WWF

BRIEFING

JANUARY

2013

Marine Program

Briefing for the 1st Commission Meeting of the SPRFMO

A more comprehensive set of management measures must be agreed at the 1st Commission Meeting to allow the recovery of the currently overexploited jack mackerel stock, a straddling species of extreme importance to the South Pacific.

Introduction

WWF warmly welcome the entry into force of the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, and encourages other interested states that are not already Parties to ratify it as soon as possible, so that universality strengthens its legitimacy and ensures everyone is subject to its compliance measures. In addition, WWF is grateful for having been granted observer status for Commission meetings.

360,000 tonnes

SHOULD BE CONSIDERED BY THE SPRFMO COMMISION AS THE MAXIMUM CATCH FOR 2013 FOR JACK MACKEREL

WWF is also grateful for the opportunity to provide our views and recommendations on the Items 7, 8 and 9 of the Draft Provisional Agenda (COMM-01-01). In particular, we would like to refer to:

- the poor status of the Chilean Jack mackerel stock and the proposed management measures to be agreed by the Commission with a view to addressing the problem, and
- the Convention on Biological Diversity (CBD) process to identify and describe ecologically or biologically significant marine areas (EBSAs) which is linked with the SPRFMO's existing work on vulnerable marine ecosystem (VMEs) and members' broader commitments to establish MPAs and, more generally, to protect the marine environment.

As set out below, WWF has a range of concerns about (1) the compliance with the current fishery management measures on Jack mackerel and (2) the lack of work on the identification of VMEs and its link with EBSAs already described by CBD scientific workshops that are located wholly or partly within the Convention area.

WWF's specific comments are as follows:

Chilean jack mackerel: status and 2013 management measures

Status of the Chilean jack mackerel fish stock. Results from the 11th Scientific Working Group indicate that **the biological status of the Chilean jack mackerel stock in the South Pacific is still very poor and continues to be overexploited**. Estimated total catches (417,317 t) of the entire SE Pacific stock continued to decline in 2012 compared with the highest peak of 4.7 million t in 1995. Updated assessment results indicate that the current biomass is now estimated to be 8% - 16% of the spawning biomass which would have existed had there been no fishing, which is below the threshold of 20% of unfished spawning biomass informed in the report of the 10th Meeting of the Scientific Working Group. This is far from an appropriate target reference point, which would probably be around 40% of unfished biomass (report of the 11th Meeting of the SWG).

Compliance with interim measures. In 2011, participants agreed on interim management measures that would limit the 2011 annual catch of Chilean jack mackerel to 60 per cent of the 2010 level (estimated in 750,000 t), for a total of 450,000 t when actually 605,817 t were caught in that year. Peru, Ecuador, Russia and Korea accounted for the excess of catch, raising issues of non-compliance with the 2011 interim catch measures.

For 2012, participants agreed to limit their annual catches of *Trachurus* sp. in 2012 to 40% of 2010 levels, resulting in a total of 300,000 t, which was in line with the scientific recommendation at that time. However, the total estimated catch in 2012 was 417,317 t, exceeding by 40% the agreed measure and threatening the recovery of this important fishery. Peru, Chile and Korea were responsible for the excess catch, which must call the attention of the SPRFMO Commission in relation with the degree of compliance. **Furthermore, in the current scenario in which Peru, Ecuador and China are not legally obliged to the SPRFMO fishery management measures, the Commission must find a formula to secure total compliance with the 2013 fishery management measures**.

2013 catch management measure. Analyses made by the Jack Mackerel Sub-group (JMSG) of the Science Working Group (SWG) in its 11th meeting, under the assumption of recent average recruitment at the levels estimated for the recent period (2000–2012) and using different models, indicate that **total catch for 2013 must be between 120,000 and 360,000 tons to accomplish the goal of recovering the spawning biomass to the level of 40% of unfished spawning biomass in ten years. This result means to limit the 2013 annual catch of Chilean jack mackerel to about 50 per cent of the updated estimated catch level for 2010** (i.e., 726,708 ton; see Table A1.3 in the Report of the Jack Mackerel Subgroup).

