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# Convention & National Politics for the Protection of Marine Environment

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#### **Abstract**

International law relevant to the protection and preservation of the marine environment is well-developed. An appendix to this paper provides summary information on its main components. The basic rules on States' rights and obligations have been established and are generally accepted, and special regimes specific to certain sources of pollution, with the notable exception of land-based sources—the main source of marine degradation—have been operational for some time. Some future developments will be specific to the marine environment, where the UN Convention on the Law of the Sea provides the necessary framework; others reside with the progressive development of international environmental law generally; yet others will depend on a reorientation of international policies, particularly in the economic domain.

**Keywords:** Marine Environment; Marine Pollution; Cause; National Politics; Convention.

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#### 1. Introduction

Marine areas covered around 71% of the planet Surface. One of the most significant signs of progress in the field of international law was the increasing concern for the status of the marine environment. The environmental degradation of the ocean is defined as a global issue. Overfishing, vessel, and land-based pollution, environmentally unfriendly exploitation of mineral resources, as well as the destruction of marine biodiversity, are the concerns of all humanity. The protection and preservation of the marine environment was one of the key issues at the 1972 Stockholm conference and is clearly reflected in the flurry of lawmaking in this area in the early 1970s. The negotiation of United Nation Convention on Law of the Sea (UNCLOS III), which commenced in 1973, was inspired by these developments, Part XII of the resulting UNCLOS with 46 Articles devoted to the marine environment. The Articles of the UNCLOS Convention concerning the general rights and duties of all states to protect and preserve the marine environment clearly reflect the interest of developing countries in emphasizing the special responsibilities of industrialized nations in the field of the protection and preservation of the seas.

#### 1.1. Marine Environment

The oceans, seas, bays, estuaries, and other major water bodies, including their surface interface and interaction, with the atmosphere and with the land seaward of the mean high-water mark is known as marine environment.

## 1.2. Marine Environment Law and Legal Definition

According to 46 USCS § 2101, Marine environment means-

- a) The navigable waters of the United States and the land and resources in and under those waters;
- b) The waters and fishery resources of an area over which the United States asserts exclusive fishery management authority;
- c) The seabed and subsoil of the outer Continental Shelf of the United States, the resources of the Shelf, and the waters superjacent to the Shelf; and
- d) The recreational, economic, and scenic values of the waters and resources referred to in subclasses (a)-(c) of this clause.

#### 2. Marine Pollution

#### 2.1. Definition of Marine Pollution

The continued degradation of the human environment has become a major con-temporary problem in all parts of the world. The major components of environ-ment are: air, water and soil. Sea water which covers

about two third of the planet, plays a vital role in maintaining the fundamental biological and ecologi-cal balance.

Man has been fascinated by sea and oceans for a variety of reasons which include adventure, food, trade, commerce, industry and recreation. Thus, man has put the oceans to multiple use and he is expected to do so in future even at a larger scale. But the most injurious use that mankind has put the oceans is for disposal of wastes of varying degree of harm.

We are polluting our marine environment with increasing amounts and varieties of waste products originating with our expanding technology, without full knowledge of the way in which these materials may interact with our surroundings and eventually affect our well-being.

So long our civilization did not advance enough to acquire huge material wealth and m creating equally huge waste, it did not matter. Seas and oceans accepted what was offered to them. But as our waste increased, we were cured by the offered to them.

But as our waste increased, we were cured by the thought of boundless capacity of the sea to accept and absorb anything and everything, whether it was industrial waste, human waste, or atomic waste. We did not realize that we are choking our seas, killing our fishes, spoiling marine life and causing ecological imbalances.

#### 3. Causes of Marine Pollution

#### 3.1 Following are major causes / sources of marine pollution

a) Oil: It is a sea-based pollutant which is probably worst of the pollutants of the ma-rine environment. Oil in the marine environment come from a variety of sources. These include natural submarine seepage, natural decay of marine plant and animal life, shore-based industries and transport activities, off-shore drilling wrecked oil tankers and other ships, and discharges from ships which pump out cargo and ballast tanks with sea water.

Of the two natural sources sub-marine seeps may be controllable but plants and animal decay is not. The oil discharges on the oceans first forms slicks which float on the surface. If the oil becomes absorbed on solid particles it may sink. The floating and sus-pended oil is absorbed by billions of tiny phytoplankton, organisms which act as a biological blotter.

