Kosterman on May 17, 2013, the DNR proposed providing a second comment letter to specify additional information that would be needed for meeting EAW content requirements for the Preliminary Draft Environmental Assessment of Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2. Additional materials to provide potential options for applying habitat evaluation analysis (Attachments A & B) and a table that addresses Item 8 of the EAW (Attachment C) are also included with this comment letter.

- D-1 → • What are the effects of the predicted increase in sediment movement from portions of Pool 2 upstream of the proposed project? The movement was generally noted as beneficial in discussions. If so what are the benefits and where would they accrue upstream of the project?
- D-2 → • In the UMRS-EMP report as referenced on page 10 (1.5.4), USGS-USACE predicts a loss of contiguous backwater in Spring Lake within the next 37 years. Due to the increased velocities at the entrance of the proposed channel, would back flow that enters Spring Lake at its lower end and the resultant swirl within the lower end of the lake cause more sedimentation during low/medium/high flow periods?
- D-3 → • More discussion on the potential for developing mitigation to enhance protections of the longevity of Spring Lake should be discussed in greater detail. A potential enhancement is ruled out on page 36 & 37 of Hydraulic Appendix and a similar note is provided on the bottom of figure on page 47 of Draft EA. The note states that a partial closure of Spring Lake would not benefit the project and the closure berms were not included in final project plan. Are there any other potential mitigation options that should be considered that would benefit Spring Lake?
- D-4 → • Additional discussion on indirect environmental effects on the areas containing mussels that are adjacent to impacted areas would be beneficial to understanding environmental effects of the project. Please provide an estimate of the size of the area adjacent to the proposed dredge/island building areas and describe the potential environmental effects on these adjacent habitats with respect to mussels and fish.
- D-5 → • The USACE noted in the EA that the condition of the bottom of the abandoned channel is shifting sand. When will it become stabilized and suitable for mussels?
- D-6 → • It is stated that sandy textured sediments would be used for building the berms and islands. Where would the sandy textured sediments originate?

- D-7** → • Maps of potential and preferred disposal areas would be useful. A better description of the process of lifting, moving and disposing clamshell generated dredge materials.
- D-8** → • It would be useful to have a preliminary document to better describe measures to avoid, minimize, or mitigate adverse environmental effects for each of the EAW items that are applicable to the project.
- Comments below are arranged by EAW Item Number.

EAW Item No.	Comment
<b>E-1</b> → 1	Project title should reflect the proposed project actions.
3	Information on RGU; (cover letter would be useful to explain the dual representation for developing the EAW/EA) RGU USACE (see below for specific information to include) RGU Minnesota Department of Natural Resources Contact person: Ronald Wieland Title: Environmental Planner Address: 500 Lafayette Road City, state, ZIP: Saint Paul, MN 55155 Phone: (651) 259-5157 Fax: 651-296-1811 E-mail: environmentalrev.dnr@state.mn.us
5	Township Range and Section of project area; see figure that shows these (scanned image) Tax Parcel Nos. in project area GPS coordinates of rectangle that contains project
Figures	May be embedded in text as in Draft EA
<b>E-2</b> →	Include in one of the figures, such as the one on page 5, boundaries of counties within which the project is located
<b>E-3</b> →	Provide a 1:24,000 scale topographic map indicating project boundaries
<b>E-4</b> →	Provide a site plan, using figure on page 2 or 48 that includes river mile; additional names of islands i.e., Freeborn, West, Grey Cloud, Islands 17 & 18, etc.; sloughs (including Nininger, Boulanger, Grey Cloud, & Spring Lake). The map should also include resources identified under Item 25 below.
<b>E-5</b> →	The project area should be defined and mapped to include all areas where direct impacts occur along with a buffer zone to include other areas, for example, likely areas receiving higher turbidity/sedimentation or other effects.
<b>E-6</b> → 6b	The project description should include more detail about the construction process including