In addition, WWF believes that a more comprehensive set of fishery management measures must be agreed at the First Commission Meeting to allow the recovery of the currently overexploited Chilean jack mackerel stock (*Trachurus murphyi*), a straddling species of extreme importance to the Southern Pacific region. Therefore, WWF recommend to all concerned parties in the SPRFMO:

- **Encourages other interested states that are not already Parties to ratify the Convention** as soon as possible, so that universality strengthens its legitimacy and ensures everyone is subject to its compliance measures. Moreover, the Commission should find ways of bringing in all states 'with an interest' in the region in order to prevent IUU fishing or other non-compliant activities applying *inter alia* ports, markets and vessels measures. We urge the Commission to invite such countries to become party to the Convention (whether or not they join the Commission) so that they are obliged to ensure compliance with measures.
- Ensure the SPRFMO Commission manages catch levels and fleet capacity following scientific advice and in line with delivering IOM/EBM (Integrated Oceans Management/Ecosystem Based Management). To that end, **the Commission should ensure that the total catch of *Trachurus* species for 2013 do not exceed 360,000 tonnes**.
- **Comply and enforce the 2013 management measures for pelagic fisheries both in the high seas as well as in the EEZs**, with a clear commitment from all participating countries.
- **Adopt and implement a long-term and comprehensive management/recovery plan for the Chilean jack mackerel**, including explicit target and limits reference points (TRP, LRP), precautionary catch rules, fishing ground closures, and other precautionary measures that will drive full recovery of the spawning biomass to a sustainable level, in line with the scientific advice of the SPRFMO Scientific Working Group.
- **Design and adopt an international rights-based management program (RBM) on Chilean jack mackerel** in order to strengthen stewardship incentives among fishing nations to follow ecosystem-based management practices, resulting in more secure access to fisheries resources, providing sustainable jobs, assisting in poverty alleviation and improving food security.

Protection of values of EBSAs, whether as VMEs or otherwise

1. At its last Conference of the Parties (COP), the Convention on Biological Diversity agreed to have the first suite of EBSA summary reports included in the CBD EBSA Repository. This was the culmination of six year work by the CBD in developing the EBSA process. A WWF briefing paper on the EBSA process is attached. **The SPRFMO Commission now has an obligation to cooperate with the CBD in taking appropriate management action to control maritime activities over which it has competency in high seas** areas to ensure that values identified by the CBD are effectively protected to the limits of that competency.

2. The criteria developed and adopted by the CBD for identifying EBSA values were chosen bearing in mind criteria already adopted by other bodies for similar and related processes, including International Maritime Organization, International Seabed Authority, FAO and various RFMOs. The intention is to contribute towards building a consensus in the international community as to which values are important to protect. A comparison of criteria adopted by CBD for EBSAs identification and by SPRFMO for VMEs identification in paragraph 6 below shows the resultant high degree of overlap to be expected. Moreover, as it's stated in the Report of the 11th SWG and the Deepwater Sub-Group (Annex SWG-11-04) the approaches to identify EBSAs and VMEs have converged over the time and might overlap and, the Deepwater Sub-Group recommended developing an approach to manage differences/ commonalities of both criteria. **Therefore, WWF would like to suggest that the Commission invite the Scientific Committee to develop such approach in a scientific and fisheries management context**.

3. The CBD EBSA process is a science-based process initiated by regional or sub-regional expert workshops. Two such workshops are particularly relevant in the framework of the SPRFMO (Western South Pacific workshop, 22-25 Nov 2011, Fiji, and; Eastern Tropical and Temperate Pacific, 27-31 Aug 2012,, Ecuador) because they identified EBSAs in the area of competence of the SPRFMO (a map with the described EBSAs in the South Pacific Ocean identified by the CBD is attached). Once Summary Reports of these workshops have been included in the CBD EBSA Repository, copies will be sent to relevant competent bodies, including SPRFMO. **On receipt of those Summary Reports, it will then be up to SPRFMO to decide what management action should be taken** to ensure that values identified in these Reports are adequately protected, whether as VMEs, Marine Protected Areas (MPAs), or other spatial/temporal measures or any other fisheries management measure deemed appropriate. Note that one of those workshop reports has already been processed by CBD Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) and CBD COP.

