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## A Review Of Recent Developmenets In Ocean And Coastal Law 2001-2002

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# A Review Of Recent Developments In Ocean And Coastal Law 2001-2002

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# A REVIEW OF DEVELOPMENTS IN OCEAN AND COASTAL LAW 2001-2002

*Journal Staff 2002\**

## **DOMESTIC**

### **I. FISHERIES**

#### *A. U.S. Extends Shark Finning Ban to the Pacific Ocean*

On February 11, 2002, the National Marine Fisheries Service published a final rule that implements provisions of the Shark Finning Prohibition Act (SFPA) and prohibits any person under U.S. jurisdiction from engaging in shark finning, possessing shark fins harvested on board a U.S. fishing vessel without the corresponding carcass, or landing shark fins without the corresponding carcass. The new regulations do not generally apply to state waters or to foreign vessels outside the U.S. exclusive economic zone. The SFPA was passed by Congress and signed into law in December 2000 by President Clinton, as an amendment to the Magnuson-Stevens Fishery Conservation and Management Act, out of concern for the status of shark populations and the effects of fish mortality associated with finning on shark populations. The intent of the SFPA was to eliminate the wasteful practice of killing sharks only for their fins. The U.S. ban is consistent with international agreements to better manage sharks, particularly the Code of Conduct for Responsible Fishing, the International Plan of Action for Sharks, and the United Nation's Agreement on Straddling Stocks and Highly Migratory Species.

In finning a shark, the fin is sliced from the live shark, and the shark is tossed overboard in order to leave more room onboard a vessel for other fins or more profitable fish such as tuna. Shark fins comprise only one to five percent of the total weight of a shark, and finning results in 95-99%

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waste in weight. Shark fin is the primary ingredient in shark fin soup, a delicacy that can sell for \$100 a bowl in Asia. Approximately 8,000 metric tonnes of shark fin are consumed annually worldwide, which equates to roughly 100 million sharks. China imports roughly 5000 metric tonnes of shark fins per year with large fins in Beijing stores on display for \$18,000 or more. Shark fins have been considered a delicacy in China since the early Ming Dynasty and are considered essential at Chinese wedding banquets. Shark fin is rich in protein and assists the body in repairing itself, though it is basically tasteless. Random tests of shark fins in Hong Kong have shown that exceedingly high levels of mercury occur in fins, as sharks tend to retain high levels being atop the ocean's food chain.

Currently, shark finning is prohibited in a number of U.S. states, predominately on the West coast and Hawaii. Shark finning has been prohibited since 1993 in federal waters in the Atlantic Ocean and the Gulf of Mexico. It remains to be determined whether the new federal regulations will be further strengthened by corresponding state regulations for all U.S. coastal states. In addition, the new federal regulations will hopefully serve as an impetus for international agreements to protect highly migratory shark populations, as shark finning remains legal over a substantial percentage of the world's oceans. Fisheries Off West Coast States and in the Western Pacific; Atlantic Highly Migratory Species; Fisheries of the Northeastern United States; Implementation of the Shark Finning Prohibition Act, 67 Fed. Reg. 6194 (Feb. 11, 2002) (to be codified at 50 C.F.R. pts. 600, 635, 648, and 660); Ken Gargett, *Fin Dining*, *COURIER MAIL*, March 20, 2002, at 41; NOAA News Release, United States Extends Ban on Shark Finning to Pacific Ocean—Wasteful Practice Now Prohibited Throughout U.S., available at <http://www.nmfs.noaa.gov> (last visited Feb. 7, 2002).

### *B. Conservation Law Foundation v. Evans*

On December 28, 2001, the U.S. District Court for the District of Columbia determined that the National Marine Fisheries Service (NMFS) violated the Sustainable Fisheries Act (SFA) by repeatedly failing to minimize bycatch and bycatch mortality in the valuable New England groundfish fishery. The SFA was enacted to prevent overfishing and to rebuild the New England groundfish stock, which had been severely depleted by the mid-1980s, and specifically charges NMFS with minimizing bycatch. The New England groundfish fishery includes cod, haddock, and flounder species. The New England Fishery Management Council (NEFMC) is charged with developing a fishery management plan (FMP) for the New England groundfish fishery, which must be approved by the Secretary of Commerce. A FMP is implemented by NEFMC through a

framework adjustment. The Secretary of Commerce must reject any framework adjustment that is not consistent with the underlying FMP or any other applicable law. The SFA requires that FMPs rebuild depleted populations in as short a time as possible, but not to exceed ten years, which would have required NMFS to have approved the New England FMP no later than February 1999. NMFS must also ensure that FMPs implement provisions of the SFA.

The court noted that the Secretary of Commerce is required to reject any framework adjustment that is inconsistent with an underlying FMP or other applicable fishery management statutes, and that NMFS's failure to implement Amendment 9 of the New England groundfish fishery FMP was arbitrary and capricious and violated the SFA. Amendment 9 had been previously approved by the Secretary of Commerce. The NEFMC refused, however, to implement the strict overfishing provisions of Amendment 9, attempting instead to implement Framework 33. Framework 33 did not contain the strict overfishing provisions of Amendment 9, and also permitted higher levels of fishing than the SFA permitted. The court also determined that NMFS's failure to adopt new measures for reporting and assessing bycatch violated the SFA, and more specifically, that Amendment 9 also failed to adequately minimize bycatch, as required by the SFA. In response to Judge Kessler's ruling in December 2001 that the NMFS did not act aggressively enough to reverse overfishing, the federal government proposed its remedy plan. Under the plan, new regulations would be enacted for the Gulf of Maine fishery that would require: (1) that the current allotment of eighty-eight fishing days be counted twice during the months of May through October; (2) that outside the Gulf of Maine, the two for one fishing days would be in effect from May through June; (3) certain closed areas in May and June; (4) a year-round closure in the middle of the Gulf of Maine; (5) gear changes, mandating a larger mesh size; (6) that recreational fisherman be allowed to keep cod that are twenty-four inches long, and would be limited to five fish per day; and (7) that the NEMC come up with additional measures by August 2003.

Fisherman argue that such massive limits could mean an end to a way of life for many fishermen. Environmental groups want a variety of other rules, including catch limits and a mechanism to shut down the fishery once catch limits are reached, a plan for vessel monitoring, the creation of an observer program, and the development of a plan to minimize bycatch. Judge Kessler could impose more restrictive rules. The judge will make her ruling before the fishing season starts on May 1, 2002. John Richardson, *Drastic Limits on Fishing Proposed*, PORTLAND PRESS HERALD, March 4, 2002, at A1; *Conservation Law Foundation v. Donald Evans*, Civ. No. 1:00CV01134 GK (D.D.C. 2002). See *Conservation Law Foundation v.*

Evans, 2001 U.S. Dist. LEXIS 21991 (D.D.C. 2001); *see also* Conservation Groups Denounce Government Fish Plan as Status Quo, *available at* <http://www.clf.org> (last visited Apr. 10, 2002).

### *C. NOAA Awards \$10,000 Grant for Horseshoe Crab Conservation*

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service has awarded a \$10,000 grant to Ecological Research and Development Group (ERDG), a Delaware-based horseshoe crab conservation organization. Whelk and Conch fishermen use horseshoe crabs as bait in their traps, and restrictions on horseshoe crab harvest, occasioned by their declining population, have caused bait shortages. ERDG will use the funds to provide bait bags to whelk fishermen free of charge.

The bait bags are constructed of plastic netting and secured with a bungee cord. They prevent undesirable species from consuming the horseshoe crab bait, resulting in a higher catch to bait ratio. Some whelk fishermen have reported up to a seventy-five percent reduction in the amount of bait they must use when they are using the bait bags. In 2000, 1.8 million horseshoe crabs, worth an estimated \$2 million, were collected along the Atlantic coast to be used as bait.

The bait bags are an innovative program. Fishermen are happy to use them, as they improve their bait to catch ratio and conservationists are pleased with the substantial reduction in the number of horseshoe crabs that must be harvested to provide bait. ERDG's efforts will concentrate on New York, Connecticut, Rhode Island, and Massachusetts. The use of bait bags is already required in the state of Virginia.

Horseshoe crabs are an ancient marine animal related to spiders. They are bottom dwellers found from Maine to Mexico. They are an integral component of the marine ecosystem: their eggs provide food for migratory seabirds, endangered sea turtles eat them, and horseshoe crab blood is extracted for use by the pharmaceutical industry. NOAA, *NOAA Fisheries Awards \$10,000 Grant to Continue Horseshoe Crab Conservation* (Feb. 22, 2002), *available at* <http://www.publicaffairs.noaa.gov/releases2002/feb02/noaa02r108.html> (last visited Mar. 31, 2002).

### *D. Environmentalists Win Suit to Protect Pacific Rockfish*

U.S. Magistrate Judge James Larson of the U.S. District Court for the Northern District of California ruled, in the case of Natural Resources Defense Council v. Evans, that the National Marine Fisheries Service (NMFS) must take action to protect the Pacific Rockfish bocaccio and

lingcod. Judge Larson's opinion stated that "NMFS has not observed its duty to obtain accurate bycatch data. Nor has the agency bothered to explain its decision to ignore these factors and not adjust bocaccio and lingcod bycatch percentages in the face of evidence that it should." The plaintiffs, Natural Resources Defense Council (NRDC), the Pacific Marine Conservation Council, and the Ocean Conservancy, had argued that by ignoring bycatch, NMFS was setting acceptable catch levels for rockfish that were too high.

The court's opinion also held that NMFS had violated federal laws by not providing prior public notice or allowing for comment on the 2001 rules for the fishery; authorized inadequate rebuilding plans for overfished species; and failed to consider a reasonable range of alternatives and environmental consequences in setting rules for catching bocaccio and lingcod groundfish.

The bocaccio has declined ninety-eight percent since 1969. On January 25, 2001 the NRDC petitioned the Commerce Department to list the bocaccio as an endangered species. The outcome of that petition is still pending. Natural Res. Def. Council, *Environmentalists Win Suit to Protect Pacific Rockfish* (Aug. 22, 2001), available at <http://www.nrdc.org/media/pressReleases/010822.asp> (last visited April 1, 2002); see also Natural Res. Def. Council v. Evans, 168 F. Supp. 2d 1149 (N.D. Cal. 2001).

## II. TRADE EMBARGOES

### A. *U.S. Government Wins Round in Shrimp Importing Case*

In a longstanding war between environmental groups and the government of the United States regarding the importation of shrimp from countries not complying with U.S. regulations requiring the use of Turtle Excluder Devices (TEDs) on shrimp trawlers, another battle has been won by the government.

In *Turtle Island Restoration Network v. Evans*, 2002 U.S. App. Lexis 4521 (Fed. Cir. Mar. 21, 2002), the latest decision on this matter, Judge Clevenger held that the U.S. statute, section 609(b) of Public Law 101-162, does not prohibit all importation of shrimp or shrimp products from noncertified countries. Instead, the judge ruled that the statute authorizes the United States to permit the importation of individual shipments from noncertified countries where the exporters represent that the shipments in question were caught without the use of commercial fishing technology that may harm sea turtles.

Since 1987, United States regulations have required that shrimp trawlers operating in U.S. waters install TED's so as to avoid injury to sea

turtles in their bycatch. Section 609(b) allowed the Secretary of State, in consultation with the Secretary of Commerce, to “initiate international negotiations with the aim of protecting those species of sea turtles protected by the domestic TED requirements,” as well as restrict “the importation of shrimp which have been harvested in a manner that may endanger those species of sea turtles.” *Id.* at \*7.

The plaintiffs in this case argued that Section 609 requires the government to prohibit the importation of all shrimp from uncertified countries. The government argued a contrary statutory interpretation which would allow importation from uncertified countries “if both the exporter and an official of the harvesting nation attest that the individual shipment of shrimp in question was harvested under conditions that do not adversely affect sea turtles.” *Id.* at \*8. “Thus, under the government’s interpretation of section 609, a country may export shrimp to the United States either by requiring its entire fleet to be equipped with TEDs (and becoming certified under section 609(b)(2)), or by requiring TEDs only on those vessels catching shrimp destined for the United States market.” *Id.* at \*9.

This decision reverses a 2001 opinion by the Court of International Trade that prohibited the U.S. practice of allowing shrimp imports into the country on a shipment-by-shipment basis. Approximately seventy percent of shrimp consumed in the United States is imported. Julie Ziegler, *U.S. Court Endorses Federal Rule on Sea Turtles, Shrimp Embargo*, BLOOMBERG NEWS, Mar. 22, 2002.

### *B. Ban of Russian Caviar Possible*

Facing the potential ban on caviar exports, Russia as well as three other neighboring countries, Azerbaijan, Kazakhstan, and Turkmenistan, have begun to follow fishing quotas designed to save declining sturgeon in the Caspian Sea. The United Nations agency designed to monitor trade in endangered species has indicated that, should these countries fail to follow a twelve month plan designed last summer in compliance with the United Nations’ Convention on International Trade in Endangered Species (CITES) to replenish stocks, they could face a ban of all caviar exports. According to scientists, the stocks of sturgeon in the Caspian Sea have declined due to poaching and environmental degradation. Iran, another harvester of sturgeon from the Caspian Sea, is not facing similar quotas or bans because it controls the sturgeon catch in its waters. Aida Sultanova, *Caspian states establish quotas, survey sturgeon stocks to avoid fishing ban*, available at [http://www.enn.com/news/wire-stories/2002/01/01072002/ap\\_46031.asp](http://www.enn.com/news/wire-stories/2002/01/01072002/ap_46031.asp) (last visited April 18, 2002).



### C. *U.S. Monitoring Chilean Sea Bass Imports*

In an effort to manage and conserve the Chilean sea bass, the United States has begun enforcing import regulations of the species. The U.S. hopes that stringent monitoring and strict compliance with the regulations will prevent further overfishing of the species. "The United States is part of the twenty-four-member-nation Commission for the Conservation of Antarctic Marine Living Resources, which has agreed to catch limits for Chilean sea bass and implemented a document system to track catches." Without such a document, United States customs will not allow any Chilean sea bass to enter the country. Argentina, France, Chile, Australia, South Africa, the United Kingdom, the Republic of Korea, and Uruguay are the primary countries that harvest the species. NOAA, *Illegal Harvests of Chilean Sea Bass Get Close Review: U.S. Aggressively Monitoring Imports; Issues Consumer Fact Sheet* (Mar. 25, 2002), available at <http://www.publicaffairs.noaa.gov/releases2002/mar02/noaa02021.html> (last visited April 1, 2002).

### D. *Trade Sanctions Possible Solution to Declining Alaskan Salmon Industry*

Alaskan salmon fishermen have begun to feel the sting of the most recent trend in the aquaculture industry—salmon farming. "A decade ago, Alaska salmon accounted for nearly one in every two fish sold; now it accounts for fewer than one in five, due to increased competition from foreign and domestic salmon farms." The recent decline in salmon sold in Alaska is blamed partly on salmon farming in other areas of the world, which is not allowed in Alaska. Recent strategy sessions between the industry and state officials have discussed potential trade sanctions against Chilean-farmed salmon as a potential solution to the problem, although admittedly, "it is unlikely the problem can be solved with a blanket solution." *Salmon: Growing Worldwide Catch Threatens Alaska Industry*, GREENWIRE, Jan. 15, 2002 at n.1.

## III. ENDANGERED SPECIES

### A. *Recent District Court Ruling on ESUs Spawns Activity under the ESA*

The National Marine Fisheries Service (NMFS) has received six petitions to delist certain evolutionary significant units (ESU) of Pacific salmon and steelhead, which are currently listed as endangered under the

Endangered Species Act (ESA). Five of these petitions involve species that also have hatchery populations. The petitioned ESUs are Pacific salmon and steelhead in California, Oregon, Washington, and Idaho. The NMFS found that the delisting actions may be warranted for fourteen of the ESUs in light of a recent district court ruling. Similarly, NMFS is reviewing the status of ten ESUs previously listed as endangered or threatened and updating the status of the Lower Columbine River/Southwestern Washington coho salmon.

Much of this activity is a result of a recent federal court decision in *Alesea Valley Alliance v. Evans*, 161 F. Supp. 2d 1154 (D. Or. 2001). In *Alesea*, the plaintiffs challenged the validity of NMFS's listing of Oregon Coast ESU coho salmon as threatened as defined under the ESA. This listing only included "naturally spawned" coho and did not include hatchery populations.

The court held that the NMFS listing decision was arbitrary and capricious and therefore invalid. Congress did not intend NMFS to rely on as narrow a subspecies population as they did for this listing. Hatchery coho are part of a distinct population segment (DPS) and the ESA defines a species as including subspecies and DPS. Distinctions below DPS are not allowed under the ESA. Therefore, the court reasoned, hatchery coho must be included in the listing determination. To ignore them would be to subdivide a DPS contrary to Congress's intentions. The listing decision was found unlawful and set aside. The matter was remanded to NMFS. *Alesea Valley Alliance v. Evans*, 161 F. Supp. 2d 1154 (D. Or. 2001). *Endangered and Threatened Species: Findings on Petitions to Delist Pacific Salmonid ESUs*, 67 Fed. Reg. 6215 (Feb. 11, 2002).

### *B. Recent Rulings to Provide Further Protection for North Atlantic Right Whales*

In a January 23, 2002 letter to Lobster Trap/Pot and Gillnet Fishermen, the National Oceanic and Atmospheric Administration (NOAA) described recent rules issued by NMFS to further protect the North Atlantic right whale. The programs explained were the Dynamic Area Management Program (DAM), the Seasonal Area Management Program (SAM), and expanded gear modifications. These rules are part of the Atlantic Large Whale Take Reduction Plan.

DAM areas are defined areas in which NMFS has the authority to temporarily restrict the use of lobster-trap/pot and gillnet fishing gear. This final ruling became effective February 8, 2002. A zone may be triggered "by a reliable report from a qualified individual of three or more rights whales within an area." To comply with the rule, the affected fisherman

may have to remove or modify all lobster trap and anchored gillnet gear. The restrictions will last for a minimum of fifteen days, after which the DAM zone will expire unless further sightings of right whales are reported. Notification of the zones will be in the Federal Register and "other appropriate media."

The SAM program is an interim final rule effective March 1, 2002. This program defines two areas where right whales are likely to be present. Lobster trap/pot and anchored gillnet gear used in these areas must be designated as gear that is highly unlikely to result in serious death or injury to the whales.

The expanded gear modification rule is Effective February 11, 2002. These modifications expand requirements for the Mid-Atlantic and Offshore lobster waters and modifications for gillnet gear in the Mid-Atlantic region. Letter from Patricia A. Kurkul, Regional Administrator, NMFS Northeast Region, to Lobster Trap/Pot and Gillnet Fisherman, *available at* <http://www.nero.nmfs.gov/whaletrp/alwtrppermitletter.pdf> (last visited Jan. 23, 2002).

#### IV. POLLUTION

##### *A. Scientists Convert Polluted Sediment into Energy*

Most life forms generate their energy by oxidizing organic compounds with oxygen. A recent study done by the University of Massachusetts (UMass) is the first to prove that certain anaerobes, microorganisms that do not need oxygen to survive, can transform organic matter such as mud into electrical energy. The study was lead by UMass Microbiologist Derek R. Lovely. According to Lovely, an understanding of how these anaerobes discharge electrons while consuming organic pollutants may lead to the development of new technologies that produce energy while decontaminating polluted water and sediment.

The UMass study focused on the use of a particular bacteria found in a family of anaerobic microorganisms referred to as Geobacters. Geobacters generate energy when they break down organic material, such as decaying plant and animal matter. They have been used to degrade, detoxify, or immobilize materials such as petroleum and benzene found in soil and water. Geobacters have also been used to degrade inorganic toxic substances like uranium from groundwater. Lovely explains, a "Geobacter can use uranium to get energy the same way we use oxygen, and in the process, it will remove uranium from the surrounding environment." Uranium is particularly hazardous because it dissolves in water and contaminates groundwater supplies.

Lovely has found that *Geobacters* can convert uranium into a non-soluble form by stripping electrons and making it unable to dissolve in water and contaminate groundwater supplies. He has focused much of his work on finding ways to clean up uranium contamination from the production of atomic weapons. While it was already known that *Geobacters* could degrade toxins like benzene and break them down to carbon dioxide, this new study expands the idea that the process of degrading, detoxifying and immobilizing also may serve as a new source of energy.

When bacteria breaks down organic matter it gains energy and expels a stream of electrons in the process. Bacteria normally transfers these electrons to minerals rich in iron. Lovely and his colleagues, however, offered the bacteria a graphite disc to deposit their electrons. He conducted this experiment by filling fish tanks with mud and seawater taken from Boston Harbor. The mud has heavy concentrations of polluted sediment and seawater. The research team made a homemade battery and buried the negative terminal, a graphite anode, in the mud and left the positive terminal, a cathode, in the seawater. A copper wire connected the negative and positive terminals. The bacteria from the mud stripped the electrons from the organic pollutants and transferred them to the anode. The electrons traveled through the copper wire to the cathode and produced a current just like a battery.

As Lovely suggests, there is potential for the military to some day use such technology to alert soldiers of toxins and biological warfare agents in their immediate environments. Thus far, however, scientists have only produced enough electricity to power a small light or a simple computer. Paula Hartman Cohen, *UMass Microbiologist Leads Team Analyzing Genome of Microbe That Cleans Up Pollution* (Dec. 11, 2001), available at [www.umass.edu/newsoffice/archive/2001/121101\\_microbe.html](http://www.umass.edu/newsoffice/archive/2001/121101_microbe.html) (last visited Mar. 27, 2002); Derek R. Lovely, *Bioremediation: Anaerobes to the Rescue*, *SCIENCE MAGAZINE* August 24, 2001, available at <http://www.sciencemag.org/cgi/content/summary/293>; Paula Hartman Cohen, *UMass Study Uses Microbes to Turn Mud Into Electricity* (Jan. 17, 2002), available at [http://www.umass.edu/newsoffice/archive/2002/011702\\_electrodes.html](http://www.umass.edu/newsoffice/archive/2002/011702_electrodes.html) (last visited Mar. 27, 2002); Bijal P. Trivedi, *Mud Batteries; Power Cells of the Future?* *NATIONAL GEOGRAPHIC TODAY* (Jan. 22, 2002), available at [http://www.news.nationalgeographic.com/news/2002/01/0122\\_020122\\_tvmmudbatteries.htm](http://www.news.nationalgeographic.com/news/2002/01/0122_020122_tvmmudbatteries.htm) (last visited Mar. 27, 2002).

## V. CORAL REEFS

### A. *Hawaii's Reefs Are Feeling the Effects of Soil Erosion, Overfishing and Urban Pollution*

Hawaii's reefs have been subjected to decades of agricultural development, tourism, dredging, and of course, overfishing. Although overfishing remains a perennial threat to Oahu's coral reef health, it should be noted that significant damage has also been observed off Waikiki and Honolulu. Here, protected estuaries and wetlands have been sacrificed in the name of industrialization to create harbors, parks and beaches around hotels. The encroachment of construction, tourism, and agriculture has significantly impacted the reefs off Molokai and Kauai. It is only recently that the reefs around the Hawaiian Island are beginning to recover from the effects of sugarcane waste deposited in these waters.

In addition to over-industrialization, poor seamanship has also contributed to the pernicious conditions that beset the reefs. A unanimous ruling by the United States Supreme Court in 1996 found that Exxon was solely to blame for damage that resulted when one of its tankers broke free from its mooring in rough seas and collided with an Oahu reef. The resulting damage polluted miles of the coastline when 30,000 gallons of spilled oil was released in the marine environment.

Of course, it is not just big business that shoulders such blame; we also must look to the government. One might consider an oil spill to be the most offensive and noxious cause of depletion that eradicates our reefs. This however, may not be the case, at least not for the coral reefs in this region of the world. Johnston Atoll, a coral-reef island chain, was the subject of an effort to wash plutonium out of the contaminated coral soil. The plutonium was left over from when a failed atomic mission was aborted and the missile was deliberately exploded on the launch pad. The atoll is also earmarked as a chemical weapons disposal site for mustard gas, VX nerve gas and sarin. *Soil erosion, overfishing, and urban pollution persist, available at [http://www.motherjones.com/coral\\_reef/hawaii.html](http://www.motherjones.com/coral_reef/hawaii.html) (last visited Mar. 27, 2002).*

### B. *Coral Reefs Provide A Quarter Of All Marine Life—So Why Are They Being Killed Off?*

Under the depths of the world's great oceans, the process of life is simple. Tiny animals, corals, build the great limestone sea walls and the great banks and islands and sea atolls, many of which are hundreds of miles long and thousands of feet thick. These tiny sea animals create what we

commonly know as coral reefs. These resilient creatures have been under the sea since before the time of the dinosaur, but with the proliferation of exploitation, whether it is sea harvesting through the weight of excessive fishing practices by commercial fishermen and tourists, or being smothered or cooked, they will soon die. Marine scientists claim that the aforementioned activities have contributed to a ten percent eradication in the world's coral reefs, and have predicted an increase to seventy percent within forty years if we do not change our ways and curb our behavior.

What does it really matter if coral reefs disappear from our ocean environment? It matters a great deal. Marine science has shown one simple fact: the quality of life without these tiny sea creatures and the reefs they create. The contributions and utility derived from coral reefs are plentiful.

Coral reefs provide a plentiful source of food and nutrition upon which many of our common seafoods depend. Fish, crab, eels, mollusks, and sponges are some of the species which live on reefs, or depend upon them as nurseries to protect their young. In addition to being a haven for aquatic life, the coral reef also provides a natural sea wall against tides, storm surges, and hurricanes. Reefs also create limestone from dissolved minerals in the water and deposit this as sand along shorelines, which prevents beach erosion. Other contributions of note include the use of coral reefs in creating certain agents used in medicine, as well as the great amounts of money garnered from the tourism industry for snorkeling and diving.

So, if these coral reefs are such an invaluable commodity, why and how are we killing them off? The answer is manifold. The hard times that have beset the fishing industry worldwide have contributed to the demise of the coral reef. Overexploiting the abundant aquatic life in and around the reefs have left South and East Asian reefs perilously close to being scoured of nearly all edible life. Blast fishing, cyanide fishing, sewage and farm runoff have also decimated the ranks of global reefs. Such activity leads to disease in coral that is created as a direct result of these accumulated stresses and the depletion of aquatic life.

But all hope is not lost. Recognition of these problems is the first step toward recovery. Scientists have discovered that the protection of coral areas in upstream areas can help regenerate damaged coral areas downstream. It is also believed that full-blown aquaculturing of coral may replenish its stock and lead to a resurgent growth. However, these are steps that must be addressed quickly, at least within the next forty years, if there is any hope of preserving significant coral reefs. Keith Hammond, *Corals give us a quarter of all marine life—so why are we destroying them?*

available at [http://www.motherjones.com/coral\\_reef/science.html](http://www.motherjones.com/coral_reef/science.html) (last visited Mar. 27, 2002).

## VI. PROTECTED AREAS

### A. *Gulf of Mexico 'Dead Zone' Measured Over 8000 Square Miles During 2001*

A group of Universities from Florida, Louisiana, and Texas, funded by the National Oceanic and Atmospheric Administration's (NOAA) Coastal Ocean Program, combined to do research on the 'Dead Zone,' which is at the mouth of the Mississippi River. They concluded that in 2001, for the first time ever, the Dead Zone topped 8000 square miles. Nancy Rabalais, an expert on the Dead Zone believes this estimate to be a conservative result, due to the fact that the Texas section was not fully accounted for. First noticed in 1974, the Dead Zone is an annually occurring area around the mouth of the Mississippi River that is formed by runoff from upriver. The Dead Zone usually appears in May and persists into September or October, with the highest impact occurring during June, July, and August. Increased fertilization and a loss of wetlands are thought to be the main contributors to the Dead Zone.

The Dead Zone is caused by runoff from upriver states. Fertilizer drains off the farmland and into the Mississippi River, where it is carried downstream into the Gulf of Mexico. This runoff raises the nitrogen level in the water, causing excess algae growth. Decaying algae matter sinks to the bottom, where it is consumed by bacteria. The bacteria also consume oxygen, to the point where the water reaches a state of hypoxia, in which the oxygen level in the water is below that required to sustain most forms of animal life. Fish abandon the area and bottom dwelling creatures suffocate from lack of oxygen.

A multistate Task Force was formed, with the goal of cutting the Dead Zone in half by the year 2015. The Task force operates through states, who work to reduce discharge. The Task force was formed with the help of Clinton administration officials, but it needs support from the Bush administration. Associated Press, *Gulf dead zone stretches across 8,000 square miles*, USA TODAY (JULY 28, 2001), available at <http://www.usatoday.com/news/healthscience/science/enviro/2001-07-27-deadzone-gulf-of-mexico.htm> (last visited Jul. 28, 2001); SeaWeb, *The Gulf of Mexico 'Dead Zone,'* available at [http://www.seaweb.org/background/book/dead\\_zone.html](http://www.seaweb.org/background/book/dead_zone.html) (last visited Mar. 12, 2002); Mike Dunne, *Plan to end 'dead zone' needs Bush's support* (Jan. 25, 2001), available at

<http://www.theadvocate.com/opinion/story.asp?storyid=2857> (last visited Mar. 12, 2002 ).

## VII. MISCELLANEOUS

### A. NOAA Uses High Tech Equipment to Catch Violator

On December 5, 2001, a U.S. Coast Guard administrative law judge found that a scallop vessel and its captain had violated the Magnuson-Stevens Fishery Conservation and Management Act by repeatedly fishing in a closed area off the coast of Maine. Judge Edwin M. Bladen assessed a fine of \$250,000 against the vessel *Independence*, and its owner, Lobsters, Inc. In addition, he permanently revoked the vessel's federal fishing permit and captain Lawrence M. Yacubian's federal vessel operator permit. The prosecution was based almost exclusively on data gathered from the satellite-based Vessel Monitoring System (VMS).

VMS is a satellite-based tracking system whereby the vessel carries a monitor, from which NOAA receives tracking information via satellite. The information is used to detect a ship's position, in near real time. Many federally-licensed fishing vessels, including all scallopers, are required to carry the VMS monitor on their vessel. The benefits of VMS include improved compliance with fishery regulations, increased efficiency in investigating suspicious activity, and (if this case holds) useful evidence in a court of law, both for the prosecution to prove violations and of defendants to prove compliance.

The case was significant because it sets a precedent that VMS is reliable technology, and an acceptable form of evidence of vessel activity. The prosecution was based almost solely on VMS evidence. Judge Bladen noted that the penalties for this type of violation will send a strong message to the fishing industry that such flagrant violations will be highly penalized. Press Release, NOAA Wins First Prosecution Using Satellite-based Vessel Monitoring System (Dec. 11, 2001), *available at* <http://www.publicaffairs.noaa.gov/releases2001/dec01/noaa01r153.html> (last visited Apr. 15, 2002); John Doherty, *High-tech at work on high seas* THE STANDARD TIMES (June 23, 2000), *available at* <http://www.s-t.com/daily/06-00/06-23-00/a011o003.htm> (last visited Apr. 15, 2002); Foreign Fisheries Agency, *VMS*, *available at* <http://www.ffa.int/> (last visited Mar. 13, 2002).

### B. Infectious Salmon Anemia a Serious Threat to Maine Fish Farms

Infectious salmon anemia (ISA) is a foreign animal disease that has proved devastating to farm-raised Atlantic salmon in European, Canadian,



and United States seafood industries. While ISA “appears to only cause disease in Atlantic salmon, both wild and farmed, sea run brown trout, rainbow trout, and other wild fish such as herring may act as carriers or reservoirs of the virus.” ISA appears in fish within two to four weeks after infection. Clinical signs can include, “lethargy, swelling, and hemorrhaging of the kidneys and other organs, protruding eyes, pale gills, darkening of the posterior gut, and swelling of the spleen.” The seriousness of the disease is reflected in the mortality rate it can cause, which ranges from three percent to over fifty percent over one production cycle. Transmission of ISA occurs through direct contact with infected fish, contaminated equipment, people who handled infected fish, and sea lice. ISA not only poses a threat to the infected pen, but can also endanger salmon pens and processing plants within three miles of infected farms. Without adequate waste treatment programs, these facilities may have up to thirteen times greater risk of becoming infected with ISA.

The disease was first detected in Norway in 1984 and has been present in Canada since 1997. The first case of ISA in the United States was confirmed on February 15, 2001, and has since continued to spread very quickly. The disease has caused more than three million fish worldwide to be destroyed, with the total steadily increasing. As of September 2001, fish farms in Maine were forced to kill more than 830,000 salmon in an attempt to stop the spread of ISA. So far the disease has been confined to Cobscook Bay, located in the northeast region of Maine, known as “Down East,” close to the Canadian border. Cobscook Bay is arguable the most important area for aquaculture in the United States, with twenty-five farming sites and hundreds of fish pens, producing 36.2 million pounds of salmon annually worth \$101 million. The fish killed in Cobscook Bay as a result of ISA were worth an estimated \$11 million. The loss is greater when capital expenditures such as labor costs and equipment are figured in.

Lost revenues resulting from ISA related fish mortality also have far-reaching effects. The devastating effects of the virus have hurt the economies of other States and have had serious ramifications for international trade. In order to ameliorate the ISA’s threat to the U.S. salmon aquaculture industry, federal funds were granted by the U.S. Department of Agriculture to assist with an ISA control program. These funds will be used for payment of indemnity, program activities such as depopulation and disposal, clean-up and disinfection through vaccination, establishment of surveillance programs, epidemiology and diagnostic support, and training for producers and veterinarians. The goal is to control and contain the disease through rapid detection and depopulation of salmon that have been infected with or exposed to ISA. These activities will hopefully control the spread of ISA before it unnecessarily costs the United

States any more fish or revenue. U.S. Dept. of Agriculture, *Declaration of Emergency Because of Infectious Salmon Anemia* (Dec. 19, 2001), available at <http://aquanic.org/news/2001/isa.htm> (last visited Mar. 25, 2002); Reuters, *Salmon virus roils Maine industry* (Sept. 7, 2001), available at <http://www.enn.com/extras/printer-friendly.asp?storyid=44878> (last visited Mar. 25, 2002).

## INTERNATIONAL

### I. FISHERIES

#### A. *British Columbia Ends its Salmon Farming Moratorium*

The provincial government of British Columbia, Canada has decided to lift its 1995 ban on new salmon aquaculture operations. The decision to end the moratorium was based on the development of new and improved environmental standards and practices. In 1997 the Environmental Assessment Office conducted a comprehensive scientific assessment of the environmental risks associated with salmon aquaculture. Among those concerns were pollution and farm fish escapes from ocean cages that may lead to habitat destruction for native species. The report resulted in nearly fifty recommendations that would help to further reduce such risks. These recommendations were subsequently accepted by the industry, and since October, 1999, the government has endeavored to incorporate them into a policy that will be finalized in April. The new policies were the impetus for ending the salmon farm moratorium and will likely be one of the most progressive and comprehensive regimes in the world for managing salmon farming operations.

Many environmentalists view the move as being motivated by a desire to promote business in the province despite genuine concerns about the industry's ecological responsibility. The decision to lift the ban will likely lead to an estimated fifty to sixty million dollars worth of annual investment from the industry, while also creating as many as eight thousand new jobs in the province. Although the debate over the propriety of the decision wages on, applications for new aquaculture sites will be accepted as soon as the new standards are finalized. *Fish Farming Moratorium Lifted in British Columbia*, available at <http://www.ocean.org/index.cfm?sectionID=4&fuseaction=news.detail&pageID=355> (last visited Feb. 20, 2002).

### *B. International Global Fisheries Treaty Now in Force*

An extensive global treaty on international fisheries management was made effective on December 11, 2001, marking a progressive step towards alleviating the problem of overfishing on the high seas. In November 2001, Malta became the thirtieth country to ratify the binding United Nations (U.N.) agreement, thus bringing into force the treaty which had been adopted in 1995. The treaty is officially known as the "Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of December 10, 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stock."

The problem of overfishing has become increasingly dire in the last fifteen years. With advances in fishing technology, global fishing has expanded its capacity to levels that jeopardize the ocean's ability to sustain fish stocks. According to the World Conservation Union, three-quarters of known fish stocks are at risk, and nearly one-third of the total catch worldwide is dumped at sea in order to preserve space for the most desirable fish. Concerns over this overcapitalization were voiced at the Rio Earth Summit in 1992. Delegates at the conference attributed much of the problem to fishing by nations who allow for unregulated and unsustainable fisheries on the high seas, and to the inability to actively enforce fishery laws and obligations. In response to the Rio Summit, the U.N. General Assembly established the Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks in order to begin negotiating a binding international treaty that would be a cooperative attempt at fish conservation and sustainable fisheries on the high seas.

With the global treaty now in force, a much needed international framework for high seas fishery management has been established. The treaty authorizes enforcement officials to board and inspect suspected vessels to ensure compliance with the new standards. Additionally, the treaty compels participating nations to cooperate in the collection and exchange of fisheries data and to settle disputes peaceably. *Historic Global Fisheries Agreement Enters into Force*, available at <http://ens.lycos.com/ens/dec2001/2001L-12-12-01.html> (last visited Feb. 20, 2002).

### *C. Japan to Double Whale Hunt*

The Japanese government has announced that fifty Sei whales will be taken by Japanese whale hunter during the June to October hunt in 2002. In addition to the Sei whales, an endangered species under United States law, Japanese fishermen will take 100 Minke whales, fifty Bryde's whales and ten Sperm whales.

Japan, which had given up “commercial” whaling in 1986, began its current hunt of whales under the banner of “research” the following year. The taking of Sperm whales was added to the research effort in 2000. The main purpose of the whale hunt, according to the Japanese government, is to study whale feeding habits and their ecosystem.

Reaction to the Japanese announcement has been swift and harsh. Susan Lieberman, Director of the World Wide Wildlife Fund, called for the International Whaling Commission to resist the expanded hunt, saying, “[i]t is vital that the International Whaling Commission does not cave in to commercial whaling thinly disguised as science.”

Fred O’Regan, the current president of the International Fund for Animal Welfare, said, “[t]he Japanese fisheries ministry is doing everything it can to return to the bad old days of industrial whaling.”

According to Kate O’Connel, of the Whale and Dolphin Society based in the United Kingdom, the meat of the sperm whales taken by Japan in the last two hunts has remained unsold due to the high level of contaminants in the whales’ bodies. *Expanded Whale Hunt, Inclusion of Protested Species Denounced*, available at <http://www.japantimes.co.jp/cgi-bin/genarticle.pl15?nn20020302b2.htm> (last visited on Mar. 2, 2002).

#### *D. North Atlantic Fisheries Collapse Shows Limits of Management*

Leading fisheries scientists from around the world convened in Boston on February 16, 2002, and delivered a disturbing report: the North Atlantic fishery, the birthplace of fisheries management, a fishery that has had more dollars for research and government subsidies than any other on earth, is on the brink of collapse.

Dr. Daniel Pauly of the University of British Columbia Fisheries Centre noted that the large predatory fish that sit atop the food web of the North Atlantic have been serially depleted and that the major productive fisheries remaining are all invertebrates. According to Dr. Pauly, “[w]e are fishing for bait and are headed for jellyfish.”

This startling decline, including cod, tuna, haddock, flounder and hake, is well documented in an ocean-wide synthesis showing that the localized collapses of the New England and Newfoundland fisheries are not isolated incidents.

The source of the problem is not difficult to locate. As economist Rashid Sumaila of the Chr. Michelsen Institute in Bergen, Norway explained, “[a]pproximately 2.5 billion dollars of tax-payers money are spent each year subsidizing fishing fleets which spend the money on ever augmenting their technological ability to search out the last fish left.”

Despite a threefold increase in total fishing effort, the food catch in the North Atlantic has declined by half. According to Andy Rosenberg, a fisheries scientist at the University of New Hampshire who had worked to affect the partial closing of the George's Bank fishery after the collapse there, a system wide approach is needed. "Policy has followed a fishery by fishery approach. It doesn't work," according to Rosenberg. He maintains that what is needed is "serious and immediate action to reduce the number of boats and to work towards a basin wide ecosystem approach that considers all species." *North Atlantic Study Reveals Food Fish Catches Have Declined by Half – Despite Tripled Fishing Effort*, available at [http://www.eurekalert.org/pub\\_releases/2002-02/s-nas02102.php](http://www.eurekalert.org/pub_releases/2002-02/s-nas02102.php) (last visited Mar. 2, 2002).

## II. TREATIES/CONVENTIONS

### *A. Commission for the Conservation of Antarctic Marine Living Resources Celebrates 20th Anniversary*

Although the Convention for the Conservation of Antarctic Marine Living Resources (the "Convention") was adopted in 1980 in Australia, April 7, 2002, marks the twentieth anniversary of its entering into force. The Convention is responsible for using the concept of ecosystem management to manage and conserve the marine resources living in Antarctic waters. Along with the United States, the Convention's founding member, there are thirty-one signatories (with the recent membership of Namibia, and accession of Vanuata).

Operating under the Convention are: a Commission which annually adopts a series of measures and governs their enforcement, a Scientific Committee for consultation and scientific assessments, and a system of inspection to ensure compliance with the Convention's provisions. Through these programs, the Convention has been able to establish a comprehensive code of responsibility for its Member countries through adopting and implementing many Conservation Measures.

Over its twenty years in force, one of the most difficult challenges the Convention has faced is the illegal, unregulated and unreported (IUU) fishing of toothfish. The IUU catch rate has caused a significant decline in toothfish populations in certain areas and has also reduced the populations of seabirds, which are often accidentally caught in the longlines. The Commission has implemented a Catch Documentation System for the toothfish, to help track international trade in the fish.

The Convention is now focused on developing a more extensive network of international fisheries organizations, and to develop cooperation

with other relevant organizations. It also continues to focus on the sustainable use of marine living resources surrounding Antarctica for ecological health and for the benefit of future generations. U.S. Department of State, *Statement on the Commemoration of the 20th Anniversary of Commission for Conservation of Antarctic Marine Living Resources*, available at <http://www.state.gov/g/oes/ocns/arc/6438.htm> (last visited Mar. 29, 2002).

### *B. Potential Consequences of Refusing to Ratify Kyoto Protocol*

In March 2001, United States President George W. Bush rejected the Kyoto Treaty, saying it would hurt the U.S. economy. In February 2002, Bush presented a voluntary plan to slow the growth of heat-trapping gases blamed for global warming. The plan will not meet the standards of the Kyoto Protocol.

Australia is a signatory to Kyoto but has not yet decided if it will ratify the United Nations anti-pollution treaty. Australian Prime Minister John Howard's support of the Bush plan has planted a seed of doubt that Australia will ratify the Kyoto treaty.

Several small Pacific Island nations are now contemplating a lawsuit against the United States and Australia for not ratifying the Kyoto Protocol. The Prime Minister of Tuvalu, Koloa Talake, told media in March 2002 that his country was exploring this and other legal options for the low-lying nation. The Tuvalu government has said that it is working with an American law firm on how it could take legal action in the International Court of Justice to force the United States and other nations to change their position on greenhouse gas emissions. The suit would be based on Tuvalu's claim that it is sinking into the ocean as a result of rising ocean levels caused by greenhouse gas emissions.

While not expecting to win the lawsuit, observers say that Tuvalu would at least draw global attention to its plight. Chief U.S. climate negotiator Harlan Watson has said that it will be nearly impossible to prove that greenhouse gas emissions are responsible for the rise in sea level. Other threatened Pacific islands include Kiribati, Niue and the Marshall Islands and the Maldives in the Indian Ocean. CNN, *Cool Response to Global Warming Plan* (Feb. 15, 2002) available at <http://www.cnn.com/2002/WORLD/asiapcf/east/02/15/japan.climate/index.html> (last visited Mar. 30, 2002); CNN, *Sinking Islands Float Legal Challenge* (March 5, 2002) available at <http://www.cnn.com/2002/WORLD/asiapcf/auspac/03/05/pacific.sealevel/index.html> (last visited Mar. 30, 2002).

*C. The United Nations Convention on the Law of the Sea  
Celebrates Twenty Years*

December 2002 will mark twenty years since the United Nations Convention on the Law of the Sea (UNCLOS) was opened for signature. UNCLOS was assembled over fourteen years with the input and participation of over 150 countries, representing a wide range of political, geographic and legal viewpoints. Delegations from over one hundred nations signed the treaty on the first day that it was open for signature, December 10, 1982. The amount of immediate international enthusiasm for a United Nations treaty was unprecedented, and indicated the depth of the need for an international agreement on the world's oceans. Since 1982, UNCLOS has been signed by 159 states and ratified by over 130. The purpose of UNCLOS was to provide a "comprehensive regime dealing with all matters relating to the law of the sea ... bearing in mind that the problems of ocean space are closely interrelated and need to be considered as a whole." As such, UNCLOS embodies a multifaceted approach to the problems relating to the oceans: environmental issues, fishery concerns, economic and commercial concerns, and problems related to the preservation of national sovereignty. The United Nations maintains that UNCLOS represents not just a codification of previously existing maritime customs and norms, but a "progressive development of international law." The success of UNCLOS can perhaps best be measured by the extent that the Convention has permeated almost all aspects of contemporary international maritime law. Division for Ocean Affairs and the Law of the Sea, *20 Years of the United Nations Convention on the Law of the Sea: 1982-2002*, available at [http://www.un.org/Depts/los/convention\\_agreements/convention\\_20\\_years.htm](http://www.un.org/Depts/los/convention_agreements/convention_20_years.htm) (last visited Mar. 29, 2002).

*D. Highly Migratory Fish Stock Provisions of Unclos Implemented*

In December 2001, the United Nations Agreement for the Implementation 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 (the Agreement) was put in force. "Straddling" fish stocks are those that are not necessarily migratory, but whose marine habitat crosses international boundaries. "Highly migratory" fish stocks are those stocks that have been observed to migrate beyond international boundaries. Both straddling and highly migratory fish stocks are stocks that are not within the management spheres of individual nations. The purpose of the Agreement was to ensure international cooperation with respect to both the preservation of the fish stocks and the

“optimum utilization of fisheries resources both within and beyond the exclusive economic zone.” The Agreement facilitates this objective by providing a framework for international cooperation. That framework has four principle goals: providing “minimum international standards” for the preservation and management of both the straddling and highly migratory fish stocks; ensuring a level of compatibility and coherence as between areas under the exclusive control of individual nations and adjacent high seas under international management; providing effective means to enforce the provisions of the Agreement; and recognizing the “special requirements” of developing States, regarding their conservation of fish stocks and participation in the international fisheries. The Agreement has been signed by fifty-nine states and entities, and ratified by thirty. Division for Ocean Affairs and the Law of the Sea, *The United Nations 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 (in force from 11 December 2001): Overview*, available at [http://www.un.org/Depts/los/convention\\_agreements/convention\\_overview\\_fish\\_stocks.htm](http://www.un.org/Depts/los/convention_agreements/convention_overview_fish_stocks.htm) (last visited Mar. 26, 2002).

### III. POLLUTION

#### A. NOAA Steps in to Help Save Rare Species Threatened by Oil Spill

In January of 2002 one of the worst oils spills in history occurred off of the Galapagos Islands. The Galapagos Islands have great scientific value, known for their rare species of birds and plants, as well as for their giant tortoises. The oil tanker *Jessica* ran aground off of the Islands and quickly began to leak large quantities of oil. It was said to be carrying 160,000 gallons of diesel fuel and 80,000 gallons of petroleum product, according to a Coast Guard spokesperson. The oil slick caused by the tanker spread to cover what became at least an 117 square-mile area. Oil spill experts from the United States’ National Oceanic and Atmospheric Administration (NOAA) worked in tandem with U.S. Coast Guard officials as well as with the Ecuadoran Navy in attempting to mitigate the damage caused by the spill. One of NOAA’s biggest contributions to the cleanup effort has been in providing technical expertise and recommendations for shoreline work. NOAA views providing this type of scientific consultation as integral to their overall mission. Due to their expertise regarding the endangered and rare species that inhabit this region, as well as their work with Darwin Station scientists and Galapagos park service officials, NOAA was able to effectively participate and improve the response and planning



for the shoreline cleanup. NOAA, *NOAA Scientists Provide Expertise In Galapagos Islands Oil Spill*, available at <http://www.noaa.gov/stories/s572.htm> (last visited Mar. 18, 2002); CNN, *Oil Spill Off Galapagos Islands Threatens Rare Species*, available at <http://www.cnn.com/2001/NATURE/01/22/galapagos.spill/index.html> (last visited Mar. 18, 2002).

#### *B. New Funding Goes To Aid Coral Reefs Degraded By Pollution*

In December 2001 Deputy Secretary of Commerce Samuel Bodman announced that NOAA will receive \$34 million for coral reef conservation. Bodman emphasized the Bush administration's support for coral reef conservation, noting that although the reefs account for less than one percent of the earth's surface, "they are some of the most valuable marine resources on the planet." In fact, coral reefs cover only two-tenths of one percent of the ocean, but they provide habitat for as many as one third of all marine fish species, as well as thousands of other species. Coral reef habitats are particularly vulnerable to the effects of pollution, as well as overfishing. By some estimates, as much as twenty-seven percent of coral reefs have been lost internationally.

These federal dollars, which will go towards the international study and conservation of reef ecosystems, come at a critical time. According to a 2002 study conducted by the Center for Applied Biodiversity Science, a division of Conservation International, coral reefs are under intense pressure from human activities and pollution. The study identifies the ten most threatened reef habitats, or "hot spots," which are reported to face a significant threat of habitat loss for diverse species which are not found anywhere else on earth. Many of these "at risk" coral habitats occur near under-developed and highly impoverished regions of the world, such as the Phillippines and Indonesia. In such areas, local fishing techniques involve the use of cyanide to stun fish, so that they may be sold to aquarium dealers. The cyanide left behind can reek havoc on coral reefs and is one example of the pollution that has caused widespread destruction to this valuable habitat. NOAA, *Commerce Department Announces \$34 Million Funding For Coral Reef Conservation: U.S. Coral Reef Task Force Recognizes Outstanding Achievements*, available at <http://www.noaa.gov/stories/s835.htm> (last visited Mar. 19, 2002); CNN, *Study Names Top 10 Coral Hot Spots: 'A System Important for Global Biodiversity and Economics'*, available at <http://www.cnn.com/2002/ECH/science/02/14/reef.hotspots/index.html> (last visited Mar. 19, 2002); *An Overview of the Global Coral Reef Monitoring Network (GCRMN)*,

available at <http://coral.aoml.noaa.gov/gcrmn/gcrmnintro.html> (last visited Mar. 19, 2002).

#### IV. PROTECTED AREAS

##### A. *Protection of Coastal Rainforest in British Columbia*

The Canadian government has recently announced an agreed protection of 1.5 million acres of coastal rainforest in British Columbia known as the Great Bear Rainforest. This announcement came after a decade long battle between environmentalists, the Canadian government, native tribes and timber-industry officials. These groups have also agreed to postpone logging for one to two years in a two-million acre region until adequate forestry standards are implemented.

According to Matt Price of the Natural Resources Defense Council, this coastal temperate rainforest is "one of the most endangered forest types in the world." The Great Bear Rainforest is home to many of the most biologically diverse plants and animals on earth. Among the animals in the rainforest are eagles, wolves, salmon, grizzly bears, one thousand year-old spruce trees, and the Kermode bears or Spirit bears. There are fewer than four hundred Kermode bears in the world.

Seventeen native communities living in the designated protected areas will also benefit from these agreements. According to Guujaw, the president of the Council of the Haida Nation, who represents six of these native communities, "[i]t involves compromise from all parties, including ourselves and the B.C. government. While compromising can be difficult, the alternative is much less acceptable." Even the timber industry might feel relief from these agreements because environmentalists will now slow their pressure to preserve this area.

These agreements resulted from environmentalists' four year campaign to raise consumer pressure on the British Columbia timber industry. Prior to these agreements, retailers of lumber such as The Home Depot and Lowe's, respectively the number one and two retailers of lumber, put pressure on the B.C. timber industry. The Home Depot has decided to phase out purchases from endangered areas by 2002, while Lowe's has refused to purchase lumber from the Great Bear Rainforest. CNN, *Vast Rainforest in British Columbia Protected*, available at <http://www.cnn.com/2001/TECH/science/04/05/great.bear.rainforest/index.html> (last visited Mar. 21, 2002).

*B. Two New Wetlands Added to List of Wetlands of International Importance*

Effective February 2, 2002, the government of Ecuador has designated two wetland areas as Wetlands of International Importance. The Convention on Wetlands, an intergovernmental treaty, provides the framework on a national and international scale to conserve these wetlands. The Convention lists conserved wetlands on the Ramsar List of Wetlands of International Importance. There are currently 1,129 wetland sites listed worldwide.

The first newly protected wetland spans forty-six hectares ( about 114 acres) known as "Refugio de Vida Silvestre Isla Santa Clara" in the Provincia de El Oro, a small island in the Gulf of Guayaquil. The other wetland, "Laguna de Cube," spans one hundred thirteen hectares (about 279 acres) in the Provincia de Esmeraldas, a lake at the southeastern edge of the Mache-Chindul mountains.

The refuge of Isla Santa Clara has great importance for the marine/coastal ecosystem because it represents an area where the marine currents and fresh water from the Gulf of Guayaquil converge. The area is significant for the conservation of waterbirds and marine biodiversity in coastal Ecuador. Almost 23,000 birds inhabit this island. The area also offers a place for scientists to investigate marine-terrestrial ecosystems.

Laguna de Cube, the lake in the Provincia de Esmeraldas, is comprised of marsh and flood areas. This wetland is Ecuador's only inland wetland in the coastal mountains, located 350 meters above sea level, and it supports a singular biotic community similar to Chaco and the Andes. A myriad of different species are found in this area. Twenty-three species of mammals, forty species of birds, and eleven species of reptiles are found in the site around the lake. The lake is located in a dale surrounded by hills with some open and other densely wooded areas. Various settlements along the shores have committed to managing the wetland so as to maintain conservation. *Ecuador Names Two Wetlands of International Importance*, available at <http://www.ens.lycos.com/ens/jan2002/2002L-01-21-03.html> (last visited Mar. 21, 2002).

V. MISCELLANEOUS

*A. Report by the WRI Declares Southeast Asian Coral Reefs in Grave Danger*

A report published by the World Resources Institute (WRI), entitled "Reefs at Risk in Southeast Asia" (RRSEA), released on February 14,

2002, estimates that 88% of reefs in Southeast Asia are severely threatened. The report is the result of a group effort of thirty-five scientists from the United States, the United Kingdom and Australia who performed the detailed study and compiled a vast database of Southeast Asia's coral reefs. Southeast Asia's reefs span 100,000 square kilometers and house 600 of the 800 reef-building coral species in the world. The coral reefs are integral to Southeast Asia's economy and are crucial to food security, employment, tourism, pharmaceutical research, and shoreline protection. These reefs have an estimated sustainable fishery value of \$2.4 billion every year. According to the report, the principal threats to coral reefs are human activities including overfishing, destructive fishing and pollution. Overfishing accounts for the most insidious threat to coral reefs. The report estimates that current levels of "blast-fishing," overfishing, and sedimentation could cost Indonesia and the Philippines more than \$ 2.6 billion and \$ 2.5 billion, respectively, over the next twenty years. According to Laureta Burke, co-author of the study, "although our report indicates that the picture is pretty grim, it will provide resource managers and government officials with the kind of information that they need to effectively manage their coral reefs." The report's recommendations include expanding protected areas for coral reefs, regulating international trade of live reef organisms, reducing overfishing, and improving the existing marine protected areas by educating the public and raising public awareness. *WRI Maps More Threats to Epicenter of Global Marine Diversity*, available at <http://www.wri.org/press/reefriskseasia.html> (last visited Mar. 31, 2002).

*B. Ecuadorian Court Votes for Galapagos  
Marine Reserve*

In September 2001, Ecuador's Constitutional Court upheld the Galapagos Special Law after a challenge to the law's constitutionality by the Association of Industrial Tuna Fishermen (ATUNEC). This was an important achievement in the fight to preserve the Galapagos Islands. The Galapagos Special Law established the Galapagos Marine Reserve that covers 133,000 square kilometers and a 40-mile baseline around the islands. This law, which granted exclusive fishing rights to traditional fishermen, came under attack by the industrial fishing industry who also wanted the right to fish inside the Reserve. The Galapagos Group of the Ecuadorian Committee for the Protection of Nature and the Environment (CEDENMA) were pleased with the ruling and said, "[t]he decision adopted by the Constitutional Court in favor of the Galapagos Special Law demonstrates the commitment of the Executive and Legislative Powers of

Ecuador to protect and preserve the Galapagos Islands. It also represents an example of the multiple actions that Ecuador is implementing to maintain this unique ecosystem for future generations." *Ecuadorian Court Votes in Favour of Galapagos Marine Reserve*, available at <http://panda.org/news/press/news.cfm?id=2494> (last visited Mar. 31, 2002).

### *C. Australia Amends Its Acceptance of Jurisdiction under Law of the Sea Convention*

On March 25, 2002, Australia announced a declaration amending acceptance of jurisdiction under the "optional clause" of Law of the Sea Convention (UNCLOS) to exclude marine boundaries from compulsory dispute resolution. The declaration accepted the jurisdiction of the International Court of Justice (ICJ) and the International Tribunal for Law of the Sea for mandatory dispute settlement relating to matters other than marine boundaries. Under UNCLOS, a country may choose a dispute resolution body and whether to exclude certain areas from compulsory dispute resolution. Australia is one of only 61 out of 189 member countries to accept the compulsory jurisdiction of the ICJ. According to the media release by Attorney General Daryl Williams and Minister of Foreign Affairs Alexander Downer, "Australia's strong view is that any maritime boundary dispute is best settled by negotiation rather than litigation."

Australia now has ongoing boundary disputes with France, New Zealand and Norway in the maritime area adjacent to Antarctica. Australia is currently engaged in ongoing negotiations with New Zealand on maritime boundaries and has already negotiated permanent maritime boundaries treaties with Indonesia, Papua New Guinea, the Solomon Islands and France (New Caledonia and Kerguelen Island). *Changes to International Dispute Resolution*, available at [http://www.foreignminister.gov.au/releases/2002/fa039j\\_02.html](http://www.foreignminister.gov.au/releases/2002/fa039j_02.html) (last visited Mar. 31, 2002). See also Report, *Australia Amends Policy on Setting Maritime Boundary Disputes*, BBC MONITORING INTERNATIONAL REPORTS (Mar. 28, 2002).

### *D. IMO Recommends New Ship Security Measures*

In the wake of the terrorist attacks of September 11, 2001, the International Maritime Organization's Maritime Safety Committee convened its Intersessional Working Group, which met in February 2002. The Working Group has propagated a dozen new security recommendations to be taken up for further elaboration by the Maritime Safety Committee at its meeting in May 2002. The measures are intended to suppress terrorist acts by improving port and at-sea security for ships, cargo and personnel.

The Working Group recommended the following measures: first, accelerating the implementation schedule of Automatic Identification Systems on ships of 500 gross tons or more; second, amending the International Convention for the Safety of Life at Sea (SOLAS) to include special measures for maritime security, including ship and port facility requirements; third, requiring all internationally voyaging ships of 500 gross tons or more to carry ship security plans; fourth, requiring the addition of a Ship Security Officer to the International Safety Management Code (ISM), including the establishment of training requirements; fifth, incorporating a Company Security Officer into the ISM, including the establishment of training requirements; sixth, recommending the addition of Port Facility Security plans, but leaving such recommendations open for further refinement; seventh, developing and adding guidance criteria for Port Vulnerability Assessments; eighth, calling for urgent action on the creation of an up-to-date seafarer identification document; ninth, recommending full transparency of ship, cargo and personnel information; tenth, requesting that various subcommittees examine the means and feasibility of a seafarer's alarm in case of terrorist hijacking; eleventh, recommending that the IMO and World Customs Organization work together to establish international measures to ensure adequate inspection with minimal trade interference; and twelfth, recommending the consideration of security equipment to prevent unauthorized boarding of ships in port and at sea. Adoption of the finalized regulations is expected at the Conference on Maritime Security in December 2002.

International Maritime Organization, *IMO Agrees to Raft of Measures to Bolster Ship Security*, available at [http://www.imo.org/Newsroom/mainframe.asp?topic\\_id=583&doc\\_id=1961](http://www.imo.org/Newsroom/mainframe.asp?topic_id=583&doc_id=1961) (last visited Mar. 30, 2002); see also International Maritime Organization, *Maritime Security*, available at [http://www.imo.org/Newsroom/mainframe.asp?topic\\_id=582](http://www.imo.org/Newsroom/mainframe.asp?topic_id=582) (last visited Mar. 30, 2002); International Maritime Organization, *Foreword (International Safety Management Code)*, available at [http://www.imo.org/includes/blastDataOnly.asp/data\\_id%3D4654/Isiii.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D4654/Isiii.pdf) (last visited Mar. 30, 2002); International Maritime Organization, *IMO to Hold Maritime Security Conference in December 2002*, available at [http://www.imo.org/Newsroom/mainframe.asp?topic\\_id=67&doc\\_id=1746](http://www.imo.org/Newsroom/mainframe.asp?topic_id=67&doc_id=1746) (last visited Mar. 30, 2002).

### *E. Antarctic Ice Shelf Collapses*

With a speed that some scientists have characterized as "staggering," the northern section of the Larsen B ice shelf (a large floating ice mass extending from the continent) has shattered. Thousands of icebergs have

calved and drifted away from Antarctica into the Weddell Sea. The Larsen ice shelf extends into the sea from the Antarctic peninsula nearest to southern Argentina and Chile. Called the largest single event of ice sheet retreat in thirty years, it was documented from January 31, 2002. Over a period of a mere 35 days, the 650-foot thick shelf lost 1250 square miles, roughly an area the size of Rhode Island. It is estimated that the amount of ice released was approximately 720 billion tons. The shelf was believed to have existed for a minimum of 400 years, and possibly as far back as the last ice age 12,000 years ago. The rapid fragmentation was predicted in 1998, due to the rise in global temperature. Over the past half century, however, the rising temperatures on the Antarctic Peninsula have outpaced global warming, rising 4.5 degrees Fahrenheit. Scientists speculate that the warmer temperatures created ponded melt water on top of the ice shelf, enhancing the fracturing by filling smaller cracks and forcing them deeper with the weight of the water above. While the icebergs themselves will likely not raise global ocean levels, there is great concern that the loss of such ice shelves will result in later warming of the interior continental glaciers. The ice shelves act as buffers between the cold continent and the warmer seawaters. With that buffer gone, the warmer sea air may infiltrate the landmass, and such warming would cause glacial melt, which in turn would result in a rise in sea levels. The collapse of Larsen B is viewed as a warning regarding the stability of Antarctica's much larger Ross Ice shelf, which covers an area roughly the size of France. Such a collapse could also trigger changes in ocean circulation and climate. Associated Press, *Rising Antarctic Temperatures Leading to "Staggering" Collapse of Ice Shelf Say British Scientists*, *Boston Globe*, (Mar. 19, 2002), on file with Ocean and Coastal Law Journal; BBC News, *Antarctic Ice Shelf Breaks Apart*, available at [http://news.bbc.co.uk/hi/english/sci/tech/newsid\\_1880000/1880566.stm](http://news.bbc.co.uk/hi/english/sci/tech/newsid_1880000/1880566.stm) (last visited Mar. 30, 2002); National Snow & Ice Data Center, *Antarctic Ice Shelf Collapses*, available at <http://nsidc.org/ice/shelves/larsenb2002/index.html> (last visited Mar. 30, 2002); Ray Lilley, *More Antarctic Ice Shelves Could Collapse as Climate Changes, Scientist Warns*, *BOSTON GLOBE*, (March 25, 2002) on file with Ocean and Coastal Law Journal.

#### *F. Whale Meat Trade*

Australia opposes moves by Norway and Japan to resume their trade in whale meat. Recently, Japan attempted to expand its 2002 program regarding lethal whale research in the North Pacific. This program contained a Scientific Permit hunt for a highly endangered species, the Sei whale. Japan's programs are described as programs for scientific research,

while Norway's whaling is specifically for commercial gain. Australia, on the other hand, opposes both countries' programs, as the result of each is the same—namely, the extermination of whales. Australia seeks an end to all whaling and trade in whale products and as such, the Australian Government will continue to promote the increased protection for whales in years to come. *Australia Alarmed by Plans to re-open Whale Meat Trade* (Mar. 6, 2002), available at <http://www.ea.gov.au/minister/env/2002/mr06mar02.html> (last visited Apr. 15, 2002).