



OCEANS SURVEY

Safeguarding our oceans and coasts through exemplary policies and laws

ABOUT THE WORLD FUTURE COUNCIL

The World Future Council brings the interests of future generations to the centre of policy making. The Council consists of up to 50 respected personalities from all five continents. They come from governments, parliaments, the arts, civil society, science and the business world. The Council addresses challenges to our common future and provides policy makers with effective policy solutions. In-depth research underpins advocacy work for international agreements, regional policy frameworks and national law making. In close collaboration with civil society actors, parliamentarians, governments and international organisations we identify and spread 'future just' policies around the globe. The World Future Council is registered as a charitable foundation in Hamburg, Germany, where its head office is located. Additionally, we have staff working in Geneva, London and Johannesburg.

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ACRONYMS AND ABBREVIATIONS

ABNJ	Areas Beyond National Jurisdiction
CBD	Convention on Biological Diversity
CISDL	Center for International Sustainable Development Law
COP	Conference of Parties
COPA	California Ocean Protection Act [California]
CPP	coastal public property
DWFN	DistantWater Fishing Nation
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPWP	Expanded Public Works Programme [South Africa]
ESD	ecologically sustainable development
FAO	Food and Agriculture Organisation of the United Nations
FPA	Future Policy Award
GDP	Gross Domestic Product
GEF	Global Environment Facility
ICM	Integrated Coastal Management
IUCN	International Union for the Conservation of Nature
IMO	International Maritime Organisation
MLPA	Marine Life Protection Act [California]
MoU	Memorandum of Understanding
MPA	Marine Protected Area
NGO	Nongovernmental organisation
NIPAS	National Integrated Protected Area System [Philippines]
OPC	Ocean Protection Council [California]
PANA	Protected Areas Network Act [Palau]
PTD	Public Trust Doctrine
SEA	Strategic Environmental Assessment
TAC	Total Allowable Catch
TMO	Tubbataha Management Office [Philippines]
TPAMB	Tubbataha Protected Area Management Board [Philippines]
TRNP	Tubbataha Reefs Natural Park [Philippines]
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United National Educational, Scientific and Cultural Organisation
WFC	World Future Council
WfC	Working for the Coast [South Africa]

“THE OCEAN WORLD IS IN ALL OUR DAILY LIVES. EVEN FOR THE MANY MILLIONS OF PEOPLE WHO MAY NOT THINK THAT THEY HAVE A STRONG RELIANCE ON OCEANS, MARINE ECOSYSTEMS AND WILDLIFE PROVIDE ALL KINDS OF BENEFITS.”

Dr. Bráulio Ferreira de Souza Dias,
Executive Secretary, Convention on Biological Diversity



1. INTRODUCTION – SAFEGUARDING OCEANS AND COASTS FOR FUTURE GENERATIONS

Climate change and the unsustainable use of natural resources, resulting in the degradation of ecosystems and leading to biodiversity loss worldwide, are clear signs that today's humanity is living and consuming at the expense of future generations. We therefore need to develop and implement longterm solutions that help to create just, peaceful and sustainable societies that work together to pass on a healthy planet.

But why are we failing to adequately respond to the many global crises despite having the means to do so? One of the reasons is that our national and international policies, laws and agreements do not provide the right incentives for action. With the help of its global network, the World Future Council challenges short-term thinking and acting in order to improve national and local policies as well as global governance. In close collaboration with civil society, policy makers and academia we research equitable and 'future just' policies and legislation worldwide. We advise policy makers and support them in the concrete implementation of policies that promote sustainable living in order to secure the right of future generations to inhabit a healthy world and environment.

When looking at the many ecosystems that are at risk due to human impacts, oceans and coasts are among the most vital. Oceans cover 71 percent of the earth's surface and hold 90 percent of the earth's biomass. The ocean still holds on to most of its secrets – large areas are still unexplored and we are only just beginning to understand how our actions are impacting this environment. Oceans provide humanity with many goods and services: they are a crucial source of food and livelihood for millions of people and they produce more than

half of the oxygen we breathe. However, the marine environment is under severe stress from multiple anthropogenic pressures that are acting together in unexpected ways.

Overfishing and destructive fishing practices are a key threat, as a result of the overcapacity of the fishing industry and damaging fishing practices. Other threats to the oceans derive from land-based sources, such as sewage and agricultural runoff, leading to expanding marine dead zones. Additionally, the increase in carbon dioxide in the atmosphere, and the resulting climate change is raising sea temperatures and ocean acidification.¹ These stressors have resulted in vast declines in fish stocks, biodiversity loss, phase shifts in ecosystems and severe declines in coral reef cover which have been compounded by disease outbreaks and the spread of invasive alien species.

Sustainable management of oceans and coasts is a major political concern. Yet despite a vast number of initiatives, policies and projects, at all levels of governance, there is limited coordination between these different policies. The trends in marine ecosystem decline underline the urgent need for effective implementation of international agreements and policy on oceans. These policies need to respond to the latest scientific advice, take an ecosystem approach, incorporate climate change mitigation and adaptation and consider social and cultural contexts.

The World Future Council has worked together with its network of parliamentarians, academic experts, international and civil society organisations to present this analysis of the winning policies of the 2012 Future Policy Award on Oceans

¹ The Pew Environment Group (2012) Rio+20 Time to turn back the tide. Available online at: http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Other_Resource/Pew-Rio20GapAnalysis-Sept2011.pdf (consulted 11 September 2012)

and Coasts. The aim of this publication is to present existing, sustainable solutions to policy makers and other experts. It provides them with helpful tools and inspires them to draft and implement policies and laws that protect and sustain oceans and coasts for current and future generations. It outlines the key objectives, actions and strategies as well as the benefits of each policy. It is the result of a comprehensive evaluation of marine and coastal policies from around the world, based on literature reviews and interviews with local experts.

We have divided the policies into the following categories:

- Integrated Policies for Oceans and Coasts
- Marine Protected Areas
- Sustainable Fisheries Management
- Integrated Coastal Zone Management
- Species and Biodiversity Conservation

In addition to the policies, we discuss the **Public Trust Doctrine**, a legal principle that can protect the rights of future generations to a healthy marine environment, and can be integrated into law making.

The policies in this document have the potential to provide a roadmap for the implementation of commitments in other regions, and by other national and local governments in order to ensure the health of our oceans and coasts and the livelihoods, food security and enjoyment of current and future generations.



2. VISION – THE BEST POLICY APPROACH

2.1 FUTURE JUSTICE POLICY PRINCIPLES AND FRAMEWORK

Laws and policies can support universal values. The best practices in law and policy for sustainable development will contribute to future justice and embody the highest standard of sustainability, respect for human rights and protection of the environment.² They will, in both their intention and their actual effect on the ground, work to defend the interests of future generations. Future Justice is about putting the values that are essential to our survival at the heart of every law and policy. Helpful in doing so are the seven principles for sustainable development law presented at the 2002 Johannesburg World Summit on Sustainable Development. The World Future Council and Centre for International Sustainable Development Law (CISDL) use these principles as the basis for their research and in the evaluation of laws and policies.

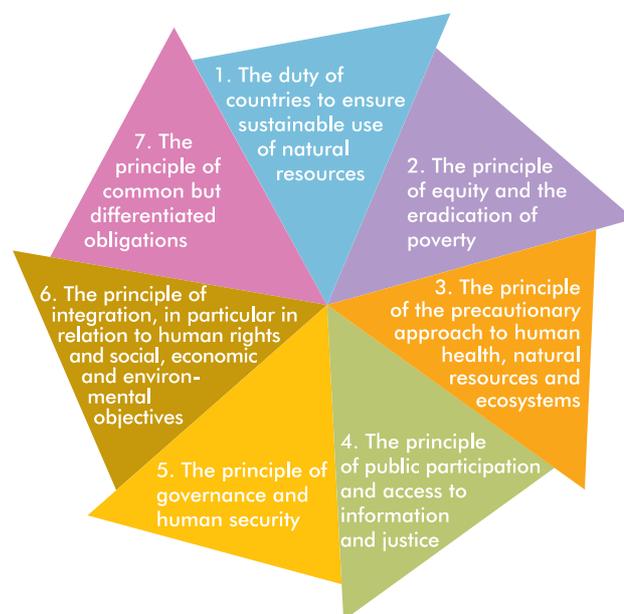
The World Future Council, together with its global network, identifies exemplary policies in the fields of climate and energy, sustainable ecosystems, future finance, future justice and human rights as well as peace and disarmament. Following our ‘best policy approach’, we advise policy makers through parliamentary hearings, workshops and field missions. Through this approach we support knowledge transfer and capacity building across manifold topics and different regions worldwide. Policy solutions are also presented on the online toolkit at www.FuturePolicy.org.