4. As well Members' general duty to cooperate, SPRFMO objectives include safeguarding marine ecosystems in which fishery resources occur (Article 2 of Convention). Members already have an obligation to conservation and management measures "to prevent significant adverse impacts on vulnerable marine ecosystems and precautionary measures where it cannot adequately be determined whether vulnerable marine ecosystems are present or whether fishing would cause significant adverse impacts on vulnerable marine ecosystems" (Article 20, paragraph 1e). In addition, specific conservation and management measures may include "the determination of the general or specific locations in which fishing may or may not occur" (Article 20, paragraph 2d).

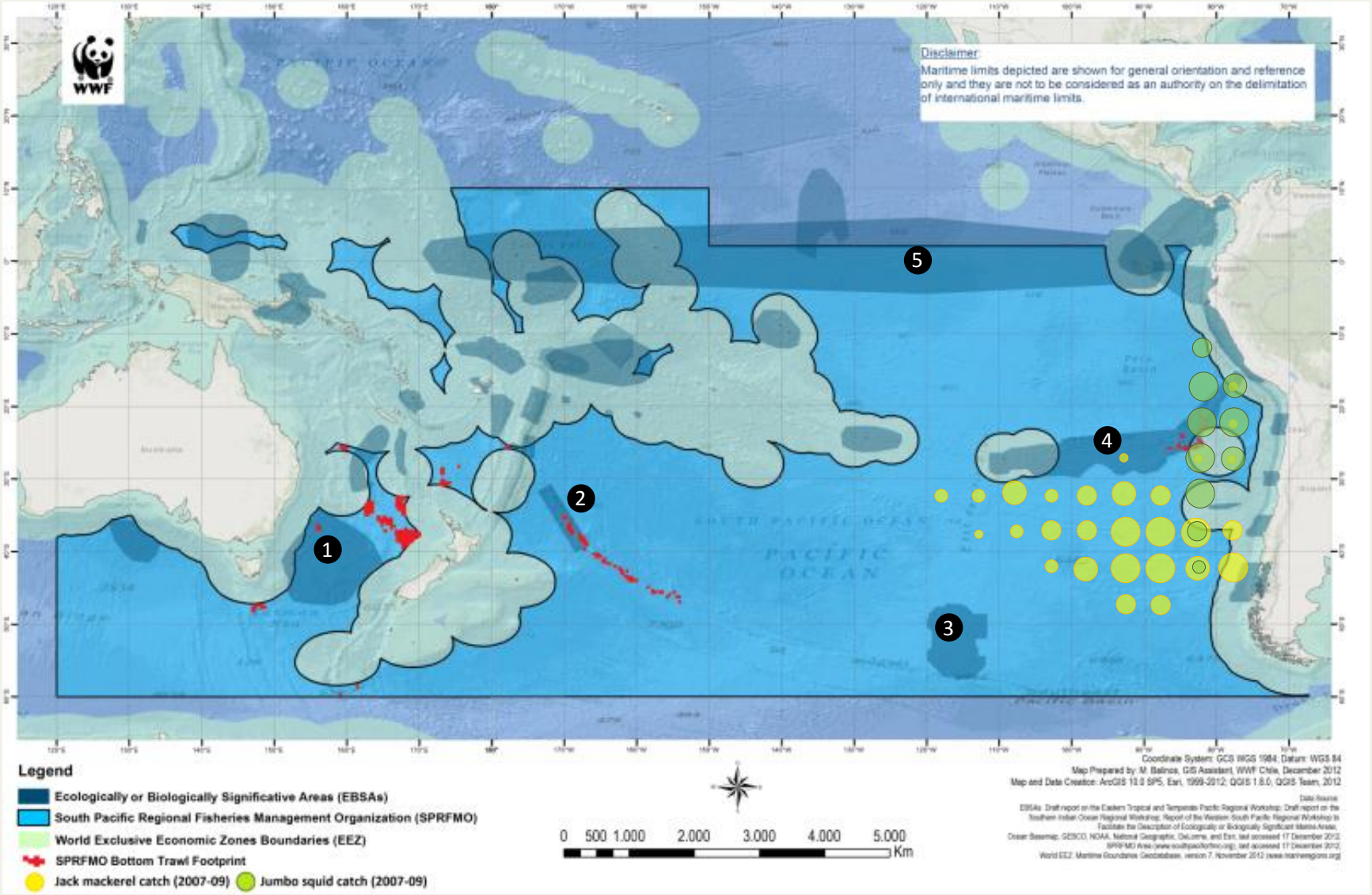
5. WWF notes, however, that despite these specific obligations set out in the Convention, the Commission has yet to request the Scientific Committee to identify VMEs in the area and we further note that no habitat profiles have been produced so far. WWF therefore recommends that **the Commission request the Scientific Committee to formulate advice on processes and procedures that the Commission might adopt in order to ensure that, when EBSA Summary Reports are received from the CBD, SPRFMO develops appropriate management responses**, including designation of VMEs, MPAs or any other effective measures, to ensure that identified EBSA values are protected.