Since these organisms are the building blocks of the food chain the other higher forms of marine life feed upon them and successively pass the oil pollutants on to still higher organisms.

Consequently, the concen-trations reach higher levels in predators such as marine mammals' birds and man thus the food chain is adversely affected and water birds often float shore to die with their feathers soaked in oil. In short, oil can cause damage to both marine life and the recreational potentials of coastal areas.

In the recent Iraq-Kuwait (and earlier Iran-Iraq) conflict, good deal of oil was allowed to flow into the sea leading to marine pollution and death of sea-borne life On account of oil ship wrecks a good amount of oil spills into the ocean. In January 1969, there was a blow out from an oil well in the Santa Barbara Chan-nel in South California, USA.

It caused a heavy oil spill into the sea and covered 400 sq miles of ocean surface and smeared 40 miles of beaches with 2 inches layer of crude oil. The accident caused huge health hazards to the living re-sources of the sea, human health and coastal amenities since the oil leak con-tinued for more than a year.

In March 1978 about 2, 30,000 tons of in shipment through the English Channel spilled from the hold of super tanker Amico Cadiz. It resulted in spreading an oil blanket of 120 km long and 6 kms wide. The wreck of the Amico Cadiz became the world's worst maritime oil pollution incident. There have been many such accidental oil spills in sea and it seems these will continue.

b) Wastes Disposal: Wastes are often divided into two major categories, i.e. domestic and industrial wastes Domestic wastes include domestic sewage, wastes from food process-ing detergents and run of from agricultural areas. Industrial wastes include heavy metals, radioactive nuclides, inorganic chemicals and heated water. The extent and variety of wastes spewed out by industry is tremendous. To take the American example, every year the US discards 7 million automobiles, 20 million tons of paper, 48 billion cans, 26 billion bottles and jars. Much of this material is made of aluminum and plastic.

The mining industry discards more than 3 billion tons of waste rock and mill tailing. According to an official estimate every year, the American lakes, rivers and estuaries receive some 50 trillion gallons of hot water used for cooling by the power industry, and un-known millions of tons of organic and chemical pollutants from cities, plants and industrial plants.

Chlorinated hydrocarbons are another land-based pollutants which have drawn the attention of international community. The chlorinated hydrocarbon pesti-cides — including DDT, dieldrin and endrin are known to be important pollut-ants in the marine environment.

These pesticides, used extensively for agricul-tural pest control, enter the marine environment through water runoff from agricultural areas from the atmosphere. It is estimated that nearly half of the pesticides sprayed over agricultural land is carried off by winds into the atmosphere. DDT and its residues have been found in penguin in the Antarctic and in petrels in Bermuda.

This form of marine pollution is quantitatively greater than oil discharges on the sea. And, consequently it appears to be more harmful because ocean dump-ing takes place in and around a region which is vital for the marine eco-system, that is, the neritic epipelagic province.

Plankton, the microscopic forms of ani-mal and plant life, which are the basic food upon which higher forms depend, thrive in this very province and damage done to the marine eco-system by the wastes disposed is too much.

## 4. Importance of Protection of Marine Environment

Thirty-eight per cent of the world's population live within a narrow fringe of coastal land, only 7.6 per cent of the Earth's total land area (unep2006) and largely depend on coastal resources for their livelihoods. As a result, coastal and marine ecosystems are rapidly deteriorating because of human pressure, almost 80 per cent of which originate on land. In recognition of this, governments adopted the Global Program of Action for the Protection of the Marine Environment from Land-based Activities in 1995.

Coastal areas and oceans are complex and fragile environments with many different functions linked to public health, food security, and other economic and social benefits. These are also decisive elements in the alleviation of poverty. Healthy Earnestine, near-shore and oceanic systems provide cultural heritage, food, building materials, traditional lively-hood, tourism opportunities, transportation routes, storm protection, organisms for biotechnology and many more benefits that are frequently overlooked or abused.

#### 5. Problem Arisen in Marine Environment

The following problem are arising day by day.

- a) Sewage treatment varies considerably, as does the degree of action and the priority accorded to the problem.
- b) Persistent Organic Pollutants are highly toxic and stable organic chemical substances that can last for years or even decades before breaking down.
- c) An increasingly serious problem globally is that of 'electronic waste', particularly the disposal of computers and mobile phones,
- d) The incidence of oils in the environment can be considered at various levels.
- e) The amount of nutrients entering the oceans tend to vary significantly over time and from region to region.
- f) Natural sediment mobilization is important in the development and maintenance of coastal habitats.