In order to assess candidate laws and policies, the World Future Council has designed, in cooperation with the Centre for International Sustainable Development Law (CISDL), a universal Future Justice Law and Policy Standard. In essence, this standard seeks to answer the following fundamental question: What are the rules, practices and policies whose adoption could radically enhance the prospects of sustainability of life on our planet and promote the integrity of future generations?

This methodology applies the **Future Justice Policy Principles**, derived from the seven principles for sustainable development law.

The seven Future Justice Policy Principles are:

1. The duty to ensure the sustainable use of natural resources
2. The principle of equity and the eradication of poverty
3. The principle of the precautionary approach to human health, natural resources and ecosystems
4. The principle of public participation and access to information and justice
5. The principle of governance and human security
6. The principle of integration and interrelationship, in particular in relation to human rights and social, economic and environmental objectives
7. The principle of common but differentiated obligations



The seven Future Justice Policy Principles

² Cordonier-Segger, M.-C., and Rana, R. Selecting Best Policies and Law for Future Generations: A Legal Working Paper for the World Future Council by the Centre for International Sustainable Development Law, 10 May 2008, p. 3.



2.2 THE FUTURE POLICY AWARD

Today's world needs laws that support a just and sustainable world and protect future generations.

With its Future Policy Award the World Future Council celebrates 'policies to change the world' – exemplary policies that contribute to better living conditions for current and future generations. The award aims to raise global awareness of visionary policies and speed up policy action in the interests of present and future generations. The celebrated policies are chosen from those that rank highest against the World Future Council's seven Future Justice Policy Principles. Such policies should safeguard the rights of future generations and secure future justice.

The **Future Policy Award** (FPA) is the first international award to celebrate policies rather than people. Each year the World Future Council chooses one topic on which policy progress is particularly urgent. In 2012, the Award recognized national and regional laws and policies that protect, monitor and regulate oceans and coasts, thus contributing to a more just and sustainable world.

The World Future Council has a strong precedent of following up its Future Policy Awards. By convening interparliamentary hearings on exemplary laws and policies the World Future Council provides a unique platform for discussion, mutual learning, knowledge transfer and capacity-building on winning policies of the Future Policy Awards. We aim to showcase existing good policy practice and work in active collaboration with engaged parliamentarians, academic experts, private sector representatives, local and indigenous communities as well as other civil society groups. The goal is to spread and adapt these policies, or elements thereof, to other countries and regions.

Following the **2009 FPA on food security** which awarded the city of Belo Horizonte in Brazil for its system that eliminated hunger and malnutrition from the city whilst at the same time boosting the livelihood of small scale farmers in the region, the World Future Council is organising a study tour for mayors of African cities to Belo Horizonte in order to promote this system as a transferable model.

Following the **2010 FPA on biodiversity**, which was convened in cooperation with the Convention on Biological

Diversity, a partnership with the Global Legislators' Organisation (GLOBE International) was launched at Rio+20. It aims to strengthen the capacity of legislators to advance and amend legislation in support of the conservation and sustainable use of biodiversity around the world. A biodiversity legislation session was convened during the first World Summit of Legislators at Rio+20 as well as a side event on visionary biodiversity policies at CBD COP-11 in Hyderabad, India, in October 2012. In 2013, a parliamentary hearing on exemplary biodiversity laws will be held in Costa Rica.

In 2011, the FPA celebrated exemplary **forest policies**, and was convened in partnership with the CBD, the UN Forum on Forests and the FAO. In 2012, as a follow-up, the World Future Council convened an inter-parliamentary hearing titled 'Forest for People' in Kigali, Rwanda. At the hearing, 25 parliamentarians and experts representing ten African countries underlined the urgent need to act at the national and local level to address the social, economic and environmental values of forests and trees. A second hearing will take place in June 2013.

2.3 EVALUATION PROCESS

For the 2012 **Future Policy Award**, WFC councillors and a select group of international organisations, civil society groups and expert academics were invited to nominate exemplary **ocean and coastal policies**. A complete list of nominating organisations can be found in Appendix A. A total of 31 coastal and marine policies from 22 countries or regions were nominated, including from Africa – 3, Asia – 5, Europe – 7, Latin America and the Caribbean – 3, Northern America – 5 and Oceania – 7. The nominations included policies for: sustainable fisheries; reduction of marine pollution; marine protected areas; regulations for the trade of marine wildlife; coastal zone management; integrated ocean frameworks and species conservation.

The research team applied the Application Tool Kit based on the seven Future Justice Policy Principles and interviewed representatives from government, civil society and academia for each nominated policy. The questionnaire used for these interviews can be found in Appendix B. The research team drafted an evaluation report based on the interviews and a literature review, which provided the basis for the jury's deliberations as well as for this paper.

The role of the jury was to select the policies that contribute to the sustainable management, conservation and development of the marine environment, considering the rights of current and future generations. For the final selection the jury had to consider if the policies fulfilled the criteria of the seven Future Justice Policy Principles and whether they could be transferred to other countries or regions.

On this basis the jury selected four **winning policies** and two honourable mentions.

- GOLD Award: **Palau's Protected Areas Network Act** (initiated in 2003) and **Shark Haven Act** (2009)
- SILVER Award: **Namibia's Marine Resources Act** (2000)
- SILVER Award: **The Philippines' Tubbataha Natural Park Act** (2010)
- Honourable Mention: **South Africa's Integrated Coastal Management Act** (2008)
- Honourable Mention: **California's Ocean Protection Act** (2004)

The **Future Policy Award Jury** in 2012 consisted of international experts from various fields and different organisations:

- Mr. Árni M. Mathiesen, Assistant Director-General, Fisheries and Aquaculture, Food and Agricultural Organization of the United Nations (FAO), *Italy*
- Mr. Gustavo A. B. da Fonseca, Ph. D., Head Natural Resources, Global Environment Facility (GEF), *USA*
- Mr. Robert Calcagno, Director General of the Oceanographic Institute Albert 1st, Prince of Monaco Foundation, *Monaco*
- Prof. Marie-Claire Cordonier Segger, Director, Centre for International Sustainable Development Law (CISDL), Chief, Environment and Sustainable Development Law Program, *Canada*
- Dr. Carl Safina, President and Cofounder of the Blue Ocean Institute, *USA*
- Mr. Jakob von Uexkull, Founder, World Future Council and Right Livelihood Award, *Sweden/Germany*
- Dr. Tewolde Erban Gebre Egziabher, Director General, Environmental Protection Authority, *Ethiopia*
- Prof. Dr. Vandana Shiva, Founder, Navdanya, Research Foundation for Science, Technology and Ecology, *India*
- Ms. Pauline Tangiora, Maori elder from the Rongomaiwahine tribe, *New Zealand / Aotearoa*

3. ACTION – BEST POLICIES FOR OCEANS AND COASTS

The following sections present the winning policies of the 2012 Future Policy Award as case studies of well designed and effectively implemented marine and coastal policies.

3.1 INTEGRATED POLICIES FOR OCEANS AND COASTS

The governance of our oceans and coasts is complex and fragmented. Sectors such as fisheries, aquaculture, oil and mineral extraction, energy generation, transport and recreation, use the same space and often have conflicting needs. As a result, it is common to have many ministries or agencies, with separate mandates, policies and legislation involved in governing the marine environment. A policy that takes into consideration all uses, stakeholders and threats to a given coastal or marine region is critical for the long-term strategic planning for the future sustainable use of these resources.

Case study: A framework for ocean protection in California

California, like many states and countries, has an extensive set of laws, regulations and treaties to protect, manage and use ocean resources, but these were developed without a comprehensive framework or strategy.³ The Pacific ocean and coastline are central to the economy and lifestyle of California. However, large and growing coastal populations and multiple uses of the marine environment have resulted in conflict over increasingly tight resources.⁴ The fisheries have been notably affected by poor regulation; the sardine fishery collapsed in the mid-twentieth century and by the 1980s, industrial fisheries were half their original size. Unregulated coastal development, wetland drainage, sewage and pollution from industry and agriculture, also contribute to the degradation of the marine environment.