6. Such an EBSA response process would allow the Commission to meet its obligations to implement the Convention insofar as there are no inherent incompatibilities between the two sets of criteria (SPRFMO VMEs and CBD EBSAs) (see http://www.cbd.int/doc/meetings/mar/ebsa-ettp-01/other/ebsa-ettp-01-vmes-ebsas-en.pdf):

CBD EBSAs	FAO VMEs
Uniqueness or rarity	Uniqueness / rarity
Special importance for life history stages of species	Functional significance of habitat and life story attributes of species
Importance for threatened, endangered or declining species and/or habitats	
Vulnerability, fragility, sensitivity or slow recovery	Fragility
Naturalness	
Biological productivity	
Biological diversity	Structural complexity and functional significance of habitat

7. Therefore, WWF further recommends that the Commission, as an initial step, **request the Scientific Committee to advise on the extent to which CBD EBSA criteria do, indeed, overlap with SPRFMO VME criteria**.

8. WWF would like to suggest that the Commission invite the Scientific Committee to consider Salas y Gomez and Nazca Ridges as a suitable case study to allow the development of suitable procedures and arrangements. To this end, a WWF factsheet on the values of these Ridges is attached.



Ecologically or biologically significant (EBSAs) described in CBD's regional workshops: ❶ South Tasman Sea ❷ Central Louisville Seamount Chain ❸ Southern end of the East Pacific Rise ❹ Salas y Gomez and Nazca ridges ❺ Equatorial High-Productivity Zone. Yellow circles: Chilean jack mackerel catch (2007-09). Green circles: Jumbo squid catch (2007-09). Red squares: Join bottom trawl footprint.

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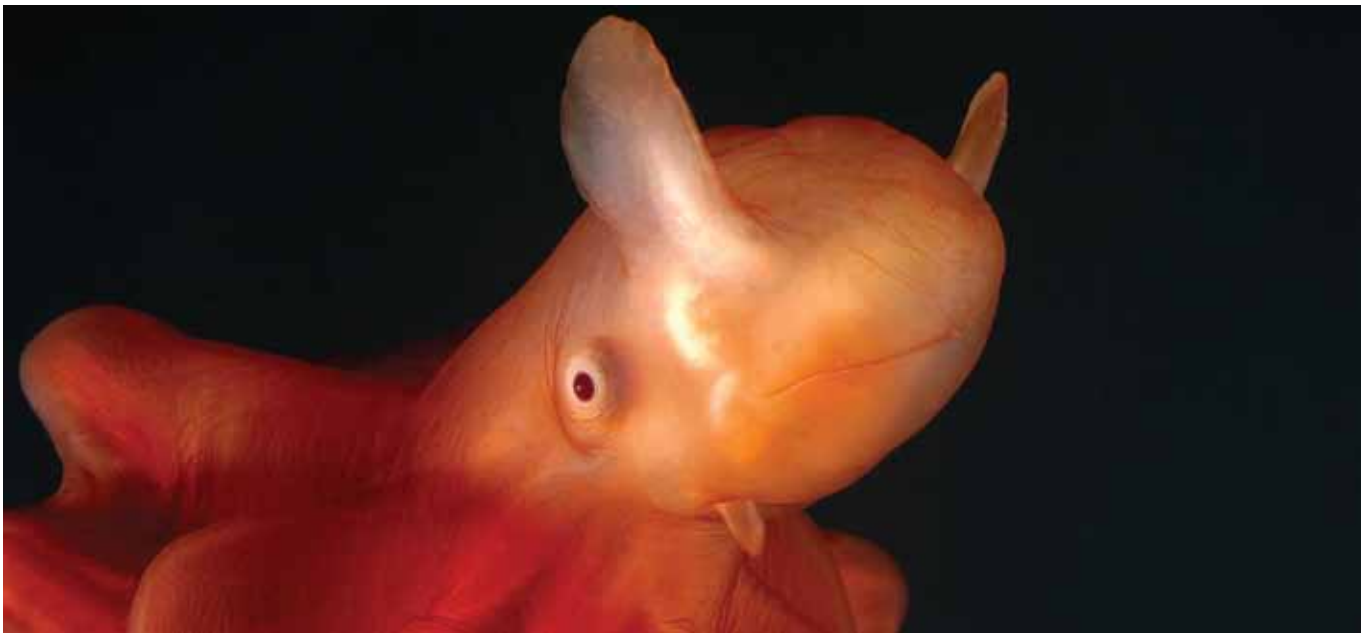
Ecologically or Biologically Significant Marine Areas (EBSA)