#### 6. Regulating the Marine Environment

## 6.1 What are the key challenges facing the Marine Environment?

- a) Unsustainable fishing
- b) Pollution
- c) Habitat destruction
- d) Climate Change
- e) Invasive species the marine environment puzzle –Bugge

## 7. Threats to the marine environment – climate change

## 7.1. Threats to the Marine Environment Come from Different Sources

- a) Ships and the fishing industry
- b) Land based pollution sources
- c) Warming climate and ocean acidification

# 7.2. The International Legal Regime for the Protection and Preservation of the Marine Environment from Land-based Sources of Pollution

While it has been universally recognized that pollution from land-based sources presents the most serious threat to the marine environment, there has been no consensus on the most effective means of combating the threat. Nor has there been a clear will on the part of states, collectively or individually, to take effective measures to deal with the problem. This chapter begins with a historical review of international efforts to tackle the problem of marine pollution from land-based sources. It then discusses efforts to develop a 'global' legal instrument.

#### 8. The Environmental Law of the Sea

The international regime for the protection of the marine environment is based on two separate but interdependent bodies of law that interact and complement each other to create a dynamic and effective system:

(A) An umbrella framework which sets out general principles and rules of global application; and (B) a regulatory regime composed of tailored instruments with technical standards to implement the general principles or rules.

## 9. International Conventions and Other Legal Instruments

United Nations Convention on the Law of the Sea (UNCLOS). UNCLOS provides rules for the regulation of all uses of oceans and seas. UNCLOS also establishes a framework for the development of conservation and management measures concerning marine resources and scientific research within the exclusive economic zone (EEZ) of States as well as on the high seas. Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (United Nations Fish Stocks Agreement-UNFSA). UNFSA imposes obligations on Parties to protect the marine environment and requires States to ensure the sustainable utilization of fish stocks. UNFSA require States to apply the precautionary approach and adopt appropriate measures to maintain or restore populations of species that are part of the same ecosystem. Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPT Convention). The objective of the WCPT Convention is to ensure the long-term and effective conservation and sustainable use of highly migratory fish stocks in the western and central Pacific, in accordance with UNCLOS and UNFSA. FAO Code of Conduct for Responsible Fishing, The FAO Code of Conduct for Responsible Fishing is a non-legally binding code, but with important links to UNCLOS. The Code expects States to implement appropriate measures within the precautionary principle framework to minimize waste, discards, ghost-fishing, and negative impacts of fishing on associated or dependent species. Convention on Biological Diversity (CBD). Although CBD does not specifically address fisheries, it applies to all terrestrial and marine biodiversity, and, as such affects fisheries. CBD outlines measures for conserving biodiversity, including in situ and ex situ conservation measures. General measures for conserving and ensuring ecologically sustainable development include developing national policies, strategies and programs reflecting the principles espoused in the Convention. Convention on Conservation of Nature in the South Pacific. The objective of the Convention is to conserve, utilize and develop the natural resources of the South Pacific region through careful planning and management for the benefit of present and future generations.

## 10. National Policies for Protecting the Marine Environment

The paper discusses the national policies of two countries that illustrate some of the efforts being undertaken at the national level to promote more responsible approaches to fisheries in the marine ecosystem. These are Australia's Oceans Policy and the Oceans Act 1996 of Canada. Australia's Oceans Policy has several objectives, including protection of Australia's marine biodiversity and the ocean environment, and to ensure that the use of oceanic resources is ecologically sustainable. The Oceans Act of Canada establishes certain obligations for the Minister for Fisheries and Oceans for management and conservation of Canadian waters.

The Act also establishes a legal framework for the development and implementation of a national strategy for the management of estuarine, coastal and marine waters within Canadian jurisdiction.

#### 11. United Nations Convention on the Law of the Sea

UNCLOS was opened for signature in 1982 and entered into force in 1994. This regime deals with all matters related to oceans and seas, and provides rules for the regulation of all uses of oceans and seas. UNCLOS also establishes a framework for the development of conservation and management measures concerning marine resources and scientific research within the Exclusive Economic Zone (EEZ) of a State, as well as on the high seas.

