



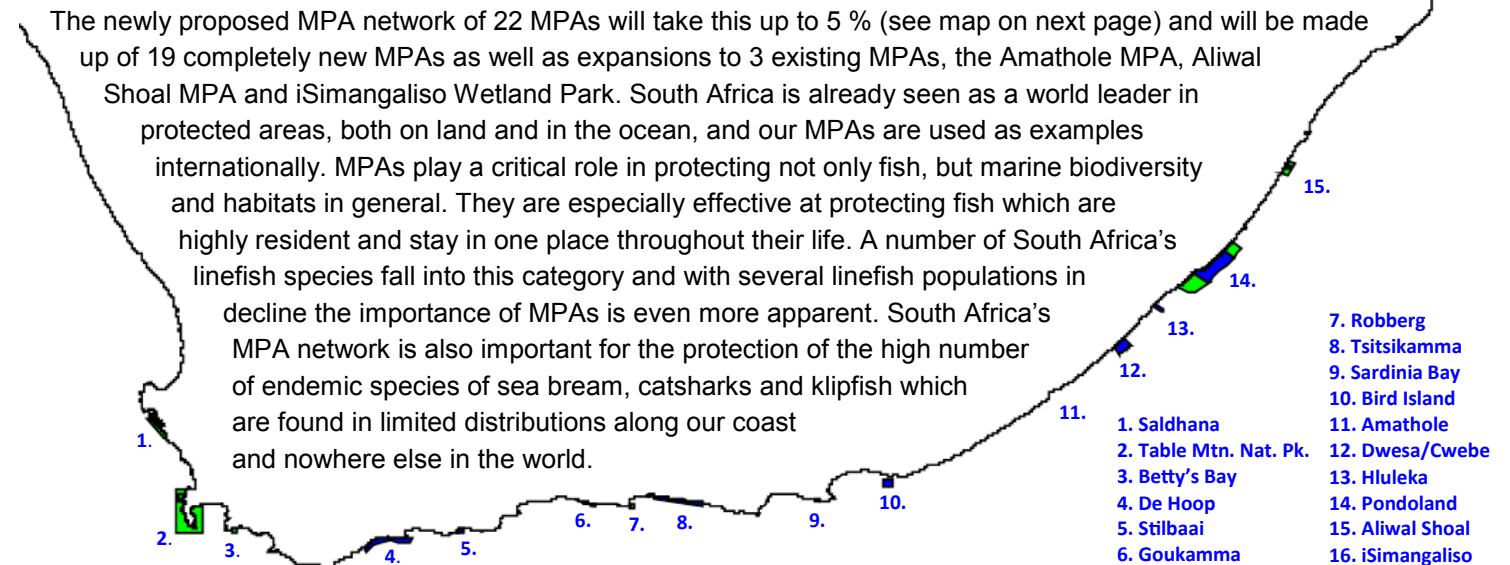
SeaFishAtlas Newsletter THE MPA ISSUE

This special issue of the Sea Fish Atlas newsletter is dedicated to South Africa's Marine Protected Areas (MPAs) and showcases some amazing images that were taken within both our existing and recently proposed MPAs. The photos themselves illustrate the variety of different species and ecosystems that are offered protection within these MPAs.



Two species of endemic catshark, the pyjama catshark *Poroderma africanum* and the leopard catshark *P. pantherium* (Steve Benjamin)

Throughout the Sea Fish Atlas project we have seen many of our most spectacular observations coming from within either existing, or proposed Marine Protected Areas (MPAs) and this alone speaks for their importance. Currently less than 0.5% of South Africa's Exclusive Economic Zone (EEZ, the part of the ocean that "belongs" to South Africa) is protected within MPAs and most of this is only along the coast. This map (below) really puts into context how small an area this is!

