

Closing Time For Overfishing- Creating Pacific High Seas Marine Reserves



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Defending Our Oceans

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Three distinct high seas areas exist within the Western and Central Pacific Ocean (WCPO), entirely bound by the exclusive economic zones (EEZs) of surrounding island nations, as shown in Fig.1. These high seas enclaves, colloquially known as “donut holes” or “high seas pockets”, are areas of international waters that appear relatively small in comparison to the huge sea areas falling within the EEZs of some of the Pacific States. Even so, they have significant biological and ecological importance and face a number of threats, including overfishing and the potential extraction of seabed minerals in the future.

Greenpeace is advocating that these areas be designated as fully-protected marine reserves. We believe that doing so will yield a mixture of conservation, management and economic benefits to the Pacific region, its marine life and the all-important tuna fisheries.

The Pacific is home to many small island countries, which are in fact large ocean States, rich in culture, history and biodiversity. Many of these countries are just a few metres above sea level at their highest point, putting them on the front line of climate change impacts, such as rising sea levels. Yet despite their fragility, these ocean States are blessed with valuable terrestrial and marine ecosystems. The oceans, in particular, are crucial to the livelihoods of the Pacific Island States, and fish is a vital resource to their economies.

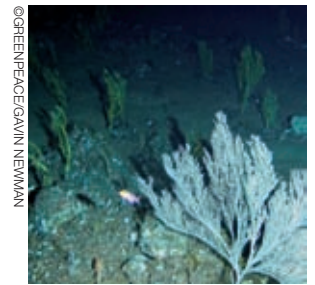
The Pacific is at a crossroads: one path leads to sustainable and fair fisheries, a healthy marine environment and stable, prosperous island communities and the other path leads to the continued decline or even collapse of one the world's abundant tuna fisheries and loss of livelihood and food supply for the people of the Pacific.

Foreign fleets that have depleted fishing grounds closer to home are moving into the area in search of what might be the last tuna. More than 80% of the tuna caught in the Pacific today are caught by fishing fleets from Japan, Korea, Taiwan, China, USA, Philippines and the EU. These countries pay money to Pacific Island Countries (PICs) in order to fish in their EEZs. These same fishing fleets take 900% more than locally based vessels. Illegal, Unreported and unregulated (IUU) fishing is also rampant in the Pacific.

The Pacific provides approximately 60% of the world's tuna and each year foreign fishing fleets rake in over US\$3 billion from the sale of Pacific's tuna to markets in Japan, Europe and the USA. Pacific nations are being ripped-off - only receiving 5-6% of the value of the catch caught by foreign vessels in their national waters. This is because of the unfair and unsustainable agreements negotiated by foreign companies and countries for access to fish for tuna in Pacific waters.

Despite repeated warnings since 2001 that strong measures are needed to conserve stocks, over-fishing, illegal, unregulated and unreported (IUU) fishing and destructive fishing methods continue to threaten the Pacific's fragile ocean environment and the tuna that inhabit it. This tuna that has given the Pacific peoples food, jobs, education, roads, health care and life, faces an imminent crisis.

Unfortunately, this tuna fishery crisis in the Pacific is the latest victim of the global trend of global fish decline. In the past, vast tracts of our seas were simply inaccessible to fishermen and other human activities and so were de facto marine reserves, providing natural refuges for marine species. Recent decades have seen a massive increase in the global fishing effort and technical innovation, enabling fishing practically anywhere on the planet, with disastrous impacts on global fish stocks and marine diversity. The report, 'State of the World's Fisheries and Aquaculture, 2006', released by the FAO (Food and Agriculture Organisation of the United Nations) in 2007, stated that in 12 out of 16 regions evaluated, at least 75% of stocks are already fully or overexploited. Populations of top predators are disappearing at an alarming rate. It is estimated that many populations have been reduced by 90% since 1950.



Marine Reserves: Conservation and fisheries benefits

Marine reserves are highly protected areas off limits to all extractive and destructive uses, including fishing and mineral exploitation. Where marine reserves have been designated, they have been shown to result in long-standing and often rapid increases in the abundance, diversity and productivity of marine life, especially of species that were previously exploited. They are therefore the most powerful tool available for the conservation of ocean wildlife and may also benefit fisheries by promoting recovery and reproduction of exploited species.

Marine reserves provide the crucial underpinning for the implementation of effective management of the ocean and have important benefits to the scientific understanding of this little-known environment. They provide scientific reference areas and baselines for the measurement of impacts. This enables scientists to obtain data on areas less disturbed by human activities (e.g. separating natural variation from fishing effects) and enables a greater understanding of how ecosystems function.

