

### **EDITORS' NOTES**







Kevin Chand

Co-Editor

James Sloan Co-Editor

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The development of Aquaculture in Fiji Page 5 The Pacific Ocean is a dynamic place. In the last few weeks, the results of a 20-year study of Hawaii's deep "Twilight Zone" of coral reefs revealed incredible species diversity, extensive areas of 100% coral cover and a place of refuge for species fleeing the destruction of shallower coral reefs. In the same month the "Great Pacific garbage patch", a large swirling vortex of debris that includes discarded fishing nets, plastic bottles, and other mainly plastic waste, floating in the Pacific Ocean was revealed to be visible from space.

Discoveries like these are typical of the vivid contrasts that are found in the Pacific region. These contrasts range from the bright and striking colours of its ocean, corals and fish, to the diversity and cultures of its people and the juxtaposition of deeply inspiring and uplifting discoveries that inform us of the Pacific's natural wonders alongside troubling developments that threaten the region's ocean resources, health and potential wealth. Existential threats that include the effects of climate change, natural disasters, and the exploitation of the region's natural resources lurk behind the white sandy beaches and blue and teal oceans.

The challenge for Pacific Island nations is to balance their own development needs with the sustainable use of and rightful benefit from their shared ocean's natural resources. To find this balance means understanding and taking account of the competing needs and interests for those resources from those who want to exploit and those who want to conserve. Also essential to finding the balance is an appreciation of the Pacific Island nations' context, and this includes taking into account their unique law and governance systems. While opportunities for management initiatives are presented by International frameworks like UNCLOS, there is also room for local and regional efforts to control and manage the use of shared resources. For example, the Parties to the Nauru Agreement (PNA) comprises 8 Pacific Island Nations who have agreed to exert control over the use of their shared resources in ocean areas. The PNA has, to date, only focused on valuable tuna resources and limited the use through a combination of sub-regional agreements and licenses. But the bright spot that the PNA represents contrasts with a broader failure to find a sustainable way to use the ocean's shared resources.

Through our bulletin we provide information about the local and regional law and governance context with the aim of supporting efforts by Pacific Island nations and others to find innovative ways and inclusive processes to regulate, conserve, and manage, protect and sustainably use and benefit from the region's resources. The governance systems in the Pacific play an important role in finding and maintaining the balance between the contrasting needs and pressures on the ocean's resources.

In this month's bulletin we consider the efforts to manage the protection of biodiversity beyond national jurisdiction, the latest efforts to manage and conserve sharks, and update on Fiji's Aquaculture Bill. In our next issue we intend to explore the PNA, focus on the Ocean's economy and comment on the processes around the creation of marine protected areas in Fiji.

On the eve of publishing this bulletin we are informed and excited by the breaking news that a landmark international agreement has been reached between 24 countries and the European Union in Australia to create the world's largest marine park in the Southern Ocean that will protect more than 1.5million km2 of the Ross Sea around Antarctica which scientists consider is the last intact marine ecosystem on earth. The Ross Sea marine park will include a 1.1million km2 no take zone where no fishing will be allowed. The Ross Sea marine park agreement is the first of its kind in international waters, covers a significant part of the Southern Ocean (for comparison Fiji's exclusive economic zone covers nearly 1.3million km2) and may represent the first step towards sustainable ocean management outside national jurisdictions. A driving factor behind this agreement to protect is to stop the unsustainable fishing of krill (a small shrimplike planktonic crustacean of the open seas) that are an important species at the bottom of the food chain, and upon which many species including sharks, and whales depend. Krill are caught primarily for aquaculture. Krill are just one example of why the ocean is a complex eco-system, and the connections and inter-dependencies are endless, and this is illustrated by the fact that the Ross Sea marine park is relevant in different ways to all 3 topics covered in this month's oceans law and policy bulletin.

Finally, we mentioned that the Pacific region is dynamic, and in the last few weeks in Fiji we can update that the Oceans Conference to discuss SDG 14 which was due to be co-hosted by the governments of Fiji and Sweden in Suva in June 2017 has been relocated from Fiji to New York, Fiji's government has devolved a separate Ministry of Fisheries and appointed the Honorable Semi Koroilavesau as the Minister for Fisheries, and the second round of consultations for Fiji's National Fisheries Policy 2016 will take place in Suva, Fiji, in the week of November 14 - 18, 2016.