Protection and preservation of the marine environment [5] of UNCLOS outlines provisions for the protection and preservation of marine ecosystems. These provisions are very broad and so applicable to fisheries industries on a global scale. All States are obliged to undertake measures to protect the marine environment and to control, reduce and manage pollution of the sea (UNCLOS, 1982, Articles 192 & 194). Although the provisions in this part of Convention (i.e. Part 12) do not specifically refer to fisheries, they are relevant in the sense that they urge States to prevent, reduce and control pollution of marine ecosystems through any source (UNCLOS, 1982, Article 194(1)), and this could include debris and waste from fisheries operations. The provisions relating to the protection and preservation of the marine environment emphasize the importance of cooperation between States and the need for States to undertake surveillance of activities that they permit or engage in, in order to determine whether these activities are likely to have significant adverse impacts on the marine ecosystem and its various components (UNCLOS, 1982, Article 204 (2)).

AGREEMENT FOR THE IMPLEMENTATION OF THE PROVISIONS OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA OF 10 DECEMBER 1982 RELATING TO THE CONSERVATION AND MANAGEMENT OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY FISH STOCKS

a) The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement; FSA) was adopted in August 1995. The FSA is not in force as the required number of ratification instruments have not yet been received. The fundamental objective of the FSA is to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of UNCLOS.

- b) The FSA imposes certain obligations on Parties in regard to the protection of the marine environment. In general, the Agreement requires that States ensure the sustainable utilization of fish stocks and that they assess the impacts of fishing on the marine environment. For instance, Parties must assess the impacts of fishing, other human activities and environmental factors on target species, species that are part of the same ecosystem, and species that are associated with or dependent upon target species (FSA, 1995, Article 5d). In doing so Parties must take into account the precautionary principle and uncertainties relating to data used in the development of conservation and management measures (FSA, 1995, Article 6c). Furthermore, data collection and research programs must be established for assessing the impacts of fishing on non-target (fish and non-fish) species (FSA, 1995, Article 6e).
- c) Parties must adopt appropriate conservation and management measures to maintain or restore populations of species that are a part of the same ecosystem as target species or are associated with or dependent upon target species (FSA, 1995, Article 5e). Parties must also establish conservation and management measures for habitats of special concern (FSA, 1995, Article 6d). Parties must minimize discards, waste and by-catch of target and non-target species through various measures, including the development and use of selective fishing gear and techniques (FAS, 1995, Article 5f). Where stock populations of target species and populations of non-target species are of concern, Parties must enhance monitoring of those species and review their management and conservation status.
- d) Parties are also obliged to collect and share all relevant and up-to-date fisheries data (FSA, 1995, Article 5j). Annex I of the FSA provides standard requirements for the collection and sharing of data. Data that can be collected includes information on vessel position, catch and yield statistics, composition of catch, including target and non-target species (FAS, 1995, Article 3, Annex I) fishing gear description, etc. States are also required to establish mechanisms for verifying fisheries data mechanisms include scientific observer programmers for monitoring details of fishing operations such as catch composition (target and non-target species) (FSA, 1995, Article 6, Annex I).
- e) Management strategies aimed at restoring or maintaining populations of species associated with or dependent upon target species must do so at levels consistent with precautionary reference points (FSA, 1995, Article 4, Annex II).
- f) Flag State vessels are obliged to record and report catch and vessel information (FSA, 1995, Article 18e). Flagged vessels must also have their catch of target and non-target species verified through measures such as observer programmers, inspection schemes, etc. (FSA, 1995, Article 18f). The

fishing activities of flagged vessels must be regulated to ensure compliance with sub regional, regional or global by-catch reduction measures (FSA, 1995, Article 18i).

Convention on the conservation and management of highly migratory fish stocks in the western and central Pacific Ocean

1) This Convention (MHLC) was adopted in September, 1995, in Honolulu, USA. The objective of the Convention is to ensure the long-term and effective conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean, in accordance with UNCLOS and FSA.

## 12. Necessary for Protect Our Marine Environment

People need air to breathe, water to drink, food to eat, new medicines, a climate we can live in, beauty, inspiration and recreation. We need to know that we belong to something bigger than ourselves. We want a better future for those we care about. To survive and prosper, we need healthy oceans.