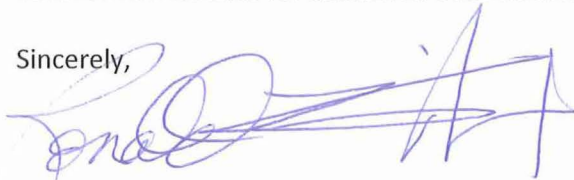
E-6 cont'd	→	type of dredge, process of dredging, transporting, and unloading; facilities, size of industrial engines; size of clamshell, means of dewatering; location of materials that will be used in island building; timing and duration of activities.
E-7	6b →	Note the precautions used in scheduling if any for specific means of protecting aquatic species, such as for spawning periods of certain wildlife, fisheries, or mussels.
	6d.	May include anticipated need for maintenance dredging (frequency and extent of operation)
E-8	7 →	Map of project area should include an acreage figure.
	8	Permits and approvals required: see Attachment C  As noted in the draft Executive Summary provided in the draft EA and elsewhere in the document, conclusions are drawn that "No significant adverse environmental effects are associated with the proposed alternative. State rules reserve the conclusion and order to the Record of Decision.
E-9	9 →	Historical land use has been provided but further detail should include the USACE land/flowage easement rights. For parcels that were flooded when the Pool 2 dam was constructed, provide an explanation why those landowners do not require compensation.
E-10	10 →	Habitat types should be described as below in 11a or separately as described in Item 10 of the EAW form. Habitat types can be defined relatively specific, i.e. channel sides, primary, secondary, and tertiary channels, etc.
E-11	11a →	Although habitats are described in the document, the information is scattered in various locations. It would be useful to have a comprehensive description of habitats affected, including habitat type name, amount of project area, characteristics of habitat (depth, substrate, flow regime, estimated biodiversity relative to other habitats, some degree of description of benthos found, etc.) With this information a habitat evaluation model could be employed to help determine the environmental effects of the project and sufficiency of proposed mitigation.
E-12	→	Although the river regimen is quite well documented, it would be useful to better summarize the information for each named slough or habitat, including a description of substrate character, depth, flow rates, amount of accretion, sedimentation or erosion/subsidence occurring and the expected changes that will occur in habitat acreage.
E-13	→	Also what changes will occur to the habitats adjacent to the proposed channel and what will their habitat type become?
E-14	→	It would be desirable to include a habitat evaluation model, such as a modified MnRAM that helps to evaluate the function and values of the wetlands and aquatic habitats pre- and post-project (See Attachments A & B).
E-15	→	Can the debris that is removed from the proposed dredging channel be placed in other areas

- E-15 → of the Boulanger Slough area to be used as structure? Is there a potential to create catfish hole(s) to replace potential loss of overwintering habitat?
- E-16 11b. → The DNR would like further review of the rare species data. If additional data, reports, or analysis use to make the conclusions is available, the DNR would like to have it in the administrative record of the project? It is proposed that the DNR be requested to provide a second review of the data that is available on the rare features in the project area.
- E-17 → It should be noted that the series of pools 1-13 in the Upper Mississippi River are considered a Conservation Priority Area of the UMRB, where 11 fish, 18 mussels, and the Blanding's turtle were considered species targets documented within the 13 pools. Which of these animals would be affected by the project?
- E-18 → Would there be any effect on Bald and Golden Eagles, including potential disturbance of birds using established roosting, forage, or nesting areas?
- E-19 14 → It would be useful to include a more robust description that summarizes the findings and conclusion that no increase in flood levels would occur, as reported in the Hydraulics Appendix.
- E-20 16 → Describe the erosion and sedimentation potential that could occur at the island construction area, the disposal area(s), and at river access points.
- E-21 → Enhance section 6.2.4, by describing environmental effects, BMPs, and mitigation used during island creation and at the dredge disposal area.
- E-22 17a → This Item largely deals with the island creation portion of project and associated mitigation. There should be a summary/overview of sediment transport downstream.
- E-23 18 → Would the seepage from the dredge material disposal areas be considered wastewater? Is there any concern for contamination of groundwater? Would the water naturally seep back to the water table or would the water be pumped out of a settling pond? If the water is pumped out of the settling pond, would the water be considered wastewater?
- E-24 21 → Would the dredging operation have any effect on barge traffic or on recreational boaters?
- E-25 23 → This section should include vehicle related air emissions estimates during project operations.
- E-26 24 → Is there any potential for fugitive dust generated by cross winds on the proposed islands?
- E-27 → What are the closest receptors sites to the project area? How would they be affected?
- E-28 → What is the range of distance of the proposed channel from the Dakota County shoreline?
- E-29 → Will the waves caused by the barge traffic along the proposed channel affect the Dakota