We welcome any comments, contributions or suggestions that you may have. Please feel free to reach out to us via email.

## **BIODIVERSITY ON THE HIGH SEAS**

Areas beyond national jurisdiction (ABNJ) includes the High Seas, which accounts for approximately 64% of the world's ocean, and the deep seabed beyond national jurisdiction. In the High Seas no State has jurisdiction, meaning individual States have no management rights, and activities in this area with respect to marine biodiversity remain largely unregulated. While there are some regional management plans that exist on the High Seas, these are often restricted to certain species or industries and ultimately result in an ad hoc and overall, poorly managed ocean. Overexploitation of fish stocks, increasing marine pollution, and habitat destruction, together with the impacts of climate change and ocean acidification mean that now more than ever there is an urgent need to protect larger expanses of the ocean particularly the High Seas.

In international law, the High Seas are de facto open access, meaning that because they belong to no one, they may be exploited by all. Garett Hardin in his now famous article, The Tragedy of the Commons illustrated the problem of the "commons" or resources open to all, describing that users of this resource when acting independently of each other would try and exploit the resource until there was nothing left (the tragedy).

Applying this to the dilemma of the High Seas it becomes apparent that the High Seas faces a similar fate. A potential solution to the lack of regulation of the High Seas is the currently negotiated international legally binding instrument under the UN Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction (BBNJ). This agreement would supplement UNCLOS and be the first global agreement related to the protection and conservation of biodiversity on the High Seas.

Work on BBNJ officially began in 2004, when a working group was established at the 59th Session of United Nation General Assembly to study issues relating to the conservation and sustainable use of BBNJ. Between 2006 and 2015 there were several meetings of the working group which culminated in recommendations for a decision to be taken at the 69th session of the UN General Assembly to develop a new legally binding instrument on BBNJ under UNCLOS, and to start a negotiation process to that end. At the 69th session, the General Assembly passed a resolution to develop an international legally-binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. This resolution also established a preparatory committee tasked with studying issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction and to make substantive recommendations to the General Assembly on the elements of a draft text of an international legally binding instrument under the Convention.

The Preparatory Committee (PrepCom) meetings serve as a platform to discuss what the final text of the BBNJ treaty will contain and involves several rounds of meetings to reach a consensus amongst States. To date, two PrepCom meetings have been held, with the latest PrepCom 2 wrapping up in September this year. In 2017, there will be two additional PrepCom meetings before the draft text is completed.



An important proposed feature of BBNJ is mechanisms to create High Seas MPAs. MPAs are recognized by many as an essential tool for promoting marine biodiversity and while MPAs are created in many parts of the world, they are primarily located within the EEZs of States. The ability to create MPAs on the High Seas could create an opportunity to conserve and better manage the ocean's resources on a larger scale. This is important because High Seas management and conservation for promoting biodiversity is largely unregulated.

Another proposed feature of BBNJ is Environmental Impact Assessments (EIA) and carrying out EIAs prior to conducting activities in the ABNJ that could pose significant adverse impacts to biodiversity. This requirement would be an obligation on any State that wished to conduct activity on the High Seas that could potentially harm marine resources and therefore acts as a safeguard for the protection of the High Seas.

In addition to the MPAs and EIAs, other proposed issues that should be tackled by BBNJ include Marine Genetic Research, Capacity Building and Technology Transfer and other Cross Cutting Issues. While the exact text reflecting how each of these issues will be dealt with is yet to be determined, the overall objective is to engage States in processes to yield outcomes that would benefit all.

BBNJ represents an exciting development in the area of Oceans law and governance that has the potential to revolutionize the regulation, conservation and management of biodiversity on the High Seas and create opportunities for States to better manage areas beyond their national jurisdiction and their common resources that are shared by mankind. We in the Pacific are very reliant on our oceans and such an agreement could yield significant benefits for us as it will protect the High Seas adjacent to our maritime borders promoting a richer and healthier ocean.

# A LEGAL AND POLICY DISCUSSION OF SHARK CONSERVATION IN FIJI



Sharks are renowned apex predators in the ecosystems they occupy and therefore play an important regulatory role in maintaining the health and balance in an ocean ecosystem. Sharks primarily prey on the weak and sick in other marine species and this helps in both strengthening genepools and preventing the spread of disease in prey species. This grooming of other species is an important function in the intricate ocean food webs and one of the reasons why sharks are considered keystone species by some marine scientists, meaning that their removal could cause a collapse of these systems. This role is particularly important in vulnerable ecosystems like coral reefs.

In 2015 from a 19% coverage reporting rate, 2,106 sharks were caught by Fiji's national longline fleet with 57 sharks retained and the rest discarded either dead, or alive and injured. This statistic is only fraction of the actual number caught but is useful in illustrating the peril of the species. Increased exploitation of sharks by fishing and bycatch can heavily impact shark stocks due to the nature of their reproductive cycle and their slow recovery from fishing pressure. In Fiji, there is no legislation or policy that deals specifically with the management of sharks. That is not to say there are no provisions for the protection of sharks. Combing through various laws there are mechanisms to create Shark protection zones; prohibitions on the trade of certain species of sharks and regulatory obligations. The Fisheries Act, Offshore Fisheries Management Decree, and Endangered and Protected Species Act include varying provisions on the treatment of sharks.



The Endangered and Protected Species Act is the statutory implementation of Convention on International Trade of Endangered Species and Wild Fauna and Flora (CITES) at the national level and this means that it regulates the trade of species listed in CITES appendices as well as indigenous species not covered by CITES. The species listed in the three appendices corresponded with the level of protection needed. In appendix II of CITES, which is the list that contains those species whose trade is regulated, there are several species of sharks included. At the most recent CITES CoP 17 meeting in Johannesburg, silky sharks and thresher sharks were added to appendix II meaning that their trade is now regulated under CITES and the Endangered and Protected Species Act.

Under the Fisheries Act, which applies to inshore waters, there are general provisions that empowers the Minister of Fisheries to make regulations that inter alia, either ban a particular species from being harvested; demarcate an area where fishing is restricted or in a seemingly catch-all clause, regulate the 'conservation, protection and maintenance of a stock of fish which may be deemed requisite.' This provision was used in 2014 to create a legally recognized Shark **Reef** Marine Reserve in the area between the island of Beqa and the province of Serua. In addition, community initiatives through the Fiji Locally Managed Marine Area network also results in community protected areas and community education that benefits sharks. The Offshore Fisheries Management Decree which regulates fisheries in the offshore has general fisheries management provisions that include the creation of fisheries management plans. There are also obligations to regional fisheries management organizations (RFMOs), in this case the Western and Central Pacific Fisheries Commission (WCPFC) to which Fiji is a member. Fiji's current licensing requires that all vessels comply with WCPFC Conservation and Management Measures (CMM). CMMs relating to shark include reporting requirements on shark catches, prohibition on retaining certain species and discouraging shark finning.

The current regulatory framework for shark conservation and management is fragmented with various statutory laws and regional mandates and international obligations covering certain aspects of shark management. A key step to consolidating shark management initiatives is to adopt a National Plan of Action on sharks that consolidates all these scattered fragments while also raising the bar by adopting best practice approached in shark conservation and management. Sharks play a vital role in the ecosystems they occupy and this warrants the need for more coordinated measures to be put in place to better manage and conserve them.

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# The Development of Aquaculture in Fiji



Aquaculture is a rapidly growing sector in food production and now according to FAO it accounts for nearly 50 per cent of the world's fish consumed for food. Growing populations, increasing fish consumption and the impacts of climate change on fisheries means that relying solely on wild-caught fish is unstainable in the long term. Developing aquaculture projects goes some way towards relieving the pressure on traditional fisheries while also contributing toward seafood production. In Fiji, while aquaculture does not currently contribute significantly to overall production it has potential.

An anticipated boost to aquaculture in Fiji comes in the way of the Aquaculture Bill, which was introduced in early 2016 with the main goal of sustainable management and development of Fiji's aquaculture activities so that they benefit the people of Fiji for many generations. This Bill would be the first piece of legislation that specifically deals with the regulation of aquaculture activities. The potential benefits of aquaculture include: strengthening food security in coastal communities, increasing economic activities, and contributing to increased fisheries sustainability.

The Bill's provisions include:

- the introduction of an aquaculture licensing regime and the associated monitoring and enforcement powers, including fixed penalty notices;
- the establishment of the Aquaculture Advisory Council, the Licensing Committee and the Scientific Committee; and
- the power to designate aquaculture areas, and to adopt management and development plans to encourage and manage the sector in those areas.

The key argument for developing aquaculture is food security. The FAO in its latest State of World Fisheries and Aquaculture report identifies a global trend of increasing fish consumption, while capture fishery production has been stagnating. Comparatively, aquaculture continues to grow each year. Compared to traditional land-based livestock production, aquaculture is one of the most resource-efficient ways to produce protein. This is so because fish in general tend to convert more of the food they eat into body mass.

While aquaculture can be a great resource there are several issues in its implementation that could be problematic for communities and the environment. These include marine tenure, sourcing feed, vulnerable habitats, spread of disease, and pollution.

• Marine tenure: Coastal waters are subject to traditional fishing rights and it is important that when proceeding with aquaculture projects in these areas to be aware of the registered rights and obtain both the proper customary consents and requisite ministerial leases, licenses and approvals.

• Aquaculture feed: Depending on the species being reared, feed can often be other fish lower in the food chain (for example krill) that may not otherwise be marketed for human consumption. If the feed species is not captured in a sustainable manner, this can lead to plummeting stocks of that species along with associated impacts to the ecosystem it occupies. • Site vulnerability: The site of aquaculture activities can be vulnerable and adequate steps should be taken to ensure as little damage to the surrounding environment as well as to ensure steps are taken to mitigate any damage caused.

• Diseases: In aquaculture, fish are kept in greater concentrations than in the wild and this can lead to diseases spreading more quickly. Also, depending on the type of enclosure, if fish from aquaculture farms escape into the wild they can spread diseases to wild fish. Another associated issue here is the use of antibiotics in aquaculture, which if not used responsibly has human health implications.

• Invasive species: Farmed fish escaping from enclosures into the wild can also have a further impact, particularly if they are not native species to the area, by outcompeting local species thereby destabilizing local ecosystems.

• Pollution: Certain aquaculture activities tend to generate a lot of organic waste and chemical effluent. If this waste is not treated before disposal or disposed properly, this can cause environmental damage.



Pearl Farm at Raviravi Village in the district of Macuata, Vanua Levu after it was destroyed by Cyclone Evan in December 2012

While, the potential for aquaculture is immense there is a need to proceed with an understanding of the environmental impacts inherent to the aquaculture sector. Adopting unsustainable practices can lead to, amongst other things, a decimation of wild caught feed stock species, environmental damage, the spread of diseases to wild fish, and the possible introduction of invasive species. Finally, in Fiji and other Pacific Island nations there is a key legal and governance component for aquaculture projects because many are located in coastal areas. For Fiji this means that before aquaculture projects proceed there should be full consultation between the government (Ministry of Fisheries) and the communities who own the rights in the traditional fishing grounds (qoliqoli). Because the rights to traditional fishing grounds are shared between communities, with the State enjoying the majority of the rights, consultation and a co-management approach based on those consultations to aquaculture projects is important. From a common law and administrative law perspective, traditional fishing rights will be a relevant consideration for the relevant decision maker to take into account before approving an aquaculture project that could adversely affect those rights, and this principle will apply to other common law jurisdictions in the Pacific.

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# CONTACT:

# Oceans Law and Policy Services

(t) +679 331 9167

(a) 8 Holland St GPO Box 2025 Government Buildings Suva, Fiji

(w) www.sas.com.fj

James Sloan (james@sas.com.fj) Kevin Chand (kevin.chand@stanford.edu)

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