The ocean is the largest ecosystem on Earth, it is the planet's life support system. Oceans generate half of the oxygen we breathe and, at any given moment, they contain more than 97% of the world's water. Oceans provide at least a sixth of the animal protein people eat. Living oceans absorb carbon dioxide from the atmosphere and reduce climate change impacts. The diversity and productivity of the world's oceans is a vital interest for humankind. Our security, our economy, our very survival all require healthy oceans.

So when Marine Conservation Institute works to improve marine protection through the Global Ocean Refuge System, maps the deep sea, advocates for California's seamounts, tracks conservation progress in the Atlas of Marine Protection and defends our blue parks, we are working to save the ocean for all of us and future generations.

Whether you live on the coast or far from it, whether you eat seafood or not, you and the future of all those you love depends on healthy oceans. Become an Ocean Guardian or make a donation to support our work for our incredible oceans.

## 13. We are helping governments to meet their ocean protection commitments

In the last decade, the voice in favor of ocean protection has grown globally, and governments are responding. In 2010, Governments at the UN Convention on Biological Diversity meeting agreed to a biodiversity rescue plan that includes marine protected areas covering at least 10% of our ocean by 2020. In 2015, the UN General Assembly adopted a resolution to develop a legally-binding treaty for the conservation of marine life beyond national territorial waters—that area of the ocean shared by all. To help government

meet their commitments and ensure the ocean continues to provide food and livelihoods for millions of people, the WWF Global Marine Program:

- a) Helps governments and local communities identify and manage those critical places that are in urgent need for protection in order to secure food security and livelihoods.
- b) Works with fishermen, local communities, and business sectors to implement best practices and sustainable use of marine and coastal resources.
- c) Take part in the global debate around ocean conservation and uses its decades of experience on the water and in policy fora to influence decisions at the highest level.

# 14. Some Way to Protect Marine Environment

The ocean is downstream of everything, so all of our actions, no matter where we live, effect the ocean and the marine life it holds. Those who live right on the coastline will have the most direct impact on the ocean, but even if you live far inland, there are many things you can do that will help marine life

#### 14.1. Eat Eco-Friendly Fish

Our food choices have a huge impact on the environment — from the actual items we eat to the way they are harvested, processed, and shipped. Going vegan is better for the environment, but you can take small steps in the right direction by eating eco-friendly fish and eating local as much as possible. If you eat seafood, eat fish that is harvested in a sustainable way, which means eating species that have a healthy population, and whose harvest minimizes bycatch and impacts on the environment.

## 14.2. Limit Your Use of Plastics, Disposables and Single-Use Projects

Have you heard of the Great Pacific Garbage Patch? That is a name coined to describe the huge amounts of plastic bits and other marine debris floating in the North Pacific Subtropical Gyre, one of five major ocean gyres in the world. Sadly, all the gyres seem to have their own garbage patch. What is the problem? Plastic stays around for hundreds of years can be a hazard to wildlife and leaches toxins into the environment. The solution? Stop using so much plastic. Buy things with less packaging, don't use disposable items and use reusable bags instead of plastic ones wherever possible.

## 14.3. Stop the Problem of Ocean Acidification

Global warming has been a hot topic in the ocean world, and it is because of ocean acidification, known as 'the other global warming problem.' As the acidity of the oceans increases, it will have devastating impacts on marine life, including plankton, corals and shellfish, and the animals that eat them. But you can do something about this problem right now — reduce global warming by taking simple steps that will likely

save money in the long run — drive less, walk more, use less electricity and water — you know the drill. Lessening your "carbon footprint" will help marine life miles from your home. The idea of an acidic ocean is scary, but we can bring the oceans to a healthier state with some easy changes in our behavior.

# 14.4. Be Energy-Efficient

Along with the tip above, reduce your energy consumption and carbon output wherever possible. This includes simple things like turning off the lights or TV when you're not in a room and driving in a way that increases your fuel efficiency. As Amy, one of our 11-year old readers said, "It might sound strange, but being energy efficient helps the Arctic marine mammals and fish because the less energy you use the less our climate heats up — then the ice won't melt.

## 14.5. Participate in a Cleanup

Trash in the environment can be hazardous to marine life, and people too! Help clean up a local beach, park or roadway and pick up that litter before it gets into the marine environment. Even trash hundreds of miles from the ocean can eventually float or blow into the ocean. The International Coastal Cleanup is one way to get involved — that is a cleanup that occurs each September. You can also contact your local coastal zone management office or department of environmental protection to see if they organize any cleanups.