The **California Ocean Protection Act** (2004) was enacted to promote the long-term sustainable use of the marine environment, with future generations at the heart of its vision. The Act mandated the creation of the Ocean Protection Council, which sets guidelines and coordinates activities between state agencies. It also created the institutional and financial structures needed for dormant policies to be enacted, such as the Marine Life Protection Act (1999) and the Marine Life Management Act (1999). Through the Marine Life Protection Act (1999), 124 interconnected marine protected areas spanning 2000 km² have been created, based on comprehensive mapping of the state waters and ecosystem-based spatial planning.⁵ The Ocean Protection Council has also adopted Resolutions to tackle wide-ranging issues such as climate change adaptation, sea level rise and reducing and preventing marine debris. This policy serves as a model for states or nations that have a patchwork of policies governing the marine environment that can be streamlined under an overarching piece of legislation.

³ Sivas, D., Caldwell, M. (2008). A New Vision For California Ocean Governance: Comprehensive Ecosystem-Based Marine Zoning. Available at: http://calost.org/pdf/resources/workshops/MSP_CAOceanGovernance.pdf (consulted 6 June 2012)

⁴ Ibid.

⁵ Marine Life Protection Act Implementation Update (2012). Available at: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=46029&inline=true> (consulted 7 June 2012)

POLICY OBJECTIVES

The objectives of the California Ocean Protection Act are to:

- Provide a set of guiding principles for all state agencies to follow, consistent with existing law, in protecting the state's coastal and ocean resources
- Encourage cooperative management with federal agencies, to protect and conserve representative coastal and ocean habitats and the ecological processes that support those habitats
- Improve coordination and management of state efforts to protect and conserve the ocean by establishing a cabinet level oversight body responsible for identifying more efficient methods of protecting the ocean at less cost to taxpayers
- Use California's private and charitable resources more effectively in developing ocean protection and conservation strategies
- Provide for public access to the ocean and ocean resources, including to marine protected areas, for recreational use, and aesthetic, educational, and scientific purposes, consistent with the sustainable long-term conservation of those resources

ACTIONS AND STRATEGIES

The Ocean Protection Act establishes the California Ocean Protection Trust Fund and the Ocean Protection Council, which seek to improve management, conservation, and protection of coastal waters and ocean ecosystems by:

- Coordinating activities of state agencies that are related to the ocean and coasts, to improve the effectiveness of state efforts to protect ocean resources
- Establishing policies to coordinate the collection and sharing of scientific data related to ocean and coastal resources between agencies
- Identifying and recommending changes in law and related actions to the Governor and Legislature

IMPLEMENTATION, BENEFITS AND OUTREACH

- A system of marine protected areas, with 124 marine protected areas and 16 special closures, covering approximately 16 percent of state waters
- Marine spatial planning mechanisms that were comprehensive, systematic and inclusive. These included online participation to involve stakeholders who were unable to attend consultation workshops
- Improved data collection, use and availability including: maps of the seafloor, ocean currents to inform oil spill responses, climate change, salmon recovery, sediment management, ocean energy feasibility
- Fisheries management is addressed through the creation of the California Fisheries Fund to offer loans to fishing communities and groups who are trying to make their fishing practices more environmentally and economically sustainable⁶

The California Ocean Protection Act has responded to the need for a comprehensive regulatory marine planning system and institutions to coordinate the activities in California's state waters. Innovative mechanisms were used for participation in policy-making during the development of the marine protected area network and to assess the uses of the marine environment. The Act provides a model framework for action for other coastal states where multiple laws to regulate the marine environment exist. The development and implementation of California's ocean policies have been extremely well documented and critiqued by civil society groups, thereby providing a wealth of lessons learnt.

⁶ Ocean Protection Council Major Achievements as of September 2008. Available online at: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/opc_accomplishments_sept_08.pdf (consulted 6 June 2012)



3.2 MARINE PROTECTED AREAS

The International Union for the Conservation of Nature (IUCN) defines a protected area as:

“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.”⁷

Under the above definition, marine protected areas (MPAs) can be extremely diverse, and the IUCN categories range from no-take nature reserves to areas that permit sustainable use of resources, but they have the common aim of conservation of nature as well human values.⁸ The importance of MPAs has been recognised by the international community. At the tenth Conference of the Parties to the Convention on Biological Diversity (CBD COP-10), the international community agreed to protect at least 10 percent of coastal and marine areas by 2020 (Aichi Target 11).⁹ Good policies and legislation supporting marine protected areas are critical to ensure effective management, governance and sustainable financing. They need to be responsive to a range of governance types, from government-led to community-driven, co-management regimes and private initiatives.¹⁰

The two case studies below are from the tropical Pacific where coral reefs are a critical ecosystem. They are one of the most highly threatened marine ecosystems, due to the corals sensitivity to increased sea surface temperatures.¹¹ By reducing local pressures through marine protected areas and other management and legislative tools, such as sustainable fisheries management, it is possible to create areas that are resilient and perhaps prevent large-scale ecosystem collapse.

Case study: Local communities and protected areas in Palau

As an island state in the Pacific, Palau is culturally as well as economically dependent on its oceans and coasts. Palau has a long history of community management of fisheries and marine resources. In recent years threats to the ecosystem, in



⁷ IUCN: Marine Protected Areas – Why do we need them? Available online at: http://www.iucn.org/about/union/secretariat/offices/oceania/oceania_resources_and_publications/?4715/marine-protectedareas (consulted 16 November 2012)

⁸ IUCN: Guidelines for applying the IUCN Protected Area Management Categories to Marine Protected Areas. Available online at: http://cmsdata.iucn.org/downloads/iucn_categoriesamp_eng.pdf (consulted 9 April 2013)

⁹ Available at: <http://www.cbd.int/sp/targets/>

¹⁰ IUCN: Guidelines for Protected Areas Legislation. Available online at: <http://data.iucn.org/dbtw-wpd/edocs/EPLP-081.pdf>

¹¹ Veron, J. E. N. *et al.* (2009) The coral reef crisis: the critical importance of < 350ppm CO₂. *Marine Pollution Bulletin* (58).

particular to coral reefs, have been increasing and traditional management systems have been less able to respond to global changes such as rising sea surface temperatures and coral bleaching. The **Protected Areas Network Act (2003)** was therefore created to provide a framework for Palau's national and state governments to collaborate and establish a coordinated, nationwide network of marine and terrestrial protected areas. These are designed to address local resource management needs and protect national biodiversity, habitats and natural resources. To achieve this, the Palauan government has been working with local and international NGOs to devise monitoring and management protocols, based on internationally agreed standards.¹²

The Protected Areas Network Act enables communities to undertake scientific and social assessments of their local environment, evaluate their needs and implement management regimes and monitoring programmes that are locally appropriate. In 2008, the Act was amended to include provisions for the Green Fee,¹³ aimed at tourists to Palau, and a Protected Area Network Fund. This helps finance the implementation and management of the protected areas. To date, there are 35 marine and terrestrial sites including fringing reefs, lagoons, a sardine sanctuary and mangroves. Some permit the sustainable harvesting of fish and other natural resources, whereas others have been declared no-take-zones. Ecosystem-based adaptive management is a key feature; sites are being added as new evidence emerges from ecological surveys, such as areas that have corals resistant to bleaching.

POLICY OBJECTIVES

- Establish a network of terrestrial and marine protected areas that includes all of Palau's rich biodiversity
- Provide rules and regulations outlining the process for an area's designation as part of the Protected Area Network, incorporating the following considerations: biogeographical importance, ecological considerations, naturalness, economic, social and scientific importance, international or national significance, feasibility of management and protection, duality or replication
- Investigate and develop mechanisms for sustainable financing of protected areas in the Protected Area Network

- Accept and disburse appropriations, loans, and grants (from national and foreign governments, the United Nations, or any agency thereof and other sources, public and private)
- Collect information and establish record keeping, monitoring, and reporting requirements as necessary and appropriate
- Provide technical assistance to state governments for the management of their protected areas (including: assistance in surveying, developing site preservation plans, identifying and establishing sustainable use practices, conducting scientific investigations and educating the public about preservation and protected areas)¹⁴

ACTIONS AND STRATEGIES

- Management categories are based on IUCN guidelines for MPAs
- Community-based management plans and monitoring protocols based on: biological, ecological, socio-economic, cultural, and historical gap analyses, mutually agreed goals and objectives¹⁵
- Capacity building and training for local communities
- Creation of the Protected Area Network Fund for the management and monitoring of the protected areas
- Implement the 'resource-user pays principle' by use of the Green Fee for tourists visiting Palau

IMPLEMENTATION, BENEFITS AND OUTREACH

- Creation of (so far) 35 protected areas with a goal of protecting 30 percent of the near shore marine resources and 20 percent of the terrestrial environment by 2020
- Local communities have enhanced prosecution capabilities under the Act. Previously, local communities had limited authority to address illegal poaching or fishing in their waters
- Neighbouring countries, such as the Federated States of Micronesia are developing similar laws