E-29 cont'd	→	County shoreline?
E-30	25 →	The MNRRA map identifies several parks and natural areas important to the area, these should be listed and potential effects on them described.
E-31	→	Include Spring Lake Park (Dakota County); Lock and Dam 2 Visitor Center; Hastings River Flats Park; Pine Bend Bluffs SNA, Grey Cloud SNA, Cottage Grove Ravine Regional Park, and Spring Lake WMA, public water accesses, and possibly other public areas in the vicinity of the project.
E-32	26 →	Should the effects of the loss of Grey Cloud Island pond due to filling be included?
E-33	27 →	It would be useful to describe the compatibility of project with MNRRA and MRCA (Mississippi River Critical Area).
E-34	29 →	Include a discussion on the likely sedimentation of Spring Lake within the next 37 years and potential changes in sedimentation of the lake between the project and Lock and Dam 2. Cumulative effects need to consider the proposed project and other projects collectively when determining the cumulative sedimentation amounts, changes in river flows, etc. How
E-35	→	will the projected changes in morphology in Lower Pool 2, as provided in the UMRS-EMP studies and documents referenced in Section 1.5.4, be affected by the project?

Thank you for the opportunity to review the Preliminary Draft Environmental Assessment for the Lower Pool 2 Channel Management Study: Boulanger Bend to Lock and Dam No. 2. Please contact me at your earliest convenience for additional information or comments.

Sincerely,



Ronald Wieland  
Environmental Review Unit  
Ecological and Water Resources  
Department of Natural Resources  
651-259-5157

cc: Randall Doneen, Molly Shodeen, Melissa Doperalski, Lisa Joyal

Attachments

- A. Habitat Evaluation Model for Determining Environmental Effects of Boulanger Bend Project
- B. Stryker\_Bay - modified MnRAM
- C. EAW Item Number 8 Potential Contents

Topic	Comment Number(s)	Comment	Response
Hydrology, Hydraulics, and Sediment Transport	(A-1) (A-2) (A-3) (A-4) (B-15) (C-3) (D-1) (D-2) (E-19) (E-20) (E-22) (E-29) (E-34) (E-35)	<ul style="list-style-type: none"> <li>Will increased sedimentation affect federally listed species or submerged aquatic vegetation? (e.g. Wisconsin Channel EHA?)</li> </ul>	<p>The proposed project would not be expected to change deposition patterns. Therefore, the additional sediment would likely settle in areas where deposition is frequent, and which are therefore not hospitable to species intolerant of highly dynamic substrates, like freshwater mussels (See section 6.2.1.2 - Sediment Transport).</p>
		<ul style="list-style-type: none"> <li>Request further description of expected impacts of increased sediment on ecological attributes</li> </ul>	<p>Section 6.2.1.2 has been updated to include discussion of the expected environmental consequences of the expected changes in sedimentation rates downstream of the project</p>
		<ul style="list-style-type: none"> <li>Where are the locations where increased erosion/sedimentation are likely to occur?</li> </ul>	<p>This has been described in 6.2.1.2, with greater detail in the Sediment Transport Appendix</p>
		<ul style="list-style-type: none"> <li>Is it possible the amount of sedimentation that will be transported downstream is underrated and could a summary/overview of sediment transport be provided?</li> </ul>	<p>It is possible that sedimentation would be higher or lower than predicted. The estimates provided are based on a reasoned methodology and should provide a reasonable estimate.</p>
		<ul style="list-style-type: none"> <li>Would back flow that enters Spring Lake at its lower end of the resultant swirl result in increased sedimentation during low/medium/high flow periods?</li> </ul>	<p>The large amount of flow entering the upper end of Spring Lake should continue to keep an eddy from forming in the lower lake. Deposition on newly emergent islands and shoals along the lower lake's boundary with the navigation channel should continue similarly to existing patterns. Flow currently passes out of the main channel over these shoals towards Sharr's Bluff. This is expected to continue.</p>
		<ul style="list-style-type: none"> <li>Request a more detailed description summarizing the findings and conclusion that no increase in flood levels would occur.</li> </ul>	<p>Please refer to the "Impacts to the One Percent Flood Profile" Section in the H&amp;H Appendix. In a 'nutshell' the cutting of the channel and the island/weir construction tend to cancel each other out (as far as flood levels are concerned). The numbers in Figure 32 of the appendix show stage increase for the 1 percent frequency flood event (100yr).</p>
		<ul style="list-style-type: none"> <li>How will projected future changes in morphology in Lower Pool 2 be affected by the project?</li> </ul>	<p>We don't expect change upstream of the project. Discharges should be similar in the main channel because there is little effect to water surface elevations. Geomorphic changes downstream of the channel excavation are also not expected because the sediment analysis indicates that the navigation channel should be capable of transporting sediment to the gates of the dam (as is currently the case). Localized effects on erosion and deposition can be seen in Figure 24 in the Hydraulics Appendix.</p>
		<ul style="list-style-type: none"> <li>Will the location of the channel and increased river traffic in this area cause erosion on the shoreline of Dakota County?</li> </ul>	<p>The bank is talus and mainly sheer cliff face of the Oneota member of the Prairie du Chien Formation. This rock is very weather resistant and durable. Therefore, the channel would not increase erosion.</p>
<ul style="list-style-type: none"> <li>Could lowering the water levels at the dam (1-2 feet or so?) create a larger slope and help alleviate sedimentation in Lower Pool 2?</li> </ul>	<p>There are several issues that would make consideration of a lower pool elevation problematic:</p> <ul style="list-style-type: none"> <li>(a) Lower elevations would require significant quantities of additional dredging to keep the 9' channel if water was dropped by 2 feet.</li> <li>(b) The bathymetry across Freeborn Bend is low enough so a 2 foot drop will still allow a lot of water to bypass the navigation channel</li> <li>(c) There are legal issues involved in changing the low pool elevation.</li> </ul>		