It is important that the roles of the UNGA and sectoral bodies in dealing with EBSA reports from the CBD are established and agreed.

A WWF PRIORITY FOR OCEAN LIFE

At the 10th Conference of the Parties to the Convention on Biological Diversity (CBD COP 10), governments agreed to a process for describing areas that meet the criteria for ecologically or biologically significant marine areas (EBSAs), and then notifying the United Nations General Assembly (UNGA), governments and relevant international organizations and bodies of these areas and their need for stewardship. This was a great first step, especially for ocean areas beyond national jurisdiction, and the culmination of seven years of work by the CBD.

Since 2010, a number of scientific expert workshops describing areas that meet the EBSA criteria have taken place in various regions, encouraged and supported by the CBD.

The information contained in the workshop reports can be used as the scientific basis for establishing a globally comprehensive, adequate and representative system of EBSAs under effective protection and management in accordance with international law, including the UN Convention on the Law of the Sea.

Now, the process needs to be developed all the way – to seeing the values through to protection as designated marine protected areas (MPAs) with management plans or other appropriate measures taken by competent bodies.

WHICH ORGANIZATIONS DO WHAT?

The role of the CBD is to facilitate the organisation of scientific workshops to describe the areas that meet the EBSA criteria, and to maintain a Repository of agreed workshop reports and a complementary information sharing mechanism to pass these reports on to the UNGA and other relevant international bodies.

The actual designation of MPAs and the development of appropriate management plans or adoption of equally effective measures is the responsibility of those competent bodies. In the exclusive economic zones this is the role of the coastal state. In areas beyond national jurisdiction (the high seas and the

What area gets the GO as an EBSA?

Seven scientific criteria are to be used when evaluating marine areas as having sufficient 'ecological or biological significance':

1. Uniqueness or rarity
2. Special importance for life history stages of species
3. Importance for threatened, endangered or declining species and/or habitats
4. Vulnerability, fragility, sensitivity, slow recovery
5. Biological productivity
6. Biological diversity
7. Naturalness

Area of the seabed outside national jurisdiction), the relevant sectoral bodies have the mandate to control that use: the International Maritime Organization (IMO) for shipping; the International Seabed Authority (ISA) for seabed mining in the Area; regional fisheries management organizations (RFMOs) for fishing. In some high seas areas covered by Regional Seas Organizations (RSOs), the RSO may designate a MPA, but it still needs collaborative action by the relevant sectoral bodies to actually adopt management controls over the uses for which they have regulatory responsibility.

In order to ensure a coordinated approach on the high seas, the UNGA has the opportunity to facilitate cooperation to encourage effective application of appropriate conservation tools. But how the UNGA and these bodies should respond to the EBSA reports received from the CBD is yet to be elaborated.

WHAT'S NEXT?