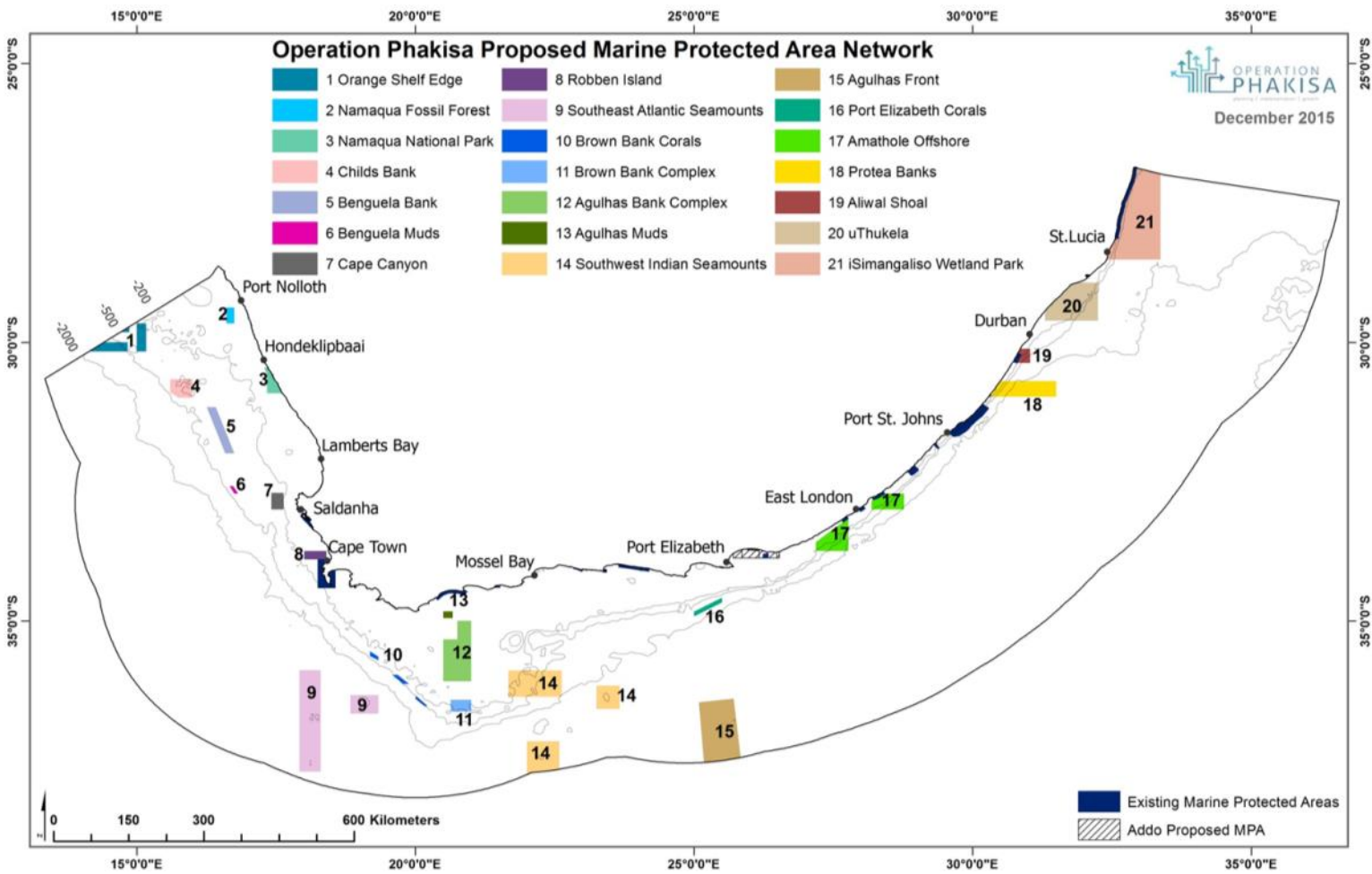




Proposed new MPA network for South Africa

On 3 February 2016, the Minister of Environmental Affairs published draft notices and regulations to declare a network of Marine Protected Areas in South Africa which will ensure that over 5 % of our marine environment is properly protected. Over ten years of discussion, research and consultation has been put into designing this MPA network as part of [Operation Phakisa](#), and it is designed to represent and protect not only a variety of ecosystem types and species, many of which are found only in South Africa, but also key ecological areas: aggregation areas and nursery, spawning and feeding grounds of vulnerable fish species. In fact this MPA network will advance the number of marine habitats protected from 60 % to 94 % and include 46 of the 54 habitat types that currently have no formal protection at all in South Africa. This will include 10 of the 13 critically endangered habitats within South Africa's EEZ in areas that were specifically selected because they are still in good ecological condition. Some of these unique habitats include cold water corals, a fossilised yellow wood forest, reefs, mud habitats, gravel habitats and canyons. These carefully zoned MPAs offer protection from various fishing sectors as well as seabed mining and other industrial activities.

Anyone is invited to make comments on the proposed declarations and regulations. The comment period runs for 90 days, and in this case the deadline has been extended to the 17th May 2016. This is the opportunity to voice any concerns or propose amendments to any of the gazetted MPAs. Here is a link to the [Government Gazette](#) with notices and regulations for the new Phakisa Marine Protected Areas. Details on how to submit your comments are given on page 5 of the Gazette.



Steve Benjamin



South Africa's MPA Network in photographs

The following collection of images speaks for its self! All of the images featured in this newsletter were taken in MPAs, either existing or proposed. They show just a glimpse of the amazing diversity of fish and ecosystems that are offered protection by MPAs along our coasts.

Table Mountain National Park MPA

Most klipfish give birth to live young and are also endemic (found only in limited distributions in South Africa and nowhere else) and non migratory (stay in the same spot throughout their lives). The means that MPAs offer crucial protection for our klipfish species. The photos below show three rarely seen species: the snaky klipfish *Blennophis anguillaris* (top left), the onrust klipfish *Clinus berrisfordi* (top right), and the robust klipfish *Clinus robustus* (middle insert) all photographed within the Table Mountain National Park MPA. Although once common, robust klipfish are now very rarely seen so it is fantastic to have sightings such as this as it means there must be a resident breeding population within the MPA. The Table Mountain National Park also provides a refuge for iconic linefish such as Roman *Chrysolephus laticeps* (bottom) as well as several of our endemic cat shark species (see pic on page 1).



Carel van der Colff



© Carel van der Colff
DiveInn Cape Town



Geoff Spiby



Wendy Crowther



De Hoop, Stillbaai and Tsitsikamma MPAs

No-take MPAs such as Tsitsikamma and De Hoop, where no fishing is permitted, allow fish populations to rebuild because they offer resident fish the protection they need so they can grow large and reproduce successfully; larger fish also produce more eggs and these eggs have greater chance at surviving. This is extremely important for our linefish species as several are now on the IUCN Threatened species list. The Critically Endangered dageraad *Chrysolephus cristiceps* (top), although overexploited in the rest of its distribution, is showing an increase in numbers within these MPAs as is the Endangered “Miss Lucy” or red stumpnose *Chrysolephus gibbiceps*. Black musselcracker *Cymatoceps nasutus*, which can live up to 45 years, are currently classified as Vulnerable only because of protection by coastal MPA, they would likely be and endangered species without this protection. The protection Roman *Chrysolephus laticeps* receive from MPAs is the sole reason they are not also on the endangered list. The photograph below (bottom) shows a large aggregations of Roman in De Hoop MPA. Dageraad, Miss Lucy, black musselcracker and Roman are ideal species for MPA protection as they are extremely resident throughout their lives and thus if an MPA is in place long enough, these species can reach an age where they can reproduce successfully without being caught.



Dageraad in the De Hoop MPA (Steve Benjamin)



Steve Benjamin



Amathole MPA extension

The red steenbras or “copper” *Petrus rupestris* (bottom) is one of the most iconic linefish species in South Africa. Red steenbras are migratory and move northwards to spawn each year. They form very predictable spawning aggregations from East London up to KZN where they can, and are, heavily targeted by anglers. Unfortunately it is estimated that red steenbras numbers are now at less than 5% of what they should be in a healthy population. This species is slow growing, only reaching an age at which they can breed after 7 to 9 years and a large red steenbras of 1.5 m can be over 33 years old. These characteristics unfortunately make them extremely vulnerable to fishing pressure and very slow to recover and build up their numbers once they have been exploited. In fact if fishing pressure continues on this species they will likely fall into the “critically endangered” category on the IUCN Redlist, along with dageraad and seventy-four. The proposed extension of the two existing Amathole MPA components offshore will add crucial protection not only for the red steenbras but also for dageraad *Chrysoblephus cristiceps* (top right) and seventy-four *Polysteganus undulosus* but also their habitats. This extension will also include the area where the original coelacanth was discovered and the fluvial fan of the Kei river estuary within the proposed MPA is one of the few protected spawning areas for dusky kob *Argyrosomus japonicas* (top left) and white steenbras *Lithognathus lithognathus*.



STEVE BENJAMIN
ANIMAL OCEAN.CO.ZA



Steve Benjamin



Georgina Jones



Aliwal MPA extension

The existing Aliwal Shoal MPA already showcases the most fantastic array of fish species and is probably best known for its aggregations of ragged toothed sharks *Carcharhinus taurus* (bottom left) making for exciting diving. The diverse reefs in this area provide refuge for many species including the rare endemic Natal wrasse *Anchichoerops natalensis* (top left). The proposed extension of the Aliwal MPA will include the area offshore around Illovo Banks, which used to be a well known spawning site for the critically endangered seventy-four *Polysteganus undulosus* before its numbers were depleted so heavily. Seventy-four form large, predictable spawning aggregations and it was for this reason they were so easily caught and are still being caught illegally despite the fishery being closed to both commercial and recreational fishing. It is hoped that with the increased protection of an extended MPA this area can once more host spawning aggregations of this species and allow stocks to rebuild. Several shark species and pelagic fish species also aggregate around this area such as tiger shark *Galeocerdo cuvier* (middle left), blacktip shark *Carcharhinus limbatus* and blacktip kingfish *Caranx heberi* (both bottom right). The high fish diversity supports top predators such as sharks and large rockcod species such as the potato bass *Epinephelus tukula* (middle left) which are extremely important for ecosystems to function correctly. The extension will also include threatened habitats which luckily are still in relatively good condition, preventing industrial activities such as seabed mining from taking place. It is important that these habitats receive protection now before they are degraded to a point where recovery will be difficult, if not impossible.





Protea Banks MPA

The proposed Protea Banks MPA will cover an amazingly diverse range of habitat including canyons, deep reefs (bottom left), shelf edge and upper slope and cold water corals. These diverse habitats support a huge diversity of fish species and the annual sardine run also moves across this MPA. The ACEP (African Coelacanth Ecosystem Programme) Biodiversity Surrogacy Project team in association with Ezemvelo KZN Wildlife visited the deep reefs and canyons in the area and gave us some hint of their amazing biodiversity. Over the course of just two short ROV (Remotely Operated Vehicle) surveys of the canyon over 30 fish species were photographed and filmed with range extensions being noted for two species. The sandy slopes around the canyons in the proposed MPA house a unique set of fish which can be vulnerable to trawling and are often taken as bycatch. Protea Banks MPA will also protect some beautiful deep reef zones which are extremely important for the conservation of the reef systems in general but also for linefish recovery and shark conservation. There are 7 species of shark which aggregate here due to the frontal systems and upwellings that develop from the strong currents around KZN. Black musselcracker “Poenskop” *Cymatoceps nasutus* and red steenbras *Petrus rupestris* form spawning aggregations on the areas of Protea Banks that will be protected within the proposed MPA.

A false Englishman *Chrysoblephus lophus* (left) and a Dane *Porcostoma dentata* (right) on deep reef at Protea Banks (Ryan Palmer, ACEP)



Protea Banks deep reef (Geoff Spiby)



iSimangaliso Wetland Park extension

iSimangaliso Wetland Park is most famous for being the areas where living coelacanths were first discovered in South Africa. There are now 32 known individual coelacanths living in the canyons in this MPA. But aside from the coelacanth, this area houses such unexplored biodiversity that on a one week long trimix expedition on the deep reefs in the area in 2014, the team discovered 2 completely undescribed fish, 6 new fish records for South Africa, and captured the first underwater photos of 5 more fish species in their natural habitats. The extended MPA will also covers the core foraging area of nesting turtles, entire coelacanth canyon habitats, deep water habitats and provides some protection for pelagic habitat types. Spawning aggregations of depleted linefish species occur in the southern extension including slinger and deep water rockcods. The extension of the MPA offshore is extremely important not only for linefish recovery and pelagic species protection but also to maintain the connectivity between the high variety of ecosystems in the area.



Bluefin kingfish in Sodwana Bay (Eve Marshall)



Red Steenbras in Chaka Canon (ACEP)



A nurse shark on a deep reef (Eve Marshall)



Tiger rockcod *Epinephelus posteli* (Georgina Jones)



Smooth grouper *Dermatolepis striolata* (Eve Marshall)



To wrap up here are two spectacular images from within the iSimangaliso Wetland park. I hope you have enjoyed!



Shoal of fusiliers on a 33 m deep reef, the entire reef is made of one colony (one individual) of this unusual coral species (Eve Marshall)



The rare swallowtail angelfish *Genicanthus caudovittatus* on a deep reef (69 m) in Sodwana Bay (Peter Timm)