#### 14.6. Never Release Balloons

Balloons may look pretty when you release them, but they are a danger to wildlife such as sea turtles, who can swallow them accidentally, mistake them for food, or get tangled up in their strings. After your party, pop the balloons and throw them in the trash instead of releasing them.

# 14.7. Dispose of Fishing Line Responsibly

Monofilament fishing line takes about 600 years to degrade. If left in the ocean, it can provide an entangling web that threatens whales, pinnipeds and fish (including the fish people like to catch and eat). Never discard you're fishing line into the water — dispose of it responsibly by recycling it if you can, or into the garbage.

# 14.8. View Marine Life Responsibly

If you're going to be viewing marine life, take steps to do so responsibly. Watch marine life from the shore by going tide pooling. Take steps to plan a whale watch, diving trip or other excursions with a responsible operator. Think twice about "swim with dolphins" programs, which may not be good for dolphins and could even be harmful to people

#### 14.9. Volunteer or Work with Marine Life

Maybe you work with marine life already or are studying to become a marine biologist. Even if working with marine life isn't your career path, you can volunteer. If you live near the coast, volunteer opportunities may be easy to find. If not, you can volunteer on field expeditions such as those offered by Earth watch as Debbie, our guide to insects, has done, where she learned about sea turtles, wetlands, and giant clams.

## 14.10. Buy Ocean-Friendly Gifts

Give a gift that will help marine life. Memberships and honorary donations to non-profit organizations that protect marine life can be a great gift. How about a basket of environmentally-friendly bath or cleaning products, or a gift certificate for a whale watch or snorkeling trip? And when you wrap your gift - be creative and use something that can be re-used, like a beach towel, dish towel, basket or gift bag.

## 15. Some Suggestions for Protect Marine Environment

## 15.1. Mind Your Carbon Footprint and Reduce Energy Consumption

Reduce the effects of climate change on the ocean by leaving the car at home when you can and being conscious of your energy use at home and work. A few things you can do to get started today: Switch to compact fluorescent light bulbs, take the stairs, and bundle up or use a fan to avoid oversetting your thermostat.

## 15.2. Make Safe, Sustainable Seafood Choices

Global fish populations are rapidly being depleted due to demand, loss of habitat, and unsustainable fishing practices. When shopping or dining out, help reduce the demand for overexploited species by choosing seafood that is both healthful and sustainable

#### 15.3. Use Fewer Plastic Products

Plastics that end up as ocean debris contribute to habitat destruction and entangle and kill tens of thousands of marine animals each year. To limit your impact, carry a reusable water bottle, store food in no disposable containers, bring your own cloth tote or other reusable bag when shopping, and recycle whenever possible.

#### 15.4. Help Take Care of the Beach

Whether you enjoy diving, surfing, or relaxing on the beach, always clean up after yourself. Explore and appreciate the ocean without interfering with wildlife or removing rocks and coral. Go even further by encouraging others to respect the marine environment or by participating in local beach cleanups.

## 15.5. Don't Purchase Items That Exploit Marine Life

Certain products contribute to the harming of fragile coral reefs and marine populations? Avoid purchasing items such as coral jewelry, tortoiseshell hair accessories (made from hawksbill turtles), and shark products.

#### 15.6. Be an Ocean-Friendly Pet Owner

Read pet food labels and consider seafood sustainability when choosing a diet for your pet. Never flush cat litter, which can contain pathogens harmful to marine life. Avoid stocking your aquarium with wild-caught saltwater fish, and never release any aquarium fish into the ocean or other bodies of water, a practice that can introduce non-native species harmful to the existing ecosystem.

## 15.7. Support Organizations Working to Protect the Ocean

Many institutes and organizations are fighting to protect ocean habitats and marine wildlife. Find a national organization and consider giving financial support or volunteering for hands-on work or advocacy. If you live near the coast, join up with a local branch or group and get involved in projects close to home.

## 15.8. Influence Change in Your Community

Research the ocean policies of public officials before you vote or contact your local representatives to let them know you support marine conservation projects. Consider patronizing restaurants and grocery stores that offer only sustainable seafood, and speak up about your concerns if you spot a threatened species on the menu or at the seafood counter.

#### 15.9. Travel the Ocean Responsibly

Practice responsible boating, kayaking, and other recreational activities on the water. Never throw anything overboard, and be aware of marine life in the waters around you. If you're set on taking a cruise for your next vacation, do some research to find the eco-friendliest option?

## 15.10. Educate Yourself about Oceans and Marine Life

All life on Earth is connected to the ocean and its inhabitants. The more you learn about the issues facing this vital system, the more you'll want to help ensure its health—then share that knowledge to educate and inspire others.

#### 16. Marine Conservation

Marine Conservation refers to the study of conserving physical and biological marine resources and ecosystem functions. It is the protection and preservation of ecosystems in oceans and seas through planned management in order to prevent the exploitation of these resources. Marine conservation is driven by the

manifested negative effects being seen in our environment such as species loss, habitat degradation and changes in ecosystem functions and focuses on limiting human-caused damage to marine ecosystems, restoring damaged marine ecosystems, and preserving vulnerable species and ecosystems of the marine life. Marine conservation is a relatively new discipline which has developed as a response to biological issues such as extinction and marine habitats change.

Marine conservationists rely on a combination of scientific principles derived from marine biology, oceanography, and fisheries science, as well as on human factors such as, demand for marine resources and marine law, economics and policy, in order to determine how to best protect and conserve marine species and ecosystems. Marine conservation may be described as a sub-discipline of conservation biology.

#### 17. Large Scale Solutions for Marine Pollution

It's hard to clean up mass pollution once it has occurred, so the best plan is prevention. Several changes can take place to help keep industry in check and encourage sustainable practices in the US and across the globe such as:

Stricter government regulations on industry and manufacturing is one large scale solution. The Environmental Protection Agency (EPA) has enacted several laws to help protect beaches, reduce pollution from ships, reduce marine debris, and prohibit ocean dumping.

Implement renewable energy sources, such as wind or solar power, to limit off-shore drilling. The National Oceanic and Atmospheric Administration (NOAA) tracks renewable ocean energy projects and offers analysis on how renewable energy can impact oceans throughout the United States.

Limit agricultural pesticides and encourage organic farming and eco-friendly pesticide use. There are several federal laws and regulations that help prevent the sale and use of substandard pesticides. The Endangered Species Act requires federal agencies to evaluate the impact of pesticides on endangered species and their habitats, including those in the ocean.

Proper sewage treatment and exploration of eco-friendly wastewater treatment options, such as recycling sewage sludge to carbon-phosphorous fertilizer, are other solutions. Under the Clean Water Act, the EPA offers assistance for recycling bio solids and regulates sewage sludge to help minimize metal concentrations in water.

Cut down on industry and manufacturing waste and contain landfills so they don't spill into the ocean. The Hazardous and Solid Waste Amendments passed in 1984 set standards for landfills and placed restrictions on where landfills may be located.

# 18. Help Reduce Ground Leaching

Take these steps to help reduce the amount of chemicals and toxic materials from leaching into the ground and ultimately, the ocean:

- a) Reduce your use of fertilizers and avoid using chemical pesticides in your yard.
- b) Eat organic whenever possible to help ultimately limit the demand for chemical pesticides.
- c) Clean your home with lemon juice, baking soda, and vinegar instead of toxic cleaners.
- d) Properly dispose of motor oil, light bulbs, medications, and other hazardous items.

#### 29. Conclusion

In analyzing the strengths and weaknesses of international efforts to incorporate ecosystem management principles into international instruments, the most notable strengths of the international instruments studied for this paper are the instruments themselves, as they attempt to establish a global framework for the conservation and management of marine environments and resources. Moreover, the inclusion of ecosystem conservation is also a positive element, as it is a step away from the traditional species and stock focuses. This ecosystem-based focus also provides scope for an increased involvement of regional bodies in establishing integrated marine and coastal management measures. There are, however, several weaknesses that need to be considered. One of the major drawbacks of international instruments is that many States are not party to them, thereby limiting the extent to which these instruments are being applied. The provisions outlined in instruments are often vague and ambiguous with respect to the protection of the marine environment, and these need to be addressed to more clearly assert environmental protection obligations to States. Even though many of the instruments include illegal, unregulated and unreported (IUU) fishing, surveillance and enforcement as key issues to be addressed, it will be difficult, or even impossible, to control these problems through comprehensive and effective monitoring of an area so vast. Moreover, developing nations, in particular, will be hard pressed to find sufficient resources to implement many of the measures outlined in the international instrument.

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