The UN General Assembly

It is important to ensure that the roles of the UNGA and sectoral management bodies in dealing with agreed EBSA reports received from the CBD are formally established and agreed by governments. The UNGA needs to agree to develop a process for shepherding the CBD's listed EBSAs in areas beyond national jurisdiction to the competent sectoral and/or regional organizations, for the application of appropriate conservation measures, such as setting licensing conditions, environmental impact assessments (EIA), establishment of high seas MPAs or other measures as necessary.

WWF suggests that the UNGA asks its Open-ended Working Group on Biodiversity Beyond National Jurisdiction (BBNJ) to formulate advice on how the UNGA can best facilitate appropriate management responses from relevant competent bodies in receipt of CBD EBSA reports and that these report back to the UNGA on relevant management actions taken in response to issues identified according to that UNGA process (especially with respect to the application of EIAs and area-based tools such as MPAs).

Workshops

While additional workshops have been tentatively scheduled by the CBD COP11, more need to be organized to cover all marine and coastal areas, resulting in a comprehensive CBD Repository of areas that meet the EBSA criteria.

CBD Conference of Parties

CBD COP11 endorsed summary reports from the Wider Caribbean and Western Mid-Atlantic and the Western South Pacific workshops for inclusion in the Repository.

The CBD Secretariat must now submit the reports to the UNGA, relevant Parties, RFMOs, and sectoral and/or regional bodies, and make them publicly available. Future COPs must do the same for the EBSAs identified in recent and upcoming regional workshops.

Upcoming COPs must also ensure sufficient resources are committed to allow the Secretariat to facilitate and support additional workshops and to support and train government experts to participate in these workshops. Resources need to be made available to coastal states to ensure that the EBSA networks are extended to adequately include waters both within and beyond national jurisdiction.

The EBSA Repository can help ensure that the designation of areas and adoption of management measures by competent bodies continues to reflect latest scientific knowledge and best practice. To this end, the CBD must ensure that a standing process is established for review and revision of the EBSA reports as new scientific understanding emerges.

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Salas y Gómez and Nazca

Treasures in the High Seas of Southeastern Pacific

The area beyond national jurisdiction covers over 415,000 km2 of seafloor, and it is only comparable in high, length and wide with Chile-Argentina section of the Andes-mountains.

Deep sea Anglerfish have small poorly developed eyes but detect movement and prey through a well-defined lateral line system visible as a line of silvery.

Coldwater corals adorn the rocky surfaces of these majestic and ancient deep-sea mountains in the high seas of the South-Eastern Pacific (see map). These ridges contain the highest levels of endemism recorded; 46% of invertebrates and 41% of fishes are unique of this area. The seamounts form an extraordinarily rich habitat for endangered species, including leatherback turtle – the biggest-growing sea turtle of all. This is also where the largest ever known animal – the blue whale – is recorded as coming, probably to reproduce. Nazca ridge is a key breeding zone for the over-exploited Chilean jack mackerel and recruitment ground for swordfish.

FEATURE DESCRIPTION

The Salas y Gómez and Nazca ridges are a long chain of tall seamounts and guyots that vary greatly in depth, and are isolated from the nearest continental margin by a deep trench. The ridge area beyond national jurisdiction contains about 110 seamounts with summits at fishable depths down to 2'000 m, representing 41% of the seamounts in the south-eastern Pacific Ocean. The benthic and benthopelagic invertebrates and fishes of the area are much more closely related to the Indo-West Pacific than to the eastern Pacific fauna.

The Nazca area is influenced slightly by the eastern boundary currents of the South Pacific anticyclonic gyre. The Humboldt current carries subantarctic water north, along the coast of Chile towards the equator. At approximately 20° S, influenced by the southeast trade winds and coastal configuration, the current turns westward, away from the coast influencing Nazca area with nutrient-rich waters.

THE HIGH SEAS OF SALAS Y GÓMEZ AND NAZCA RIDGES

The ridges function as recruitment and nursery areas for swordfish and are part of the breeding zone described for Chilean jack mackerel.

171 species of fish belonging to 31 families have been recorded. 41% of fishes are endemic.