Palau is recognised as a global leader in marine conservation. This act demonstrates foresight in linking marine and terrestrial environments. It also demonstrates that it is possible to successfully integrate traditional management with modern

¹² Protocol for Monitoring Marine Protected Areas: Protected Area Network (2012). Available at: <http://jica.go.jp/project/palau/001/materials/pdf/04.pdf>

¹³ US\$ 30 is collected from visitors upon departure from Palau

¹⁴ UNEP-WCMC (2008). National and Regional Networks of Marine Protected Areas: A Review of Progress. UNEP-WCMC, Cambridge. Available at: http://www.unep.org/regionalseas/publications/otherpubs/pdfs/MPA_Network_report.pdf (consulted 12 June 2012)

¹⁵ The Republic of Palau: Monitoring Protocol for Monitoring Marine Protected Areas, Protected Areas Network (2012) Available at: http://www.picrc.org/images/stories/PICRCdoc/Publications/Monitoring_Protocol.pdf (consulted 20 July 2012)



legislation, providing this is carried out with high community participation. In 2006, the governments of Palau, the Federated States of Micronesia, Marshall Islands, Guam and the Northern Marianas Islands pledged to protect 30 percent of their near-shore waters by 2020 through the Micronesia Challenge.¹⁶ The Micronesia Challenge has inspired the Caribbean and Western Indian Ocean Challenges, demonstrating that this approach is transferable.

Case study: Sharing the benefits of coral reef conservation in the Philippines

Tubbataha Reefs Natural Park is a Unesco World Heritage and Ramsar site, located in the centre of the Sulu Sea, at the heart of the Coral Triangle – the global centre of coral diversity.¹⁷ The Park spans 970 km² and protects the Philippines' largest coral reef. It is a critical habitat for numerous species of fish, corals, dolphins, whales, marine turtles, sharks and seabirds, many of which are globally threatened. It is a nursery ground for the reefs and fisheries of Palawan and the West Visayan

isles. Due to its remote location, the reefs have remained relatively pristine. However, it has been threatened by the use of cyanide and dynamite in fishing, large scale harvesting of rare turtle eggs, seaweed farming, coral bleaching and unregulated tourism.

To protect the exceptional biodiversity and mitigate against growing threats, the Tubbataha Reefs were first declared a National Marine Park in 1988, by virtue of a Presidential Proclamation. The **Tubbataha Reefs Natural Park Act** was introduced in 2010 to provide greater authority and permanence to the Tubbataha Protected Area Management Board. It also gives legislative powers to the management board to address illegal fishing. The management board consists of local communities, municipal and barangay¹⁸ government agencies, local and international NGOs, universities, the coast guard and navy and private companies such as dive tourism operators.¹⁹ Special attention has been given to ensure the costs and high economic and social benefits are equally spread amongst the stakeholders.²⁰

¹⁶ See: www.micronesiachallenge.org

¹⁷ Burke, L. *et al.* (2011). *Reefs at Risk Revisited*. World Resources Institute: Washington DC.

¹⁸ The Barangay is the smallest administrative division in the Philippines

¹⁹ See: <http://tubbatahareef.org/wp/management> (consulted 5 April 2013)

²⁰ Dygico M. *et al.* Achieving MPA effectiveness through application of responsive governance incentives in the Tubbataha reefs. *Mar. Policy* (2013) Available at: <http://dx.doi.org/10.1016/j.marpol.2012.12.031i> (consulted 14 April 2013)

POLICY OBJECTIVES

The aims of the Tubbataha Reefs Natural Park Act are to:

- Provide more permanent management structures, fiscal autonomy, and steeper penalties for violations of Park rules
- Ensure the protection and conservation of the globally significant economic, biological, sociocultural, educational and scientific values of the Tubbataha Reefs into perpetuity for the enjoyment of present and future generations
- Manage the Tubbataha Reefs Natural Park under a ‘no-take’ policy and through sustainable and participatory management, taking into consideration all applicable laws and international conventions to which the Philippines is a signatory
- Carry out comprehensive and holistic promotion, training and information campaign programmes for the benefit of the general public
- Encourage the participation of the private sector and the local government units in the protection, preservation and promotion of the Tubbataha reefs

ACTIONS AND STRATEGIES

- Ecological assessments were carried out to provide a basis for management, and used to expand the size of the protected area
- Consultations and workshops with organisations on the Tubbataha Protected Area Management Board, and communities in the Cagayancillo Municipality, for example, to agree on the user fees for the park and a sharing scheme regulating the distribution of the fees between the stakeholders
- To address overlapping mandates, a common in the Philippines, there are inter-agency and comanagement agreements between the Department of Environment and Natural Resources and Palawan Council for Sustainable Development²¹
- Regulations governing Environmental Impact Assessments for oil and gas prospectors in nearby areas of the Sulu Sea
- Prospectors for mineral extraction in surrounding areas have to adhere to international guidelines as seismic surveys can have negative impacts on marine mammals in particular

IMPLEMENTATION, BENEFITS AND OUTREACH

- Small-scale fishers are the main beneficiaries of higher catches in fishing grounds adjacent to the Park due to the ‘spill-over effect’ and as the reef is a nursery ground and left undisturbed for larval fish
- Benefits, such as user fees and permits from dive tourists, are distributed amongst stakeholders
- Fees generated from tourism are also used for the monitoring and management of the Park
- Monitoring of indicators such as coral cover, fish biomass and density show that the protected reefs are in better condition and more productive than reefs in the same sea but outside the National Park²²
- As a result of the sustainable management of the protected area, living standards of local people have increased²³
- It is seen as a model for ‘bootstrap development’ where illegal fishing has been contained by strong local leadership supported by an active citizenry
- Similar legislation has since been passed to protect the neighbouring Apo Reef
- Other provinces in the Philippines have adopted the penalty imposed against ship owners for damaging reefs in grounding incidents
- The Act provides a model for other areas protected under the Philippines’ National Integrated Protected Area System Act (1992)
- As the Tubbataha Reefs are a Unesco World Heritage Site, this statute provides a model for Heritage Sites in other countries in crafting a legal instrument for effective governance
- In January 2013 a US minesweeping ship, and in April 2013 an illegal fishing vessel, ran aground in Tubbataha and the Act has been invoked in order to extract a penalty and prosecute the offenders²⁴

Before the Tubbataha Reefs Natural Park Act was enacted, there was already good management of the reefs by local and international NGOs. However, this case study demonstrates the critical role of good policy, which is sensitive to local needs as well as the effective implementation, long-term management and achievement of MPA aims. This will secure the food and economic security of local communities dependent on the environment surrounding the reef, as well as the rich biodiversity for future generations to enjoy.

²¹ Anda, R. D. and Dalabajan, D. A. (eds.) (2009). *Against the Tide: Enforcement and Governance in the Sulu Sulawesi Seas*. Puerto Princesa City: Environmental Legal Assistance Center. Available at: http://www.conservation.org/global/philippines/publications/Documents/Against_The_Tide.pdf (consulted 7 June 2012) p. 40–44.

²² Dygico M, *et al.* Achieving MPA effectiveness through application of responsive governance incentives in the Tubbataha reefs. *Mar. Policy* (2013) Available at: <http://dx.doi.org/10.1016/j.marpol.2012.12.031> (consulted 14 April 2013)

²³ Tongson, E., Cola, R. (2007). Negotiating Stakeholder Agreements for Conservation: The Case of Tubbataha Reefs, Philippines. *Science Diliman* (January–June 2007) 19:1, p. 47–63.

²⁴ Chinese Fishers give Tubbataha Second Black Eye: Available at: <http://wwf.org.ph/wwf3/news/article/92> (consulted 12 April 2013)

3.3 SUSTAINABLE FISHERIES MANAGEMENT

Fish are essential for the food security and livelihoods of millions of people, and are a particularly valuable source of nutrition for the world's poorest. However, worldwide, our seas and oceans are heavily overfished, with 80 percent of fisheries fully or overexploited.²⁵ This is a result of poor regulation, lack of compliance, inadequate institutions, and perverse economic incentives. Key challenges for policy-makers are: high catches of non-target species, which are frequently discarded, destructive fishing practices such as bottom trawling and perverse government subsidies that promote overcapacity of the industrial fishing sector. The case study below is of particular relevance to the management of industrial marine capture fisheries.²⁶

Case study: Developing a viable and sustainable fishing industry in Namibia

Namibia's waters support one of the world's most productive fishing grounds, fed by the Benguela Current, but even here unregulated industrial fishing had driven the populations to near collapse. Due to the dry, harsh climate, indigenous people and early colonialists did not settle extensively on the coast and even today, marine subsistence fishing is largely absent. It was only in the 1960s that industrial fishers arrived from distant water fishing nations. By the time of Namibian independence from South Africa in 1990, fish stocks were heavily depleted.²⁷

Independence permitted the new government to start afresh, and develop a fisheries management system based on scientific evidence.²⁸ A guiding principle was the sustainable use of ecological resources for the benefit of current and future generations.²⁹ Over the past two decades, Namibia has developed the law and institutions, as well as the technical expertise to manage its fisheries on a more sustainable basis. The **Marine Resources Act** of 2000 provides the legislative framework. It sets regulations to address the key drivers



of the degradation of marine capture fisheries: bycatch and discards, illegal fishing, overcapacity from subsidies, and harmful fishing gear. Namibia cooperates in monitoring and surveillance efforts with neighbouring South Africa and Angola through the Benguela Current Commission.³⁰

POLICY OBJECTIVES

The Marine Resources Act intends to:

- Provide for the conservation of the marine ecosystems
- Provide for the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis
- Build an economy that creates jobs for Namibian people and empower the previously disadvantaged

ACTIONS AND STRATEGIES

The Marine Resources Act gives a mandate to the Ministry of Fisheries and Marine Resources to take measures on:

- The location and time of harvesting operations and ground closures

²⁵ FAO (2012) State of the World Fisheries and Aquaculture 2012. Available at: <http://www.fao.org/docrep/016/i2727e/i2727e.pdf> (consulted 9 April 2013)

²⁶ The FAO defines an industrial fishery as being capital-intensive, using large, highly mechanized vessels, and high production and catch per unit effort: <http://www.fao.org/fishery/topic/12306/en>

²⁷ Van Zyl, B.J., Managing Namibia's marine fisheries. A decade of rebuilding. Available at: <http://www.unep.org/bpsp/Fisheries/Fisheries%20Case%20Study%20Summaries/VanZyl%28Summary%29.pdf> (consulted 18 August 2012)

²⁸ Introduction in: Sumaila, U. R., Boyer, D., Skogen, M. D., Steinshamm, S. I. (eds.): Namibia's Fisheries: Ecological, Economic and Social Aspects. Eburon 2004, Netherlands

²⁹ Article 95 (I) of the Namibian Constitution states: *The state shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future.*

³⁰ <http://www.benguelacc.org/>



- Fixing total allowable catches (TACs) for eight key commercial fish species, based on best available scientific evidence
- Fishing methods and gears, including no driftnets, no formation trawling, no beam trawling and mesh size limits to protect juveniles and grid selectivity devices
- Designating marine reserves, minimum fish size to be landed and the closure of areas
- The fishing industry does not receive subsidies from the government in the form of manufacturing or tax relief. This is in order to prevent over-fishing due to overcapitalisation.³¹
- Two fishing licences are needed: one for harvesting and one for the vessel, and this is mandatory for individuals and corporations. This regulation applies to all fishing operations, whether Namibian owned or foreign
- A vessel licence can be rejected if there is evidence that the biological sustainability of a resource is under threat
- Levies on bycatch, to preventing the discarding of non-target species
- On-board observers (70–100 percent coverage), sea, air and shore patrols, monitoring of landings in the two ports, reporting on movements and catch by other vessels
- A Fisheries Observer Fund which finances the Fisheries Observer Agency

- Namibia is currently installing a satellite-based vessel monitoring system
- Moratoria on fishing endangered species
- Strict regulations for the Environmental Impact Assessment of offshore oil, gas and diamond extraction

IMPLEMENTATION, BENEFITS AND OUTREACH

- Most fisheries, apart from sardines and orange roughy, have shown signs of recovery or stability
- The fishing industry employs approximately 13,000 Namibians
- It contributes to the national economy through payments for fishing licences and via levies on all fish caught, for example, Marine Resources Fund levy is used to fund research and training in fisheries science
- Creation of the Benguela Marine Park to protect important bird species and marine species
- Food security is improved for the most vulnerable as the government actively supports fish consumption by making it available at reduced prices for disadvantaged groups
- Fishing companies have created trusts and provided grants for education and health clinics³²
- The rights based approach with licenses to fish vis-à-vis the subsidies approach is relevant to many regions

³¹ FAO Country Profile: Namibia. Available at: <http://www.fao.org/fi/oldsite/FCP/en/NAM/profile.htm> (consulted 20 August 2012)

³² Nichols, P. Marine Fisheries Management in Namibia: Has it worked? In: Sumaila, U. R., Boyer, D., Skogen, M. D., Steinshamn, S. I. (eds.): Namibia's Fisheries: Ecological, Economic, and Social Aspects, Eburon 2004, p. 319–332.

As a post-independence African nation, still in the midst of establishing and implementing comprehensive policy frameworks, Namibia has been able to successfully build a national fishing industry. The efforts towards sustainability have also been widely recognised. In 2010, the Food, Agriculture and Natural Resources Policy Analysis Network awarded President Pohamba the Food Security Policy Leadership Award. In addition, Dr. Abraham Iyambo, Minister of Fisheries won the Margarita Lizárraga Medal Award for his leadership in the application of the Code of Conduct for Responsible Fisheries.³³ Management measures including TACs, quotas, closed areas, gear restrictions, levies on by-catch, moratoria, closely follow international guidelines for sustainable fisheries management and have the potential to guide management and governance for the industrial fisheries in other nations as well as on the high seas. The top-down approach employed in Namibia is appropriate for managing large-scale industrial fisheries but might not be suitable for governing small-scale or comanaged fisheries: here a suite of local and participatory governance approaches would need to be employed.



3.4 INTEGRATED COASTAL ZONE MANAGEMENT

Coasts are dynamic places, being at the interface of the land and the ocean, and support a diverse range of habitats and biodiversity. Half of the world's population lives within 100 km of the sea, including in major cities.³⁴ Coastal areas worldwide face problems of degradation as well as flooding and erosion. These are expected to increase due to global climate change and sea level rise. Tropical coastal ecosystems such as mangroves, serve as important natural storm and flood protection for people living in coastal areas. Guidelines for integrated coastal zone management were first introduced at the international level in 1992 at the Rio Earth Summit to address the fragmented, sectoral approach to coastal development.

Case study: Coastal conservation and human wellbeing in South Africa

South Africa has addressed the challenge of maintaining ecological integrity whilst promoting human wellbeing along its diverse coastline through a host of government-led initiatives. The White Paper for Sustainable Coastal Development (2000), the White Paper Action Plan and the **Integrated Coastal Management Act (2008)** were developed as a result of a highly participatory and consultative process.³⁵

The primary aim of the Act is to have a new multi-sectoral approach to coastal development in South Africa, based on sustainable development principles of the Rio Declaration and Agenda 21. To achieve this, the Integrated Coastal Management Act embeds the Public Trust Doctrine into its legal framework; public ownership of the coastal-zone was reinstated and government's role as caretaker on behalf of the public was defined. These historic common property rights were denied during apartheid.³⁶ The Act also defines coastal zones and sets guidelines for institutional arrangements and management plans at local, provincial and national levels. It marks a significant departure from the previously fragmented, top-down approach to coastal development.³⁷

³³ Press release: President of Namibia Awarded 2010 FANRPAN Food Security Leadership Award: Award recognizes contributions of Country's Fisheries Policies for a Food-Secure Africa. Available at: <http://www.fanrpan.org/documents/d00991> (consulted 12 June 2012); FAO Margarita Lizarraga Medal: <http://www.fao.org/fishery/nems/39067/en> (consulted 12 June 2012)

³⁴ UNEP-UN-HABITAT (2005) Coastal area pollution – the role of cities. Available at: http://www.unep.org/urban_environment/PDFs/Coastal_Role_of_Cities.pdf (consulted 9 April 2013)

³⁵ Glavovic, B. C. (2006). Perceptions of South Africa's coastal policy formulation process. *Journal of Coastal Research*, SI 39 (Proceedings of the 8th International Coastal Symposium, Brazil).

³⁶ Glavovic, B. C. (2000). A New Coastal Policy for South Africa, *Coastal Management*, 28:3, p. 261–271.

³⁷ Glavovic, B. C. (2006). The evolution of coastal management in South Africa: Why blood is thicker than water. *Ocean & Coastal Management*, Volume 49, Issue 12, p. 889–904.



To support the implementation and goals of the Act, the Working for the Coast Programme promotes the rehabilitation of beaches, estuaries and wetlands through the recruitment of unemployed people to remove invasive species and maintain facilities.³⁸ Working for the Coast, and its sister programmes Working for Water, Working for Fire, and Working for Wetlands, has been critical in alleviating poverty and creating jobs.

POLICY OBJECTIVES

The aims of the Integrated Coastal Management Act are to:

- Set out a new approach to manage coastal resources to promote equity and make best economic use of coastal resources whilst protecting the natural environment
- Define and determine the extent of the coastal zone
- Provide for the integrated and coordinated management of the coastal zone
- Preserve, protect and enhance the status of the coastal environment as the heritage for all
- Ensure there is equitable access to coastal public property

ACTIONS AND STRATEGIES

Integrated Coastal Zone Management Act:

- Definition of the coastal zone: coastal public property, coastal protection zone, coastal access land, special management areas and coastal set-back lines³⁹
- Institutional arrangement for the integrated and coordinated management establishing: a National Coastal Committee,

Provincial Lead Agencies, Coastal Committees, Municipal Coastal Committees

- Development of national, provincial and municipal Coastal Management Programmes under public participation and stakeholder involvement

Working for the Coast:

- Quotas to ensure women, youth and people with disabilities are given priority enrolment
- Training in skills such as literacy, numeracy and management are provided⁴⁰

IMPLEMENTATION, BENEFITS AND OUTREACH

Integrated Coastal Management Act:

- National, provincial and municipal Coastal Management Programmes are being developed and national and provincial coastal committees as well as lead agencies are being set up
- Coastal protection zones are being mapped and defined
- Environmental Impact Assessments are required to take additional coastal criteria into account

Working for the Coast:

- Generated 14,599 jobs by 2011; this and related programmes under the Extended Public Works Programme are a primary source of income for a large proportion of poor people in South Africa
- It has reduced unemployment, trained people, rehabilitated beaches, removed alien invasive species and planted indigenous vegetation

Integrated coastal zone management is a challenging endeavor, requiring the coordination of multiple sectors and different social groups, in particular in a country with a coastline as vast as South Africa. Policies need to acknowledge the socio-economic needs of people living across four coastal states. They also have to address the management of a large variety of ecosystem types. Therefore, it can be expected that implementation is progressing at different rates across the country. The Working for the Coast Programme can be a model for combining poverty eradication and job creation measures with environmental protection.

³⁸ The Working for the Coast Programme has its mandate in the White Paper on Sustainable Coastal Development (2000) which provides the policy framework for the Integrated Coastal Management Act

³⁹ Celliers, L., Breetzke, T., Moore, L. and Malan, D. (2009). A User-friendly Guide to South Africa's Integrated Coastal Management Act, p. 15. The Department of Environmental Affairs and SSI Engineers and Environmental Consultants. Cape Town: South Africa.

⁴⁰ Department of Environmental Affairs, South Africa (2012) – Environmental Programmes Branch. Available at: <http://www.pmg.org.za/files/doc/2012/120222environ-edit.pdf> (consulted 12 June 2012)



3.5 SPECIES AND BIODIVERSITY CONSERVATION

Species are the most visible, tangible aspect of biodiversity.⁴¹ Species are going extinct at about 1000 times higher than the natural background rate, due to human disturbance: habitat loss, pollution, climate change and introduction of invasive species. In the marine environment, declining numbers of sharks, turtle, whales and coral have been of particular concern. Even the loss of an individual species from an ecosystem can result in unpredictable and disproportionate effects, disrupting the goods and services we derive from the environment. Effects can include degradation of habitat, reduction in water or air quality, increase in atmospheric carbon or the loss of fisheries.⁴² We also have an obligation to ensure that the natural heritage we inherited is passed down to future generations.

Species conservation has been mainly carried out by NGOs. However government policy and legislation has a critical role.

At the international level, key commitments on species conservation include the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species (CITES) and the Convention on the Conservation of Migratory Species (CMS). National legislation is critical for translating these commitments into nationally and locally appropriate regulations for behaviour change, incentives and institutions.⁴³

Case study: Protecting sharks in Palau

An estimated 100 million sharks are killed every year, as the demand for shark products has been rising.⁴⁴ Sharks are targeted for their fins, which can be worth up to US\$ 700 per kilogram. A large number are also accidentally caught in the nets and lines of other fisheries. Sharks are extremely vulnerable to exploitation as they grow slowly and have few young compared with other species of fish, so populations are easily reduced. Therefore this group requires special attention. There is extensive evidence that sharks, as apex predators, are

⁴¹ The Convention on Biological Diversity defines biodiversity as encompassing genetic diversity, species diversity and ecosystem diversity: Available at: <http://www.cbd.int/convention/articles/default.shtml?a=cbd-02> (consulted 9 April 2013)

⁴² Duffy, J. E. (2002) Biodiversity and ecosystem function: the consumer connection. *Oikos*. Vol. 99. 2:201–219

⁴³ IUCN (1993) *Biological Diversity Conservation and the Law: Legal Mechanisms for Conserving Species*. Available at: <http://data.iucn.org/dbtw-wpd/edocs/EPLP-029.pdf> (consulted 10 April 2013)

⁴⁴ Worm, B. *et al.* (2013) Global catches, exploitation rates, and rebuilding options for sharks. *Marine Policy*. Vol. 40 pp.194–204 Available at: http://www.fmnap.ca/ramweb/papers-total/Worm_et_al_2013.pdf (consulted 9 April 2013)

critical for maintaining the diversity of the ecosystem and regulate the variety and abundance of species lower in the food chain.⁴⁵ These other species include commercially important fish and marine habitats such as seagrass beds and coral reefs.^{46,47} In Palau, diminishing shark numbers resulted in jellyfish blooms and coral reef degradation.

The Palauan government decided to take strong action against the decimation of sharks and became the first country to ban the commercial fishing of sharks in its entire territorial waters. The **Shark Haven Act** of 2009 is a political milestone for the protection of over a hundred species of open water and reef sharks in Palau's waters. Any sharks caught in the nets of other fisheries have to be released unharmed and there are substantial fines for violators. It was a politically bold move and enacted despite pressure from international fishing fleets. It has the potential not only to preserve sharks, but also to maintain functioning ecosystems and help tackle illegal fishing in these areas.

POLICY OBJECTIVES

The Shark Haven Act aims to:

- Establish the Republic of Palau as the world leader in preserving shark populations
- Strengthen the existing law which bans shark finning in Palau
- Prompt further bilateral and multilateral agreements to create new and enforce existing anti-finning laws

ACTIONS AND STRATEGIES

- Commercial shark fishing is outlawed: the Act prohibits catching, capturing and intentionally fishing for any shark or any of its parts within Palau's territorial waters, contiguous zone and exclusive economic zone
- If sharks are caught accidentally in commercial fisheries, they must be released alive
- Prosecution can result in two years imprisonment and a US\$ 50,000 fine

- Palauan citizens are permitted to land a maximum of one whole shark per calendar day for subsistence use, in line with customary practice, if it is caught secondary to other fishing activities and reported to the relevant authorities
- Biannual reports by Ministers of State, Justice, Natural Resources, Environment and Tourism on status of anti-shark fishing laws⁴⁸
- MoUs with conservation groups to enable enforcement of the Act

IMPLEMENTATION, BENEFITS AND OUTREACH

- Shark dive tourism has increased and contributes US\$ 1.2 million in salaries to local communities and generates US\$ 1.5 million in taxes for the Palauan government annually⁴⁹
- Countries including Honduras, the Maldives and the Bahamas have since enacted similar laws and banned shark fishing in their national waters
- Palau continues with its ambition to be a leader in shark conservation, by pushing for international regulation banning shark finning and the trade of shark products

Palau's actions towards protecting sharks in its own waters and efforts towards encouraging similar actions in other countries are laudable. However, the goal of shark conservation will only be met if similar actions are taken across the globe. In order to implement such policies, capacity for surveillance and monitoring of the EEZ, sufficient deterrents and the structures to prosecute illegal shark fishing is needed. Comprehensive advice for governments on National Shark Plans and conducting shark assessment is available through the FAO's International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks).⁵⁰ Despite regulations including bans on finning, there is evidence that trade in shark fins remains high.⁵¹ Therefore to strengthen legislation, such as Palau's Shark Sanctuary Act, it must be supported by regulations on trade of animal products. In March 2013, a landmark decision was taken by the Convention on International Trade of Endangered Species (CITES) to restrict the trade of five species of highly traded sharks.⁵²

⁴⁵ Myers, R. A. *et al.* (2008) Cascading effects of the loss of apex predatory sharks from a coastal ocean. *Science* Vol. 315 no. 5820 pp. 1846–1850

⁴⁶ The Pew Environment Group (2011). *Sharks in Trouble – Hunters Become the Hunted*. Pew Environment Group: Philadelphia/Washington DC.

⁴⁷ Stevens, J.D. *et al.* (2000) The effects of fishing on sharks, rays, and chimaeras (chondrichthyans), and the implications for marine ecosystems. *CES Journal of Marine Science*, p. 57.

⁴⁸ Pew Environment Group: Recent Shark Sanctuaries and Other Protections available at: http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Fact_Sheet/PEG_SharkProtections_March2011.pdf

⁴⁹ Vianna, G. M. S., Meekan, M. G., Pannell, D. J., Marsh, S. P., Meeuwig, J. J. (2012). Socio-economic value and community benefits from shark-diving tourism in Palau: A sustainable use of reef shark populations. *Biological Conservation* 145, p. 267–277.

⁵⁰ FAO Fisheries and Aquaculture – About the IPOA – Sharks Available at: <http://www.fao.org/fishery/ipoa-sharks/about/en> (consulted 9 April 2013)

⁵¹ Worm, B. *et al.* (2013) Global catches, exploitation rates, and rebuilding options for sharks. *Marine Policy* 40: 194–204 Available at: http://www.fmnap.ca/ramweb/papers-total/Worm_et_al_2013.pdf (consulted 9 April 2013)

⁵² Five species of shark: oceanic white tip, porbeagle, and three species of hammerheads were added to Appendix II of CITES, which will mean that all commercial fishing is not banned but can only be traded with CITES permits and evidence to prove that they have been harvested legally and that populations are sustained: <http://iucnssg.org/index.php/cites> (consulted 9 April 2013)



3.6 OTHER LEGAL INSTRUMENTS: THE PUBLIC TRUST DOCTRINE – AN ANCIENT PRINCIPLE FOR A MODERN PROBLEM

In addition to the policy approaches discussed above, there are other useful legal instruments that could accelerate the integration of intergenerational equity into political decision-making. One such instrument is the Public Trust Doctrine. The Public Trust Doctrine supports intergenerational equity, accountability and stewardship of natural resources. It is an ancient legal principle dating back to the 6th Century C. E. and the laws of the Roman Emperor Justinian:⁵³

“By the law of nature, these things are common to mankind – the air, running water, the sea, and consequently the shores of the sea. All rivers and ports are public; hence the right of fishing in a port, or in rivers, is common to all men.”

Institutes of Emperor Justinian, Book 2, Div 1 (535 C. E.)

Under this principle, common natural resources belong to both current and future generations. Elected governments are charged with making decisions regarding the use of these resources in the interest of their citizens, thereby providing a philosophical framework to structure the relationship between generations, as well as between citizens, governments and natural resources.⁵⁴ The doctrine is used to negotiate conflict between public and private uses of natural resources.⁵⁵

The Public Trust Doctrine has been incorporated into international law as well as national and state constitutions and laws. Unlike policies and statutory laws, the Public Trust Doctrine is continually refined by the courts and adapted to local circumstances through its application in case law. For example, the California Supreme Court has decreed that the public trust encompasses the public’s needs from the state’s waters, such as recreation and ecological values. The public trust can also adapt to changing needs.^{56,57} The Public Trust Doctrine has the potential to form the basis for a coherent legal framework to protect common-pool fisheries in the seas that lie beyond national jurisdiction.⁵⁸

⁵³ NOAA Public Trust Doctrine: Available at: <http://www.csc.noaa.gov/ptd/>

⁵⁴ Turnipseed, M. *et al.* (2009) Legal Bedrock for Rebuilding America’s Ocean Ecosystems. *Science*, Volume 324 p.183–184.

⁵⁵ NOAA Public Trust Doctrine: Available at: <http://www.csc.noaa.gov/ptd/>

⁵⁶ California State Lands Commission. The Public Trust Doctrine. Available at: http://www.slc.ca.gov/policy_statements/public_trust/public_trust_doctrine.pdf

⁵⁷ Robie, R. B. (2012) Effective implementation of the Public Trust Doctrine in California Water Resources Decision-Making: A View from the Bench. Available at: http://lawreview.law.ucdavis.edu/issues/45/3/Topic45-3_Robie.pdf

⁵⁸ Turnipseed, M. *et al.* (2012) The Public Trust Doctrine and Rio+20.

4. REVISION – KEY MESSAGES FOR POLICY MAKERS

The showcased policies demonstrate foresight in addressing the key drivers of change in the marine environment. There is careful consideration of local and global threats and built in potential to react to new threats. Crucially, government agencies, NGOs, management bodies and other supporting actors have developed the tools and institutions for effective implementation.

Our key recommendation is for policymakers to work towards the full implementation and enforcement of international commitments including the United Nations Convention on the Law of the Sea, the CBD's Strategic Plan and Aichi Biodiversity Targets, and the FAO Code of Conduct for Responsible Fisheries.

Recently launched initiatives and reports could also offer guidance including the United Nations Secretary General's Oceans Compact, the Yeosu Declaration on the Living Ocean and Coast, the Global Partnership for Oceans, as well as the FAO's Voluntary Guidelines for the Responsible Governance of Tenure of Land, Fisheries and Forests.

As climate change is having an unprecedented effect on the marine environment, oceans need to gain greater prominence in the United Nations Framework Convention on Climate Change and further coordination between global environmental policy instruments would also be welcome.

Additionally we have identified key principles from the case studies presented in this report, which we consider to be of particular relevance for drafting and implementing policies to safeguard our oceans and coasts:

Apply an ecosystem approach and marine spatial planning – to tailor policies to local environmental and social conditions by creating zones for different uses. It involves mapping the marine environment, and new and emerging threats can be readily incorporated into plans.

Carefully design marine protected areas – there is increasing scientific evidence that marine protected areas can deliver benefits for biodiversity and fisheries. Networks of marine protected areas, that connect habitats, can be implemented even in heavily used seas.

Create an inter-ministerial group on oceans – to enable parliamentarians from a number of ministries involved in ocean and coastal affairs to establish common goals, mechanisms for cooperation and to work out points of conflict.

Establish expert advisory commissions – to enable civil society and academic engagement and create a mechanism for verification while enhancing transparency.

Cooperate on a regional scale – essential to successfully tackle illegal fishing and promote monitoring of environments, as marine ecosystems and fish stocks can straddle international boundaries. Many countries that have implemented exemplary marine and coastal policies are collaborating on a regional level through programmes, treaties and commissions to promote effective governance, compliance with national laws and surveillance.

Establish mechanisms for sustainable financing – such as trust funds, as they have played a crucial role in gaining wider political and public support for policies and their implementation.

Support local co-management – enabling local communities to manage their own resources, and investing in training for local stakeholders is critical for effective and just participation in the policymaking process as well as for successful implementation and adaptive management.

Use radio, the internet and social media – new media in particular have enabled access to information and participation in policy-making and public consultation processes at a time and place that suits people, particularly rural coastal communities.

APPENDICES

Appendix A: Organisations invited to nominate policies

The following organisations were invited to nominate up to three policies:

INTERNATIONAL ORGANISATIONS

- Secretariat of the Convention on Biological Diversity (SCBD)
- United Nations Environment Programme (UNEP)
- United Nations Development Programme (UNDP)
- Food and Agriculture Organisation of the United Nations (FAO)
- International Maritime Organisation (IMO)
- Intergovernmental Oceanographic Commission – United Nations Educational, Scientific and Cultural Organisation (IOCUNESCO)
- United Nations Division for Ocean Affairs and the Law of the Sea (UNDOALOS)
- United Nations Permanent Forum for Indigenous Issues
- International Tribunal for the Law of the Sea (ITLOS)
- International Union for the Conservation of Nature (IUCN)
- The Economics of Ecosystems of Biodiversity (TEEB) Office
- The World Bank
- International Coral Reef Initiative

PARLIAMENTARIANS

- Global Legislators Organisations for a Balanced Environment (GLOBE)

INDIGENOUS PEOPLES ASSOCIATIONS

- Tebtebba – Indigenous Peoples’ International Centre for Policy Research and Education
- World Forum of Fisher Peoples
- Inuit Circumpolar Council

NON-GOVERNMENTAL ORGANISATIONS

- International Union for the Conservation of Nature
- Global Ocean Biodiversity Initiative
- WWF International
- Friends of the Earth International
- Greenpeace International
- BirdLife International
- Center for International Environmental Law
- Fauna & Flora International
- The Ocean Conservancy
- Pew Environment Group
- Coastal Oceans Research and Development in the Indian Ocean
- Western Indian Ocean Marine Science Association
- WorldFishCenter

- SeaWeb
- International Coral Reef Action Initiative
- The Nature Conservancy – Global Marine Initiative
- The Nature Conservancy
- Wildlife Conservation Society
- Seas at Risk
- World Ocean Council
- Rare
- Oceana
- Centre for Biological Diversity
- The Prince’s Charities’ Sustainability Unit

ACADEMIC

- University of Oxford / International Programme on the State of the Ocean
- University of York
- Global Forum on Oceans, Coasts, and Islands
- University of British Columbia
- Australian Institute for Marine Science
- University of Queensland
- Independent Consultant
- United Nations University – Institute of Advanced Studies
- Global Forum on Oceans, Coasts, and Islands
- Global Coral Reef Monitoring Centre
- Centre for Coastal Studies
- University College San Diego
- Rockefeller University / Census of Marine Life
- Duke University’s Nicholas Institute for Environmental Policy Solutions
- World Resources Institute
- University of Hong Kong
- Boston University College of Arts and Sciences
- Institute for Ocean Policy, Ocean Policy Research Foundation, Japan
- University of Bremen
- Dalhousie University

REGIONAL ORGANISATIONS

- Secretariat of the Pacific Regional Environment Programme
- Helsinki Commission – Baltic Marine Environment Protection Commission
- Oslo and Paris Conventions for the protection of the marine environment
- Baltic Sea Forum
- Partnerships in Environmental Management for the Seas of East Asia
- Coral Reef Initiatives for the South Pacific

Appendix B: Interview Questionnaire [Questionnaire based on the Seven Future Justice Policy Principles]

We would be grateful if you could help us answer the following questions about the policy, which has been nominated for the 2012 Future Policy Award on Oceans and Coasts.

[Introduction] Could you give examples of how the criteria have been met. If there is additional supporting regulation, legislation or policy that does address the criteria, please could you also give details?

1. THE DUTY TO ENSURE SUSTAINABLE USE OF NATURAL RESOURCES

Law and policy-makers, by virtue of their role as stewards of natural resources, have a duty to ensure that these resources are used in a way that is economically, socially and environmentally sustainable so that they can be replenished over the long term. This principle focuses on the environmental and socio-economic durability of the policy.

- 1.1 Does the policy help to ensure that the Earth's scarce resources will be used in a more sustainable way?
- 1.2 Does the policy address a global environmental concern such as climate change, biodiversity loss, or collapse of fish stocks?
- 1.3 Does it respect natural areas, artifacts and traditional knowledge?

2. THE PRINCIPLE OF EQUITY AND THE ERADICATION OF POVERTY

Laws and policies can contribute to equity and poverty eradication, or make conditions more unequal for the peoples affected by the measure. They can also affect the ability of future generations to fulfill their needs. This principle focuses on the law/policies impact on its society, recognizing that often, social conditions are already vastly unequal and ensures that a law/policy can improve quality of life for the peoples affected.

- 2.1 Does the policy help to address poverty and human rights challenges?
- 2.2 Does it demonstrate respect among generations by including provisions that take into account the needs and aspirations of future generations?

- 2.3 Does it promote respect within the present generations, by promoting social justice, equity for all peoples, an end to gender discrimination, respect for the rights of indigenous peoples and local communities, eradication of poverty and less discrimination among species?

3. THE PRINCIPLE OF THE PRECAUTIONARY APPROACH TO HUMAN HEALTH, NATURAL RESOURCES AND ECOSYSTEMS

Laws and policies can place ecosystems and societies at risk, and make it possible for societies to address these risks. Often, a new law or policy is enacted as part of a community's broader set of rules for risk management such as impact assessment laws and policies, rather than including specific provisions within the law/policy itself, and this must be taken into account by evaluators. This principle focuses on whether the law/policy helps to ensure that where science is not certain, risks are wisely and equitably managed.

- 3.1 Does the law/policy promote prevention and precaution in the face of scientific uncertainty about a threat of serious or irreversible harm?
- 3.2 Does it place the burden of proof for demonstrating that a project or activity is safe, or that risks are reasonable, on the proponent of the venture?
- 3.3 Where there is insufficient scientific evidence, how does it ensure that those most affected by a project can set the acceptable level of risk or threat?

4. THE PRINCIPLE OF PUBLIC PARTICIPATION AND ACCESS TO INFORMATION AND JUSTICE

Laws and policies can use a drafting process that is transparent and participatory, but this principle focuses on how the policy ensures that it is implemented in a way that is transparent and inclusive. Many new laws or policies are contingent on broader existing transparency, public participation measures such as access to information rules consumer labelling schemes or public engagement programming, and this must be taken into account by evaluators.

- 4.1 Does the policy provide for public consultation and genuine engagement, in its provisions and implementation?

- 4.2 Does it specifically provide for transparency and access to information for concerned citizens, local communities, and others who might be affected?
- 4.3 Does it provide avenues for appeal and redress for citizens, communities and others?

5. THE PRINCIPLE OF GOVERNANCE AND HUMAN SECURITY

Laws and policies can contribute to good governance and human security, or detract from them. This principle focuses on whether the law includes, within its provisions, ways to ensure that people cannot take advantage of its provisions. It also focuses the evaluator's attention on existing legal or social norms that prevent all laws from being mis-applied, such as monitoring and assessment institutions, anti-bribery and corruption rules, as these mechanisms may be key to securing fair and just implementation of the law/policy.

- 5.1 Does the policy establish adequate institutions to ensure transparent, prompt, effective and fair implementation of its provisions?
- 5.2 Does it promote peaceful resolution of conflict, and help to ensure that people are able to live in freedom from fear, and freedom from want?
- 5.3 Does the policy include provisions to ensure that its intentions are not thwarted by corruption, bribery or unethical conduct, and provide appropriate penalties for abuse of rights, or for misimplementation?

6. THE PRINCIPLE OF INTEGRATION AND INTERRELATIONSHIP, IN PARTICULAR IN RELATION TO HUMAN RIGHTS AND SOCIAL, ECONOMIC AND ENVIRONMENTAL OBJECTIVES

Laws and policies can contribute to fragmentation and territoriality between the very institutions that are meant to work together for sustainability, or they can encourage cooperation and integration. They can include specific mechanisms to make jurisdictions clear, promote institutional learning, and facilitate good inter-agency cooperation. Societies might also have other rules to do this, such as impact assessment, inter-agency consultation or cost internalization rules, which form part of the context of the law/policy and need to be taken into account in its evaluation. This principle focuses on how the law/policy encourages joined-up decision-making about sustainable development.

- 6.1 Does the policy integrate social justice and environmental protection into economic development plans and projects?

- 6.2 Does it ensure that development decision-making takes environmental and social impacts into account, providing for mitigation, modification or cancellation if necessary?
- 6.3 Does it provide or enhance benefits for the environment and the society?

7. THE PRINCIPLE OF COMMON BUT DIFFERENTIATED OBLIGATIONS

Laws and policies might address only a present problem, or they can take into account past inequalities, differing conditions and unequal capacities which affect the way obligations can be met. This principle focuses specifically on whether the law/policy could be appropriate for all societies or only for certain technological, scientific and cultural context, and whether the law/policy finds ways to ensure burdens and costs of implementation do not fall upon those least able to sustain them.

- 7.1 Does the law/policy take into account historical and other inequalities, including who has benefited from past activities and policies, when imposing obligations, and provide avenues to redress such inequalities where possible?
- 7.2 Is the policy appropriate and adapted to the society or region's present level of technology, scientific knowledge, human/financial resources, cultural values and traditions?
- 7.3 Does it avoid placing inappropriate burdens on vulnerable groups, or imposing costs on those least equipped to bear them?

Thank you very much for taking the time to answer these questions.





This report is the result of an extensive evaluation of marine and coastal policies worldwide. The World Future Council has closely worked together with its network of policy makers, academic experts, international and civil society organisations to present an analysis of the winning policies of the 2012 Future Policy Award on Oceans and Coasts. The aim of this publication is to present already existing, sustainable solutions to decision makers and other experts. It shall provide them with helpful tools and inspire them to draft and implement policies and laws that protect and sustain oceans and coasts for current and future generations. The detailed information about the presented policies is based on literature reviews as well as numerous qualitative interviews with local experts.