Topic	Comment Number(s)	Comment	Response
Mussels	(A-5) (A-6) (A-7) (A-8) (A-12) (A-13) (B-8) (B-9) (D-5)	<ul style="list-style-type: none"> <li>It appears that much of the area to be affected by the sand has yet to be surveyed. Are additional surveys warranted? Please clarify if relocating mussels out of the area would occur if adverse impacts were discovered.</li> </ul>	<p>The Corps planned project mussel sampling to be representative of the areas that would be impacted, and feels that the results adequately characterize potential impacts. Relocation is not being considered at this time because no significant impacts to mussels are expected, and no dense mussel beds have been identified that would be affected by the project. See also Sec. 5.2.3 for mitigation discussion</p>
		<ul style="list-style-type: none"> <li>Note that a small number of winged mapleleaf were released into upper Pool 2 in 2012./Make correction regarding statement involving presence of winged mapleleaf in pool 2.</li> </ul>	<p>Corrected in Sections 2.2.2 and 6.2.2</p>
		<ul style="list-style-type: none"> <li>When will abandoned channel be stabilized and suitable for mussels?</li> </ul>	<p>Mussels would likely colonize the channel border areas of the abandoned channel quickly after project construction because these areas would experience reduced traffic, wave action, and flow. The deep portion of the main channel may take more time to stabilize as it progresses toward a new dynamic equilibrium.</p>
		<ul style="list-style-type: none"> <li>Monitoring requested to determine fate of current mussel communities and to determine if old channel becomes good habitat</li> </ul>	<p>Post-project monitoring has been added for mussels and vegetation. See Sec 5.2.4</p>
		<ul style="list-style-type: none"> <li>Describe precisely where the areas that would need additional verification regarding indirectly affected locations of endangered mussel species.</li> </ul>	<p>This comment refers to impacts from the southern channel, a measure which was screened out from further consideration.</p>
Endangered Species	(A-8) (A-9) (B-10) (B-11) (B-12) (E-16) (E-17) (E-18)	<ul style="list-style-type: none"> <li>Request a map that depicts locations where state listed species are likely present in Pool 2.</li> </ul>	<p>A figure has been added to Sec. 6.2.2</p>
		<ul style="list-style-type: none"> <li>The placeholder for state-listed species needs to be completed under section 2.2.2 Aquatic Habitat.</li> </ul>	<p>This section has been updated</p>
		<ul style="list-style-type: none"> <li>The Minnesota DNR indicated concern regarding the presence of State-listed endangered species within the project footprint and Federal responsibilities to comply with State Endangered Species Act policies.</li> </ul>	<p>It is the determination of the Corps' Office of Counsel that the Corps is immune from the requirement to comply with state endangered species laws with respect to incidental take. Nevertheless, it is the Corps' intent to consider impacts to State-listed species, coordinate potential impacts with state agencies, and to avoid and minimize impacts as much as practical. Based on a review of historical data and data collected for this project, it is the Corps' determination that the project as proposed would have a minimal adverse impact to the generally healthy populations of the impacted State-listed species in Pool 2, and would be expected to improve the habitat for these species in the long-term.</p>
		<ul style="list-style-type: none"> <li>The DNR would like a further review of the rare species data.</li> </ul>	<p>The rare species data collected by the Corps related to this project can be found within the report. State rare species data was obtained by searching the Minnesota Natural Heritage Information System. The Corps would welcome any additional review by the Minnesota DNR</p>
		<ul style="list-style-type: none"> <li>Pools 1-13 are considered a Conservation Priority Area of the UMRB where 11 fish, 18 mussels, and the blanding's turtle are present. Which of these animals would be affected by the project?</li> </ul>	<p>Of the aquatic species listed within the conservation priority area, six of the mussel species have been identified live in project surveys, but only five were found within the affected area. The species that would be affected all have healthy populations in Lower Pool 2, and surveys have provided evidence of ongoing recruitment. The project would not be expected to cause any adverse impacts to the populations of these species.</p>
<ul style="list-style-type: none"> <li>Any effects on Bald and Golden Eagles?</li> </ul>	<p>No effects on bald or golden eagles are anticipated at this time. If an effect is discovered, construction would follow guidance from the Bald and Golden Eagle Protection Act.</p>		

Topic	Comment Number(s)	Comment	Response
Material Placement	(B-1) (B-4) (C-1) (D-7) (E-21) (E-23) (E-32)	<ul style="list-style-type: none"> <li>The EA does not identify the planned location of dredged material placement or any potential alternatives.</li> </ul>	A material placement site has been identified, and is now included in the report under section 5.2.2, and evaluation of effects has been included in Section 6.2.4.
		<ul style="list-style-type: none"> <li>Would the seepage from the dredge material disposal areas be considered wastewater/are there any concerns for contamination of groundwater?</li> </ul>	The area that would be dredged has been tested for contaminants. Dredged materials found to exceed the MPCA's Tier 1 Soil Reference Values (SRVs) would be disposed of in an authorized landfill. All other material tested under the Tier 1 guidelines and is considered safe for use as upland fill according to the SRVs.
		<ul style="list-style-type: none"> <li>The county recommends that the dredged materials be sampled for contamination, analyzed and disposed of properly.</li> </ul>	The sediments in Boulanger Slough have been tested for contamination, and will be used or disposed of according to MPCA guidance. See Sec 6.2.3 and the Sediment Analysis Appendix
		<ul style="list-style-type: none"> <li>Should the effects of the loss of Gray Cloud Island pond due to filling be included?</li> </ul>	In-water placement in this pond is no longer being considered, so no impacts would occur
Islands	(A-11) (B-5) (B-6) (B-7)	<ul style="list-style-type: none"> <li>What type of vegetation would be allowed to develop on the island?</li> </ul>	Willows and a prairie seed mix would be planted on the islands. The river, wind and animals would also transport seed to the islands. There would be no effort to control or restrict vegetation types on the island.
		<ul style="list-style-type: none"> <li>The islands are presented to be used in multiple ways which could be viewed as somewhat contradictory. Request a more detailed explanation of their purpose.</li> </ul>	The primary purpose of the proposed islands would be to modify local hydraulics to create the proposed new channel. Careful design allowed the islands to meet their primary purpose and also enhance the local environment and provide recreation opportunities. See Sec. 5.2.3
		<ul style="list-style-type: none"> <li>Will the islands be maintained and monitored by the USACE to ensure their intended function is maintained?</li> </ul>	Yes, the islands would be maintained to ensure their function is maintained. This mainly means that they will remain barriers during non-flood conditions. A portion of the newly constructed sand island berms is designed to erode to provide a stable beach zone between the groins and vanes.
		<ul style="list-style-type: none"> <li>The Minnesota DNR requests that the Corps coordinates any island height changes, as these may impact the permit-ability of the project.</li> </ul>	Comment Noted.
Potential Wetland Areas	(B-13)	<ul style="list-style-type: none"> <li>Request more information regarding the evaluation of potential wetland areas that was completed for the project, specifically areas near Freeborn Island.</li> </ul>	Wetland delineation was conducted according to the Corps of Engineers Wetlands Delineation Manual, published in 1987. No wetlands have been identified within the project footprint. See Section 6.2.2 - Aquatic Vegetation for more info.
Fisheries	(B-14) (E-15)	<ul style="list-style-type: none"> <li>The Preliminary Draft EA does not include a discussion regarding paddlefish.</li> </ul>	Paddlefish discussion added to EA (Sec.6.2.2 -Threatened and Endangered Species)
		<ul style="list-style-type: none"> <li>Request further surveys to assess the potential for the area to provide overwintering habitat for flathead catfish</li> </ul>	The Corps has considered further surveys, but has concluded that current data is sufficient to inform decision making. See the Flathead Catfish Appendix for further discussion.
		<ul style="list-style-type: none"> <li>Could debris that is removed from the proposed channel dredging be placed in other areas of</li> </ul>	We will investigate opportunities to utilize debris during development of Plans and Specs
Archaeology	(C-2)	<ul style="list-style-type: none"> <li>Extra caution should be taken to limit disturbance to many important archaeological sites within the project area.</li> </ul>	Comment Noted. Please see section 6.3, which discusses the cultural resource surveys and results.

Topic	Comment Number(s)	Comment	Response
Mitigation	(B-3) (C-4) (D-3) (D-8) (E-7)	<ul style="list-style-type: none"> <li>The preliminary Draft EA does not provide a clear discussion on avoidance and minimization or mitigation for adverse environmental effects.</li> </ul>	Section 5.2.3 was added to address this comment
		<ul style="list-style-type: none"> <li>Consider mitigation measures that would improve the quality of the Mississippi River, Spring Lake, and Spring Lake Regional Park.</li> </ul>	Several measures specific to Spring Lake were considered during planning, but did not meet project objectives. Other measures and considerations are discussed in Section 5.2.3.
		<ul style="list-style-type: none"> <li>Note the precautions used in scheduling, if any, for specific means of protecting aquatic species, such as for spawning periods of certain wildlife, fisheries, or mussels.</li> </ul>	No precautions have been identified to date, but may be added if future information suggests it prudent to do so.
Construction	(D-6) (E-6) (E-24) (E-25) (E-26) (E-27) (E-28)	<ul style="list-style-type: none"> <li>Request more detail regarding the construction process including the type of dredge, process of dredging, transporting and unloading materials, facilities, size of engines, BMPs for sediment re-suspension, etc.</li> </ul>	Some possible measures have been identified in Section 5.2.2. However, details regarding specific BMPs are difficult to develop precisely at this stage of the project because some of the construction methods will be determined by the contractor. Detailed development of BMPs would occur closer to implementation.
		<ul style="list-style-type: none"> <li>Would the dredging operation have any effect on barge traffic or recreational boaters?</li> </ul>	There may be temporary, minor, adverse effects on users of the river from the increased noise and traffic. However, no major delays or channel closures would be expected.
		<ul style="list-style-type: none"> <li>Information regarding nearby air emission receptor sites (including the Dakota County Shoreline) and vehicle-related air emissions during construction of the project should be included.</li> </ul>	Section 6.2.5 - Air Quality - has been expanded to further discuss these issues.
		<ul style="list-style-type: none"> <li>Where would the sandy textured sediments used for building the berms and islands originate from?</li> </ul>	This depends on opportunities at the time of construction. If channel dredging is necessary at a nearby dredge cut such as Pine Bend, material could be beneficially used from that operation. Another option would be from the Lower Boulanger Temporary Placement site.
		<ul style="list-style-type: none"> <li>Is there any potential for fugitive dust generated by cross winds on the proposed islands?</li> </ul>	Minor, localized impacts could occur during construction, but the islands would be expected to stabilize once vegetation becomes established.
Habitat Evaluation	(A-10) (E-10) (E-11) (E-12) (E-13) (E-14) (D-4)	<ul style="list-style-type: none"> <li>Request more detail of the habitats affected, including habitat type name, description, size of affected area, net change, and characteristics of the habitat. (Reference item 10 of EAW form)</li> </ul>	See Section 2.2.2, where local habitat types are described, and 6.2.2, where a figure has been added to present the anticipated habitat changes
		<ul style="list-style-type: none"> <li>Information regarding the expected changes that will occur regarding substrate character, depth, flow rates, amount of accretion, sedimentation, etc.</li> </ul>	The modeled and predicted changes of hydraulic characters can be found in Section 6.2.1, with more detailed information in the Hydrology and Hydraulics Appendix
		<ul style="list-style-type: none"> <li>Suggest use of a habitat evaluation model, such as a modified MnRAM that helps to evaluate the function and values of aquatic habitats pre- and post-project.</li> </ul>	The MnRAM evaluation model was reviewed to assess its applicability to the project. Because the MnRAM is designed to evaluate wetlands, of which none have been identified within the project footprint, the Corps has instead developed an evaluation of the affected areas based on changes in habitat types. Habitats within the affected area of Lower Pool 2 were classified according to habitat types described in Wilcox's "Aquatic Habitat Classification System for the UMRS" (1993), and compared to the predicted conditions after project construction. Change in acres of each habitat type were calculated. A narrative assessment of the functions of the identified habitat types as they are found in Lower Pool 2 is provided. These items should serve as a qualitative assessment of the potential changes in function and value in the affected area of Lower Pool 2, similar to the intent of the MnRAM.

Topic	Comment Number(s)	Comment	Response
Document / EAW	(B-1) (B-2) (E-1) (E-2) (E-3) (E-4) (E-5) (E-8) (E-9) (E-30) (E-31) (E-33)	<ul style="list-style-type: none"> <li>The project area is not clearly defined. The proposed project area should include all areas of direct impact as well as areas that are likely to be affected. Include County Boundaries.</li> </ul>	A map will be included to address this request.
		<ul style="list-style-type: none"> <li>Request a 1:24,000 scale topographic map indicating project boundaries and acreage.</li> </ul>	A map will either be included within the report to address this request, or may be attached to the EAW cover letter.
		<ul style="list-style-type: none"> <li>Request a site plan that that includes river mile and additional names of islands.</li> </ul>	A map will be added to address this request
		<ul style="list-style-type: none"> <li>Project title should reflect project actions</li> </ul>	Comment Noted.
		<ul style="list-style-type: none"> <li>The EA lacks discussion of cumulative effects</li> </ul>	Added Chapter 6.4 - Cumulative Effects.
		<ul style="list-style-type: none"> <li>Request removal of conclusion that "No significant adverse environmental impacts would occur..." and reserve for decision document</li> </ul>	Text in Executive Summary modified.
		<ul style="list-style-type: none"> <li>Would the project have impacts to any areas such as the Mississippi River Corridor Critical Area (MRCCA), Mississippi National River and Recreation Area (MNRRA), Spring Lake Park, Lock and Dam 2 Visitor Center, Hastings River Flats Park, Pine Bend Bluffs SNA, Cottage Grove Ravine Regional Park, Spring Lake WMA, public water accesses, and other public areas in the project vicinity.</li> </ul>	At the time, no impacts beyond what has been identified in the Environmental Assessment are expected for these areas.
<ul style="list-style-type: none"> <li>Include real estate/flowage easement information</li> </ul>	The Corps-owned flowage easements in conjunction with the powers granted under the Federal Navigational Servitude provide the Corps with the authority to dredge a new navigation channel in Pool 2.		