25 species of deepsea coral have been recorded in Salas y Gomez and Nazca ridges.

So far, 226 species of benthic and benthopelagic invertebrates and 171 fish species of 64 genera are known to inhabit the 22 explored seamounts of the ridges. Considering the overall number of seamounts in the region, many more species can be expected. Further, the bottom areas of Salas y Gómez and Nazca ridges have not been sampled biologically. The area is a biodiversity hotspot with one of the highest levels of marine biological endemism, amounting to 41.2% of fish species and 46.3% of benthic invertebrates even surpassing the rates for hydrothermal vent ecosystems.

The ridges offer habitat to a number of low resilience and long-lived species like deep water sharks, oreos, alfonsino, and reef-builder corals (e.g., *Madrepora oculata*). They are likely to be speciation centers and provide the only extensive hard substrate available for propagation of benthic suspension feeders like black (Antipatharia) and stony corals (Scleractinia), of which at least 19 genera have been recorded, with many more species.

The seamounts of the ridges were found to host aggregations of vertically migrant, seamount-associated mesopelagic fishes and migratory pelagic fishes: Pelagic sharks, in particular schools of large adult male blue sharks have been observed to aggregate over Nazca ridge. Also bigeye thresher sharks (*Alopias superciliosus*) were more abundant over seamounts than in the surroundings. The ridges function as recruitment and nursery areas for swordfish (*Xiphias gladius*) and are part of the breeding zone described for Chilean jack mackerel (*Trachurus murphyi*).

The high pelagic productivity indicated by the formation of Taylor caps and local upwelling processes observed over the Nazca Ridge may support blue whales (*Balaenoptera musculus*), for which it is considered to be a likely reproductive zone and stepping stone during their extensive migrations. Salas y Gómez ridge is located at the center of the foraging area for leatherback sea turtles (*Dermochelys coriacea*) in the South Pacific Gyre and, based on that, it has been postulated as an ecologically or biologically significant marine area (EBSA)

WHY SHOULD WE CONSERVE IT?

Based on an integrated analysis conducted by WWF, these relatively well investigated ridges meet all scientific criteria for ecologically or biologically significant marine areas (EBSAs) as agreed by the Convention on Biological Diversity in 2008 (Annex I of CBD Decision IX/20). Furthermore, experts convened by the Global Ocean Biodiversity Initiative (GOBI) and the Census of Marine Life on Seamounts (CENSEAM) in December 2010 based upon data and information on seamount fauna, concluded that the area highly met the criteria for naturalness, biodiversity and special importance for life-history stages of species, unique habitats and emphasized that its vulnerability is considerable. The ridges' ecosystems are likely to meet the criteria of the Food and Agriculture Organization (FAO) to be classified as vulnerable marine ecosystems (VMEs). Moreover, an adjacent area, in Chilean jurisdictional waters, has been recently declared no-take Marine Protected Area (named *Motu Motiro Hiva* in Rapa Nui language), confirming the need for conservation.

IUCN RED LIST SPECIES

Critically endangered — Leatherback turtle (*Dermochelys coriacea*)

Endangered — Loggerhead turtle (*Caretta caretta*), Blue whale (*Balaenoptera musculus*)

Vulnerable — Shortfin mako (*Isurus oxyrinchus*), Porbeagle (*Lamna nasus*), Bigeyetuna (*Thunnus obesus*)

Near Threatened — Yellowfin tuna (*T. albacares*), Blue shark (*Prionace glauca*), Crocodile shark (*Pseudocarcharias kamoharai*), Prickly shark (*Echinorhinus cookei*), Bluntnose sixgill shark (*Hexanchus griseus*), Galapagos shark (*Carcharhinus galapagensis*)

Results of satellite tagging research allow postulating Nazca ridge as a likely reproductive area for blue whale.

The effective conservation of Nazca ridge, a breeding zone for Chilean jack mackerel, will facilitate the recovery this important international fishery.

Several years of tracking have revealed a consistent foraging area for leatherback turtles in the South Pacific Gyre, justifying the necessity of greater international protection for the giant turtles.