There is a growing body of evidence to suggest that the establishment of a network of marine reserves can lead to enhanced yields in adjacent fishing grounds. Marine reserves enable the development of more natural, extended population age structures that promote resilience to overfishing and are important in maintaining the integrity of marine ecosystems in the face of climate change. In addition, marine reserves can also help provide a more predictable catch from year to year, enhancing fisheries' stability. They also serve as a form of insurance against management failure resulting in degradation of the ecosystem in non-designated areas. A further benefit to fisheries that may flow from marine reserves is enhanced catches beyond their boundaries, as a result of either the spill-over of adults and juveniles across reserve boundaries or from the export of larvae or eggs from reserves to fished areas. However, this will be most marked when the non-designated areas are subject to failing management and overfishing.

While the benefits of protection are more apparent for species spending much or all of their time within a marine reserve, reserves can also offer protection to migratory species, particularly if reserves are created in places where these species are especially vulnerable- such as spawning and nursery ground, as well as aggregation sites, such as seamounts. For highly mobile species like tuna it is also

important to encompass an adequate and significant proportion of their critical habitat.

However, the designation of an area as a marine reserve does not preclude the need to ensure adequate conservation and management measures for areas falling outside of them. The goal is also to achieve sustainable use of marine resources outside the marine reserves network. This means that activities must conform to principles of sustainability, causing no degradation of ecosystem structure and function, and also meet the needs of both current and future generations. Marine reserves complement fisheries management measures, such as reduction in fishing effort and capacity, prevention of IUU fishing and development of non-destructive fishing methods.

Permanent or Temporary Closure?

Most existing marine protected areas (MPAs) deliver very little in the way of real protection. Studies have shown that when even a small amount of fishing (including sports fishing) is allowed in a MPA it can have substantial detrimental effects on the area's ecology. For example, the extraction of large females from the population drastically reduces the number and quality of eggs exported to sea areas outside.

Fish populations benefit from the creation of marine reserves, and there is evidence from many places where marine reserves have been established that fisheries beyond the marine reserve boundaries benefit through export of eggs and larvae and spill-over of fish. However, campaigning for marine reserves is more than just about fish; such networks will also deliver significant fisheries management benefits, and, more importantly, marine reserves can act as reference areas so that we can determine the effects of other kinds of management activities outside and act as a sort of insurance for fisheries outside.

The primary purpose of establishing a network of marine reserves is to ensure adequate protection for the entire marine environment; permanent closure of some areas is absolutely fundamental to the long-term protection of our oceans. A global network of marine reserves will protect the whole range of marine biodiversity to be found in the oceans and indeed protect whole ecosystems. By stopping extractive activities and minimising disturbance in large-scale marine reserves we are allowing the oceans to assume a more natural state. Pristine and near pristine areas should remain so and degraded areas will be allowed to recover.

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Fig. 1. Map showing the locations (in orange) of the three Pacific high seas enclaves proposed as marine reserves by Greenpeace..



The Pacific high seas enclaves - ecological characteristics and threats

The area to the north of Papua New Guinea **(1)** lies across the nominal boundary between the North and South Pacific Oceans. This sea area is of importance to the western Pacific population of leatherback turtles, which nest on beaches in Papua, Indonesia and the Solomon Islands but which migrate to foraging grounds in the Northern Hemisphere. This species is endangered both by longline fishing and by gathering of eggs and killing of adult turtles for food (Kaplan 2005). The area is also divided north to south by the Eauripik Rise. This is a significant seamount area thought to have been formed by a volcanic “hotspot” (Macpherson & Hall 2001). Although relatively little survey work has been carried out (see International Seabed Authority, 2007), the adjacent areas have revealed the presence of polymetallic sulphides, polymetallic nodules and cobalt crusts. These are all potential targets for the deep sea mining industry. Little information exists on the biological resources in the area, but as a seamount system located in a region renowned for its high shallow water biodiversity, in common with other seamount systems could be expected to exhibit a rich biodiversity of deep-sea life with high levels of endemism. (Johnston & Santillo 2004).

Similar considerations hold true for the second “donut hole” in the Western Pacific, whose area is defined by the EEZs of the Federated States of Micronesia, Papua New Guinea, Solomon Islands, Tuvalu, Kiribati, Nauru, the Marshall Islands and Fiji **(2)** including the area below bounded by Fiji, the Solomon Islands and Vanuatu.

Polymetallic sulphides and nodules have been located in the North Fiji Basin adjacent to the “donut hole”. The whole area contains chains of seamounts and numbers of large topographical features. These have not been biologically characterised. Both areas may well be important as spawning areas for commercially important species of tuna (skipjack, albacore and bigeye) as well as other large pelagic fish which spawn over wide areas of the sub-tropical and tropical Pacific. The southern bluefin tuna spawning grounds appear to be restricted to waters between Japan and the Philippines, but the other species spawn over very much wider ranges. (See e.g: Hampton et al. 2004). In the case of yellowfin tuna, significant proportions of the reported catch appear to have originated in two “donut holes”.

The third area categorised as a “donut hole” is bounded by the EEZs of French Polynesia, the Line Islands and the Cook Islands **(3)**. Data held by the International Seabed Authority suggest that this area has been much more extensively characterised in relation to seabed resources. The area is shown as having deposits of polymetallic nodules and appears, together with adjacent seabed areas, to be fairly rich in such resources, raising the possibility of future commercial exploitation.

The level of exploitation of living resources throughout the entire region, the active overfishing of key fish species (yellowfin and bigeye tuna), together with the poor level of biological characterization of the area, points to the urgent need for better protection and management of the area as a whole.

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The Pacific high seas enclaves: A playground for Overfishers

Both legal and IUU fishing are taking vast quantities of tuna from the Pacific. Scientific warnings are repeatedly made about the WCPO, which contains the largest and one of the last abundant tuna fisheries left in the world. However, bigeye and yellowfin tuna are now being fished at unsustainable levels that threaten the future viability of these stocks.

The modern fishing reality is dominated by industrial fishing vessels that far out-match nature's ability to replenish fish. Super-sized fishing vessels using state-of-the-art fish finding sonar and helicopters or spotter planes can pinpoint schools of fish quickly and accurately. These vessels also have fish processing and packing plants, huge freezing systems, fishmeal processing plants and powerful engines to drag enormous fishing gear through the ocean.

In many cases, regulation of these fishing vessels is woefully inadequate – fish stocks are plummeting and little regard is paid to the resulting impact on marine ecosystems. Many species are being fished to commercial extinction with more on the way.

At present, there are unknown numbers of large-scale industrial fishing vessels scooping up vast amounts of tuna in these areas. In 2005, 24% of all tuna caught in the Pacific was caught on the high seas areas. In these areas, vessels do not have to pay access fees to the Pacific Island Countries, nor do they adequately report the amount of fish taken. This means that the scientific basis for management is unreliable, and thus undermines the management and conservation measures of the regional tuna resources. Operators of the vessels often make indiscriminate use of destructive fishing methods that kill countless sharks, turtles and unwanted fish species.

The situation in the region is made worse by IUU fishing boats that take as much fish as they like, ignoring any regulations. They are also operating illegally within rich fishing grounds inside EEZs and then falsely claim that their catch originates from the high seas enclaves, therefore avoiding payment of access fees to the EEZs of the Pacific Island Countries.

The Western and Central Pacific Fisheries Commission (WCPFC) is the management body responsible for the tuna stocks within the WCPO. It is a relatively young Regional Fisheries Management Organisation (RFMO) that was set up in 2004, modelled on the 1995 UN Fish Stocks Agreement. It aims to promote cooperation and coordination between members of

the Commission to ensure that conservation and management measures for highly migratory fish stocks in areas under national jurisdiction and measures for the same stocks on the high seas are compatible.

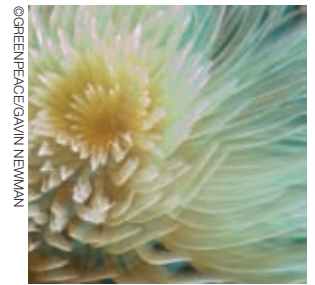
However, ignoring scientific warnings issued already in 2005 that overfishing is occurring on both yellowfin and bigeye tuna, the WCPFC member States have consistently failed at WCPFC annual meetings to agree to urgently needed conservation and management measures that would ensure the long-term sustainability of these tuna stocks. Using the excuse of the need for more scientific advice, distant water fishing nations argued against committing to any conservation action.

Urgent measures are needed to dramatically decrease fishing effort to ensure that these tuna stocks, which form the lifeline for many Pacific Island Countries' economies, are preserved in the long term. In order to achieve sustainable and equitable Pacific fisheries strong measures are needed, which includes a 50% effort reduction in the regions tuna fisheries, fisheries to be managed in accordance with the ecosystem and precautionary approach, fair fisheries agreements, the development of small-scale domestic fisheries and for a regional network of marine reserves, covering 40% of both national waters and the high seas.

International Call for a global network of marine reserves

The importance of establishing marine protected areas and marine reserves has been recognised by a large number of countries and is reflected in the language of several important international agreements. The UN Millennium Project calls for 10% of the oceans to be covered by marine reserves in the short to medium-term, with a long-term goal of 30%. In 2004, echoing pledges taken at the World Summit on Sustainable Development (WSSD), the Convention on Biological Diversity's (CBD) 7th Conference of the Parties (CoP 7) committed to the establishment of a global network of marine protected areas by 2012 (Decision VII/28).

Greenpeace is campaigning for a global network of marine reserves, and presented at the 8th Conference of the Parties of the CBD in 2006 (COP 8) a proposal for a network covering 40% of the high seas. This network, designed by Professor Callum Roberts and his team at York University in the UK,



identified a number of areas in the Pacific contributing to the global network that included the high seas pockets - all of which are important in terms of their marine life (Roberts et al. 2006).

Steps for establishing the Pacific high seas enclaves as marine reserves

There are a number of routes to protecting the enclaves. Coastal States can exercise their jurisdiction to ensure their licensed vessels and nationals do not fish in the enclaves.

Greenpeace is calling on the West and Central Pacific Fisheries Commission (WCPFC) to permanently close the three high seas enclaves to all fisheries under its management as an urgent measure to protect the fisheries of the region and to improve the management of resources. In order to make these fully protected and permanent no-take marine reserves, with the associated ecosystem level benefits, the Pacific Island Countries should explore the option of extending the northern boundary of the South Pacific Regional Fisheries Management Organisation (SPRFMO), which is currently under negotiation, to 10 or 20 degrees north, or alternatively to extend it to include the “donut holes”. Such an extended SPRFMO could then designate these areas as marine reserves under its jurisdiction and effectively close them to all present extractive human use.

These steps can be complemented by other steps with the South Pacific Regional Environment Program (SPREP) and the Pacific Islands Forum. Other regional examples include the 2001 Pelagos Sanctuary for Mediterranean Marine Mammals, of which 53% is in international waters. Another example is the closure of five seamounts and part of an oceanic ridge by the North East Atlantic Fisheries Commission (NEAFC).

Steps to Create a Global Network of Marine Reserves and Improve High Seas Governance

Recent figures released by the MPA Global database, housed at the University of British Columbia, reveal that marine protected areas cover a mere 0.65% of the world’s ocean, of this percentage a tiny fraction are on the high seas. Aside from the lack of political will, one of the main reasons has been the fact that the existing international oceans regulatory system does not cover biodiversity protection on the high seas explicitly and comprehensively.

Greenpeace believes that urgent action is needed to revise the current oceans governance system. In particular, the time is ripe

for a new implementing agreement under the United Nations Convention on the Law of the Sea, which would serve as a comprehensive, legally binding framework to implement the UNCLOS provisions relating to the duties of States to cooperate in the protection of the marine environment of the high seas. In addition, it would harmonise institutional mandates, improve coordination, and facilitate the establishment of a global network of high seas marine reserves as well as rules on access and benefit sharing in relation to high seas genetic resources.

However, in the short term Parties and relevant organisations, including Regional Fisheries Management Organisations, should increase cooperation and use fully and effectively best available scientific knowledge, expertise, criteria and political instruments in order to take immediate action in identifying priority areas for conservation, and to establish marine protected areas and marine reserves, including in areas beyond national jurisdiction.

Conclusion

Marine reserves are the cornerstone of the ecosystem approach, and can yield a range of benefits to fisheries management as well as the protection of marine ecosystems. However they do not preclude the need for other management measures including effort reduction in areas outside the marine reserve boundaries, and more resources invested into improved monitoring, control and surveillance, including comprehensive Vessel Monitoring Systems. These will be essential in reducing IUU fishing as well as both establishing and enforcing any future marine reserves in the WCPO.

Establishing the Pacific high seas enclaves as no-take marine reserves will help combat pirate fishing and overfishing, marking a significant step towards ensuring sustainable fisheries in the region over the longer term. It will also help restore the diversity of marine life, and provide a refuge for tuna stocks, allowing them to breed and grow and so help prevent overfishing. In addition the healthier marine ecosystems found inside the marine reserves will be more resilient to climate change.



Greenpeace is an independent global campaigning organisation that acts to change attitudes and behaviour, to protect and conserve the environment and to promote peace.

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