CONSERVATION CONSIDERATIONS

It can be assumed that most seamounts along the Nazca ridge were at least explored once. There is evidence of sporadic deep water fishing for seamount fishes and crustaceans by the USSR/ Russian and Chilean fleet and recently also by Spanish vessels.

Overall, like in other regions, deepwater fishing and the occurrence of vulnerable benthic species coincide to a large extent. There are indications of abundant mega- and macrofauna bycatch in trawls, including large branches of gorgonians. Between 1979/80 and 1987 significant changes in the benthic communities such as loss of antipatharian corals were observed in consequence of bottom trawling. On Salas y Gómez ridge, most of the fishing activity carried out is pelagic.

The area is likely to be on the route of cargo ships that transit between Asia Pacific countries and Chilean ports; therefore, strikes with blue whales may occur.

Currently, seven seamounts are known to carry a cobalt-manganese crust of considerable cobalt grade (up to 2%) which may attract mining activities.

PROPOSED CONSERVATION OBJECTIVES

- Contribute to protect our global marine heritage for future generations.
- Protect and conserve unique seamount communities and associated ecological processes from adverse impacts, especially bottom fishing.
- Protect critical life stages for fishes as the basis for very important commercial fisheries like swordfish and Chilean jack mackerel.
- Ensure the long term recovery, conservation and maintenance of populations of highly mobile and migratory species, specially tunas and pelagic sharks.
- Protect key biological process (i.e. reproduction, foraging) for endangered flagship species like blue whales and leatherback and loggerhead sea turtles.
- Provide reference sites for future scientific research and public education.
- Improve resilience to the accelerating impacts of climate change.

Big pelagic sharks and turtles are also found in the area and may be threatened by longliners.

There is evidence of sporadic deep water fishing for seamount fishes by the USSR/ Russian and Chilean fleet.

Bigeye and Yellowfin tuna are frequent in the area.

PROTECTING THE RIDGES

WWF proposes a network of Marine Protected Areas (MPAs) of multiple uses, with considerable proportions of no-take areas, as the most effective tool to conserve Salas y Gómez and Nazca ridges. Nevertheless, there is no global agreement or mechanism to facilitate the establishment of high seas MPAs. Moreover, the conventional sectoral approach to oceans management hampered efforts to protect specific areas from multiple threats. In consequence, multilateral efforts and collaboration are now required to set up specific measures aimed to conserve and protect the habitat and biodiversity in the high seas of Salas y Gómez and Nazca ridges.

The Lima Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (1981) administrated by the CPPS, and its Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific, may provide the framework for establishing spatial conservation measures either by extending its mandate to the adjacent high seas, or by regulating the activities performed by vessels flagged by contracting parties. Moreover, the CPPS would be the natural choice to propose and lead a regional action plan to conserve and protect these ecosystems which are fragile, vulnerable, of unique natural value, and contain threatened marine fauna.

Fisheries management for non-highly migratory species is subject to regulation by the Convention on the Conservation and Management of the High Seas Fishery Resources of the South Pacific Ocean (SPRFMO), which has freeze the bottom fishing footprint. Nevertheless, fishing with bottom contacting gear within Salas y Gomez and Nazca ridges should be specifically prohibited. A precautionary catch quota on low-resilient species such as alfonsino (*Beryx* spp.) and Cardinalfishes (*Epigonus* spp.) should be agreed and, the overexploited Chilean jack mackerel fishery in the area should be heavily constrained. The conservation of tuna, swordfish and the mitigation of turtle and pelagic shark bycatch will require fisheries management measures by the Inter American Tropical Tuna Commission (IATTC; Antigua Convention). Specific regulations should be applied in the Nazca area to protect juveniles of swordfish.

Mineral prospection, exploration and exploitation should not be permitted in the area by the International Seabed Authority (ISA). In case of verifying this area as a reproductive zone for the endangered blue whale, the International Whaling Commission (IWC) should implement conservation measures and promote research in this area. In addition, cargo ship routes must be evaluated by competent authority (i.e., the International Maritime Organization, IMO) in light of possible interference with blue whale or other big cetaceans in the area.

For full references, please download an extended briefing from
www.wwf.se/wwf/1455095-deep-sea

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WWF

WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption.