Ocean and Coastal Law Journal

Volume 12 | Number 2 Article 2

2006

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THE CALIFORNIA GRAY WHALE: ITS LEGAL REGIME UNDER MEXICAN LAW

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I. INTRODUCTION

A. Mexico: A Country of Whales

Every year, California gray whales arrive at their wintering grounds in the coastal lagoons off the western coast of the Baja California peninsula and the Gulf of California. It is here where gray whales annually engage in their reproductive and procreation activities,[1] a fascinating and mysterious ritual dating back 100,000 years!

Thus, between November and March, thousands of gray whales congregate in the shallow waters of Mexico's lagoons, all of which are located in the state of Baja California Sur.[2] The latest scientific data estimates that today the gray whale population has reached approximately 25,000 individuals, a total that compares with the original number that existed in the Pacific Ocean in the early nineteenth century[3] prior to the

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1. *See* J. Urbán et al., *A Review of Gray Whales* (Eschrichtius robustus) *on their Wintering Ground in Mexican Waters,* 5 J. CETACEAN RESEARCH MGMT. 281, 281-95 (2003).

2. *See* SERGE DEDINA & EMILY YOUNG, CONSERVATION AND DEVELOPMENT IN THE GRAY WHALE LAGOONS OF BAJA CALIFORNIA SUR, U.S. MARINE MAMMAL COMMISSION 12-13 (1995). The lagoons are Scammon's, San Ignacio, Guerrero Negro, and Manuela, all in the proximity of Sebastián Vizcaíno and Magdalena Bays.

3. *See* J. Urbán et al., *supra* note 1, at 287. However, in a presentation entitled "Biodiversity and Conservation of Cetaceans" made at the Sixth National Consultation

whale hunting activities of the United States in that part of the world.[4] When one considers that gray whales were twice threatened with extinction, first by U.S. whalers in the late nineteenth century and then by Norwegian factory-ships in the 1930s, this population recovery is truly amazing.

Approximately 25,000 gray whales arrive in these lagoons every winter, all of which congregate within the short period of about two months. In order to get to these warm, shallow, and secluded Mexican coastal waters, the gray whales have to undertake one of the longest and most exhausting migrations in the animal world.[5] They swim from the freezing waters of the Bering and Chucki seas in the Arctic region, travel through the Unimack Pass[6] in the Aleutian Islands, and continue south along the coasts of Alaska, Canada, and the United States to finally arrive in Mexico.[7] This is truly a maritime odyssey, covering a total of 8000 miles (round trip) and lasting between two and one-half and three months.[8]

B. Other Marine Visitors

Mexico is not characterized as being "a country of whales" simply because it provides the wintering grounds for thousands of gray whales. Mexico has one of the largest and most unique marine mammal biodiversity areas in the world.[9] Recent scientific studies demonstrate that within the

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Forum on Whales held in La Paz, B.C.S., Mexico, May 19, 2006, [hereinafter Urbán presentation] Dr. Urbán indicated that "the abundance of the gray whale was 20,000."

4. For a historical and interesting narrative of the U.S. whaling activities in coastal lagoons off the shores of Baja California, see CHARLES M. SCAMMON, THE MARINE MAMMALS OF THE NORTHERN COAST OF NORTH AMERICA, TOGETHER WITH AN ACCOUNT OF THE AMERICAN-WHALE FISHERY 20-33 (1968).

5. Originally, many believed that the longest marine mammal migration was that of the gray whale. It has been determined, however, that the Pacific humpback whale engages in the longest migration every summer starting on the Antarctic peninsula, south of Cape Horn, to breed off the coasts of Colombia and Costa Rica, in Latin America. *See* MARK CAWARDINE ET AL., WHALES AND DOLPHINS 78 (1998).

6. Unimack Pass is 18.5 km wide at its narrowest point and 48.2 km wide on the northern end between Cape Sarichel and Akun Island. The passage of gray whales through this narrow strait has been documented since the mid-1950s. Today, this pass is being used to count whales and, thus, to produce population estimates. *See* MARY LOU JONES & STEVEN L. SWARTZ, THE GRAY WHALE 225-48 (1984).

7. Regarding the gray whale migration, see RICHARD ELLIS, THE BOOK OF WHALES 15-27 (1980); ROBERT H. BUSCH, GRAY WHALES, WANDERING GIANTS 1-10 (1998); and DAVID G. GORDON & ALAN BALDRIGDE, GRAY WHALES, MONTEREY BAY AQUARIUM 21-30 (1991).

8. THEODORE J. WALKER, WHALE PRIMER 3 (1979).

9. *See* J. Urbán et al., *supra* note 1, at 18-19. *See also infra* note 34 and accompanying text for UNESCO's description of the Gulf of California as part of the "World Heritage List."

marine areas under Mexico's jurisdiction (i.e., its internal waters, territorial sea, contiguous zone, and exclusive economic zone (EEZ)), thirty-nine percent of the cetaceans of the world are present; they feed, procrate, and give birth to their offspring in these waters.

To be more specific, out of a total of 87 species of cetaceans that are scientifically recognized in the world, Mexico harbors 34 of them. This corresponds to 8 out of the 14 known families, 22 out of the 41 genera and 30 out of the 87 species, as produced below in Figure 1.

	Cetacean Diversity	*Number of Species*	
	World	Gulf of California	Percentage
Suborders	2	2(2)	100%
Families	14	8(8)	57%
Genera	41	22(24)	54(58)%
Species	87	30(33)	34(39)%

Figure 1: Location of Cetacean populations worldwide.[10]

According to scientific studies, the following large cetaceans may be found in waters within 200 nautical miles of the Mexican coasts: Sperm whales (*Physter macrocephalus*), Right whales (*Eubalena glacialis*), Humpback whales (*Megaptera novaeanglie*), Blue whales (*Balenoptera musculus*), Fin whales (*Balenoptera physalus*), Sei whales (*Balenoptera borealis*), Byrde's whales (*Balenoptera edeni*), Minke whales (*Balenoptera acutorostrata*), and, of course, Gray whales (*Eschrichtius robustus*).[11]

Pursuant to Mexican Secretary of Environment's 2002 decree, all of these species become protected by Mexican law as soon as they enter into the "marine zones that form part of the national territory . . . over which the Nation exercises its sovereignty and jurisdiction, including the territorial

10. Urbán presentation, *supra* note 3.

11. Acuerdo por el se establece como area de refugio para proteger a las especies de grandes ballenas de los subordenes Mysticeti y Odontoceti [Presidential Agreement Establishing a Sanctuary to Protect the Species of Great Whales of the Suborders *Mysteceti* and *Odontoceti*] Diario Oficial de la Federación [D.O.], 24 de Mayo de 2002 (Mex.) [hereinafter 2002 Sanctuary Decree]. The agreement establishes this sanctuary "in the marine zones that form a part of the National Territory and in those over which the Nation exercises its sovereignty and jurisdiction." *Id.* All of these great whales are subject to the regulations of the International Whaling Commission (IWC) and included in Appendix I of the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES). CITES, Appendix I, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 244, *available at* http://sedac.ciesin.org/entri/texts/cites.trade.endangered.species.1973.html [hereinafter CITES].

sea, the internal waters, the contiguous zone and the exclusive economic zone."[12] The tenor of this decree earned international attention when it announced that Mexico had established the "world's largest whale sanctuary."[13]

C. Overview of this Article

This Article is divided into two parts. Part One provides information about the physical and biological aspects of the California gray whale, as well as a description of its winter breeding grounds in the coastal lagoons of Mexico. Part Two focuses on the protective legal regime for gray whales and other marine mammals under Mexican law. The first step of this analysis examines Mexico's Federal Constitution of 1917, the document that provides the bases for the special legal regime applicable to the gray whales during their stay in Mexico. Second, the Article discusses six different presidential decrees, dating back to 1972, whereby Mexico established the first international sanctuary for the refuge and protection of whales. Next, the Article reviews the history of the federal statutes governing the protection and conservation of these marine mammals in Mexico. Finally, the Article examines the important role that several international law conventions have played in Mexico's establishment of whale sanctuaries. Ultimately, this Article recognizes the incredible impact that Mexico's protective legal regime has had on the gray whale population, and how it has helped gray whales rebound from intense human predation. The author also acknowledges, however, that Mexico's efforts have developed new threats to this animal, which have resulted in the need for new legal solutions.

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12. 2002 Sanctuary Decree, *supra* note 11, at First Article.

13. *Mexico Becomes World's Largest Whale Sanctuary*, ENVIRONMENTAL NEWS NETWORK, May 27, 2002. "The Office of Mexican President Vicente Fox said the 'Area of Refuge' accord would provide added protection in areas such as reproduction, growth, and migration of 39 whale species that spend time in Mexican waters." *Id.* During the signing of the accord at the International Whaling Commission meeting in Shimonoseki, Japan, the Greenpeace coordinator in charge of the campaign said that Mexico has "the largest national protected area for whales in the world[,] . . . nearly 3 million square kilometers (1.15 million square miles) of the Pacific Ocean and the Atlantic Ocean and the Caribbean." *Id.*

II. THE GRAY WHALE

A. Physical, Biological, and Behavioral Characteristics of the Gray Whale

1. Physical Characteristics

Gray whales have a streamlined body with a narrow, tapered head, and individuals usually weigh from thirty to forty tons. Adult males generally grow to around forty-five feet (fourteen meters) and adult females are slightly larger. This whale received its name from the gray color patches and white mottling on its dark skin. Newborn calves are dark gray to black. Their skin is generally marked with many scratches and is often covered with scattered patches of white barnacles and orange whale lice. The gray whale has no dorsal fin. About two-thirds of the way back on its body is a prominent dorsal hump, followed by a series of six to twelve knuckles along the dorsal ridge that extend to the flukes (tail lobes). Its flippers are paddle-shaped and pointed at the tips. Its fluke is about ten to twelve feet across (3.7 meters), pointed at the tips, and deeply notched at the center.

2. Feeding

Gray whales feed on small crustaceans, such as amphipods and tube worms found in bottom sediments. They primarily feed during the summer months because of the long daylight hours in the cold Arctic waters of the Bering and Chuckchi Seas. The baleen whale, for example, has a series of 130 to 180 fringe overlapping plates hanging from each side of the upper jaw, where additional teeth may also be located. These plates consist of a fingernail-like material called keratin, which frays out into fine hairs on the ends inside the mouth next to the tongue. The plates are off-white and about two to ten inches (5 to 25 cm) in length. To feed, the whale dives to the bottom of the ocean, rolls around on the sea floor and draws bottom sediments and water into its mouth. As the whale closes its mouth, water and sediments are expelled through the baleen plates, which trap the food on the inside near the tongue to be swallowed.

3. Mating and Breeding

Gray whales reach sexual maturity at five to eleven years of age, which is generally when they reach thirty-six to thirty-nine feet (eleven to twelve meters) in length. Gestation is twelve to thirteen months. Females bear a single calf at intervals of two or more years. Courtship and mating behavior are complex and frequently involve three or more whales of mixed sexes.

The calf weighs 1100-1500 pounds (500-680 kg) and is about fifteen feet in length (4.5 meters) at birth. Calves nurse seven to eight months on milk that is 53% fat (human milk is 2% fat). Mating and calving both occur primarily in the lagoons of Baja California, Mexico, although both have been observed during migration.

4. Natural History

A migrating gray whale has a predictable breathing pattern, generally blowing three to five times in fifteen to thirty second intervals before raising its fluke and submerging for three to five minutes. A gray whale can stay submerged for up to fifteen minutes, and travel at three to six miles per hour (4.8 to 9.6 km/hr). Mothers are very protective of their calves and earned the name "Devilfish" from early whalers in the lagoons because of their violent defensive behavior. Orcas, or killer whales, are a common cause of gray whale deaths, and many gray whales have orca teeth scars on their flukes.

5. Status

At one time there were three gray whale populations: a north Atlantic population, now extinct, possibly the victims of over-hunting; a Korean or north-western Pacific stock, now very depleted, also possibly from over-hunting; and the north-eastern Pacific population, the largest surviving population. Hunted to the edge of extinction in the 1850s after the discovery of the calving lagoons and again in the early 1900s with the introduction of floating factories, the gray whale was given partial protection in 1937 and full protection in 1947 by the International Whaling Commission (IWC). Since that time, the north-eastern Pacific gray whale population has made a remarkable recovery and now numbers range anywhere between 19,000 and 23,000, a number closer to their original population size.

6. Distribution and Migration

Gray whales inhabit shallow coastal waters of the eastern North Pacific. The gray whales make one of the longest of all mammalian migrations, averaging 10,000 to 14,000 miles (16,000 to 23,500 km) round trip. In October, the whales begin to leave their feeding grounds in the Bering and Chuckchi Seas and head south for their mating and calving lagoons in Baja California, Mexico. This southward journey usually takes between two to three months. Once there, the whales remain in the lagoons for two to three months, allowing the calves to build up a thicker layer of blubber to sustain

them during the northward migration and keep them warm in the colder waters of the Arctic. The return trip north takes another two to three months. Mothers and calves travel very near shore on the northbound migration. In fact, sometimes individual gray whales are found year-round in the Straits of Juan de Fuca between the state of Washington and Vancouver Island, Canada. Some are even seen during the summer months off the northern coast of California.[14]

B. Gray Whale Habitat: Coastal Lagoons in Baja California Sur, Mexico

Mexico's coastal lagoons in the Baja California Peninsula, in particular Scammon's Lagoon, San Ignacio Lagoon, Bahía Ballenas, and Magdalena Bay (including the Santo Domingo Channel and Bahía Almejas), jointly with the Gulf of California, have become indispensable to the existence and survival of the California gray whales.[15] The breeding and calving lagoons are very special because of their unique habitats, found only in the marine areas of Mexico.

1. Scammon's Lagoon

For thousands of years, Scammon's Lagoon (known in Mexico as Laguna Ojo de Liebre) has been the preferred winter breeding grounds for the California gray whale.[16] In 1855, Captain Charles M. Scammon, a U.S.

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14. This information was taken from the web site of the American Cetacean Society (www.acsonline.org) by special permission (on file with author). Some factors that have been suggested to explain the urge that compels gray whales to migrate south every year include, *inter alia,* the dimming of the Arctic light during winter days, changes in the water temperature, diminution in the availability of food as the northern Arctic ice moves south, and an increase in the hormone levels involved in breeding. GORDON & BALDRIDGE, *supra* note 7, at 30. No single factor, however, triggers gray whale migrations; rather, it is a combination of several factors.

15. J. Urbán et al., *supra* note 1; SERGE DEDINA, SAVING THE GRAY WHALE: PEOPLE, POLITICS, AND CONSERVATION IN BAJA CALIFORNIA (2000); Fleischer, *infra* note 30, at 13-16.

16. *See generally* W. MICHAEL MATHES, VIZCAÍNO AND SPANISH EXPANSION IN THE PACIFIC OCEAN, 1580-1630 (1968); and ALVARO DEL PORTILLO & DÍEZ DE SOLLANO, DESCUBRIMIENTOS Y EXPLORACIONES EN LAS COSTAS DE CALIFORNIA [Discoveries and Explorations in the Coasts of California] (1947). The second maritime expedition of Sebastián Vizcaíno occurred in 1602, when he left the Port of Acapulco and followed the Pacific coast of the Baja peninsula, continuing all the way up to the current state of Oregon. Fray Antonio de la Ascensión, who served as his Cosmographer and Rapporteur [Relator], wrote an early description of the gray whales in the region: "On the old maps it is called the bay, or gulf, of Ballenas [whales], because there, as on all the coast as far as Cape

commercial whaler on the "*Leonore*," ventured into this shallow, hidden lagoon for the first time, finding thousands of whales. From the whaler's perspective, the discovery of these Mexican lagoons was equivalent to finding the legendary mines of King Solomon.

The massive whaling opportunities in the lagoons led Captain Scammon to develop two distinctly unique techniques for massacring whales: lagoon whaling and shore whaling. Captain Scammon described "lagoon whaling" as follows:

> When sufficient numbers [of whales] have assembled at the headwaters of the estuaries, the boats are lowered in pursuit. A cow with a young calf is usually selected, so that the parent animal may be easily struck; yet the race is sometimes so prolonged as to nearly exhaust the boats' crews. And when the last creature lags, so that their tired offspring may keep near, thereby presenting the opportunity to the "harpoonersman" to thrust effectively with his weapon, the murderous blow that often causes the animal to recoil in its anguish, and give a swoop of its ponderous flukes, or a toss of its head, which, coming in contact with the boat, produces a general wreck, and more or less injury to men.[17]

According to Scammon, "shore whaling" started in Monterey, California, and was transplanted to the Baja lagoons in 1851. At the time, there were eleven whaling parties in California and Baja California, Mexico, including Monterey, Carrel, San Luis Obispo, Goleta, and San Diego, down to Punta Banda.[18] By the winter of 1856, Captain Scammon was whaling at the *esteros* of Magdalena Bay, which is nearly the end of the Baja California peninsula.[19]

The destruction of whales and calves in Mexican waters became an annual slaughter. As reported by Scammon, between 1835 and 1872 the American whaling industry produced these astonishing results:

> 17,685 whaling ships and barks were involved; 907 brigantines; 1,352 schooners and sloops; with an aggregate tonnage of 6,037,551. All of these vessels generated an aggregate of 3,671,772 barrels of sperm oil; 6,553,014 of whale oil; a total of 66,687,580

Mendocino, there are so many whales that they cannot be numbered, nor would it be believed by anybody who had not seen them." SPANISH EXPLORATION IN THE SOUTHWEST, 1542-1706 111 (H. E. Bolton ed., 1908) [hereinafter SPANISH EXPLORATION].

17. SCAMMON, *supra* note 4, at 259-60.

18. *Id.* at 247.

19. *Id.* at 247-51, 260.

> pounds of [whale] bone; and $272,274,916.27 as the total value of imports.[20]

The slaughter was so efficient and intense that, before the end of the century, the California gray whale population was on the verge of extinction.[21]

Geographically, Laguna Ojo de Liebre is situated in the Sebastián Vizcaíno Bay in the state of Baja California Sur. Irregular in shape, this lagoon is part of a larger coastal complex, which is formed by Black Warrior's Lagoon in the north and the smaller Manuela Lagoon next to it. All of these lagoons share a similar type of climate: dry and arid with little or no rain in the winter.

2. San Ignacio Lagoon

Located on the Pacific coast of Baja California Sur, Mexico, some 300 miles from the United States-Mexico border, the San Ignacio Lagoon covers 80,000 hectares.[22] It is situated in a desolate, sparsely vegetated coastal plain with little rainfall, formed by mud flats, salt flats, and sand dunes.[23] Surrounded by the Santa Clara, San Francisco, and Guadalupe Mountains, the lagoon is quite shallow. The lagoon is the southern boundary of the Vizcaíno Biosphere Reserve, the largest reserve in Latin America, comprising 2.5 million hectares.[24] Today, this lagoon is one of the most important winter breeding habitats for gray whales, second only to Laguna Ojo de Liebre.[25]

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20. *Id.* at 243 (these figures were reproduced from the *Merchant's Magazine* and the *Whalemen's Shipping List*).

21. Victor B. Scheffer, *Introduction* to SCAMMON, *supra* note 4, at ix. When the gray whales were first hunted "they numbered perhaps 25,000; a century later they were nearly gone. Though they are now recovering under strict protection, the shores of Scammon's Lagoon will never again resound to the cries of the whalemen as he heard them in the 1850's." *Id.*

22. SERGE DEDINA & EMILY YOUNG, CONSERVATION AND DEVELOPMENT IN THE GREY WHALE LAGOONS OF BAJA CALIFORNIA SUR, MEXICO ¶ 2.1 (1995), *available at* http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1272&context=sio/lib.

23. *Id.*

24. *Id.* During the second maritime expedition of Vizcaíno in 1602, this lagoon was visited on August 23, and named "Puerto de San Bartolomeo" by Fray Antonio de la Ascensión. SPANISH EXPLORATION, *supra* note 16, at 64. Ascensión, incidentally, named the most important bays, ports, and islands along the journey, including La Paz, Cabo San Lucas, Bahía Magdalena, Bahía Ballenas, Punta Eugenia, Isla Cedros, and all the coastal lagoons in Mexico, and San Diego, Coronado, San Clemente, Anacapa, Santa Cruz, Santa Rosa, and San Francisco.

25. DEDINA & YOUNG, *supra* note 22, ¶ 2.1.2.

On November 30, 1988, President Miguel de la Madrid established the Vizcaíno Biosphere Reserve as part of Mexico's National System of Protected Areas under the protection of the General Act of Ecological Balance and Environmental Protection.[26] The purpose of this decree was:

> [T]o protect the patrimony of the representative ecosystems found in the State of Baja California Sur, with the objective of conserving their natural beauty, regulating and rationalizing the productive activities, as well as conducting basic and applied research in this entity regarding its ecology and the handling of natural resources.[27]

All of the coastal lagoons serving as breeding grounds for the gray whales were included within the Biosphere protected area. A few years later, in 1993, portions of this Reserve (i.e., Scammon's and San Ignacio Lagoon) were inscribed by Mexico on the World Heritage Site List created by UNESCO.[28]

3. Magdalena Bay

Situated about 120 miles (200 km) south of San Ignacio Lagoon and with an area of 170,000 hectares, scientists consider Magdalena Bay[29] "one of the largest remaining coastal wetlands on the Pacific coast of North America."[30] According to data collected by U.S. and Mexican scientists

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26. Decreto por el que se declara la Reserva de la Biósfera "El Vizcaíno," ubicado en el Municipio de Mulegé, B.C.S. [Decree declaring "El Vizcaíno" as a Biosphere Reserve, located in the Municipality of Mulegé, Baja California Sur], D.O., 30 de Noviembre de 1988 (Mex.).

27. *Id.* Eighth Rationale (*Considerando*).

28. World Conservation Monitoring Centre (WCMC), Protected Areas Programme; World Heritage Sites, http://www.wcmc.org.uk/protected_areas/data/wh/vizcaino.html (last visited Feb. 16, 2007). The site comprises an area of 370,950 hectares, formed by Scammon's Lagoon (227,994 hectares) and San Ignacio Lagoon (142,956 hectares). *Id.* The Vizcaíno Biosphere Reserve totals 2,546,790 hectares and encompasses Desierto de Vizcaíno, Bahía Senastián Vizcaíno, and Laguna San Ignacio, together with the numerous coastal lagoons. *Id.* This site is located in the central part of the Baja California Peninsula, between the Gulf of California and the Pacific Ocean. *Id.*

29. During Vizcaíno's expedition, they arrived at this bay in late July 1602 on the Day of Saint Magdalene, and Fray Antonio de la Ascensión named it "Baya o Puerto de la Magdalena." SPANISH EXPLORATION, *supra* note 16, at 59. In contrast to the other lagoons, this bay is dominated by tall and heavy mangroves and a very active and diverse wildlife fauna and flora, which includes California sea lions, bottlenose dolphins, black and loggerhead turtles, Pacific sardines, chocolate clams, green and pink abalone, frigate birds, bald eagles, devil cacti, sour pitaya, organ pipe cacti, and old man cacti. DEDINA & YOUNG, *supra* note 22, ¶ 2.2.5.

30. DEDINA & YOUNG, *supra* note 22, ¶ 2.2. Dr. Luis A. Fleischer, while conducting

through aerial censuses, some 600 whales visit Magdalena Bay every year.[31]

4. Gulf of California

This Gulf is located in northwest Mexico and is delineated by the Peninsula of Baja California in the west and the coastlines of the states of Sonora, Sinaloa, and Nayarit in the east. It measures some 750 miles (1500 km) in length and its width varies from 60 (92 km) to 150 (222 km) miles.[32]

The marine area covers some 60,000 square miles (160,000 km²); whereas the northern part is relatively shallow, the deep southern part, which is beyond the Angel de la Guarda and Tiburón Islands, reaches depths of 10,000 feet (3050 m).[33] This contrasting depth difference creates a powerful tidal bore, rushing between the two parts, whose treacherous effects concentrate in the Salsipuedes Basin.

The Gulf of California has no parallel in the world. It truly may be described as a dynamic paradise for marine scientists, ornithologists, archeologists, anthropologists, and, of course, marine mammal experts. In 2005, Mexico succeeded in including the islands and certain protected areas of the Gulf of California as part of the World Heritage List.[34] UNESCO's description of this Mexican site reads:

> The site is comprised of 244 islands, islets and coastal areas. The Sea of Cortez (*sic*) and its islands have been called a natural laboratory for the investigation of speciation.
>
> The site is home to 695 vascular plants species, *more than in any marine and insular property on the World Heritage List.* Equally exceptional is the number of fish species: 891–90 of them endemic. *The site, moreover, contains 39 percent of the world's total number of species of marine mammals and a third of the world's marine cetacean species.*[35]

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population studies in this bay, divided it into three zones: north, central, and south. LUIS FLEISCHER, LA BALLENA GRIS: MEXICANA POR NACIMIENTO 143-45 (2002).

31. DEDINA & YOUNG, *supra* note 22, ¶ 2.2.5. The totals are: 200 in the North zone, 255 in the Central zone, and 139 in the South zone; the censuses were conducted from 1980 to 1990. *Id.*

32. *See* ENCYCLOPEDIA AMERICANA, INTERNATIONAL EDITION 215, 814 (1993).

33. *Id.*

34. *The World Heritage Newsletter*, (UNESCO) No. 50, Aug.-Oct. 2005, *available at* http://whc.unesco.org/documents/publi_news_50_en.pdf.

35. *Id.* at 3 (emphasis added).

During the celebration of the World's Environment Day on April 21, 2004, in San Carlos, B.C.S., the government of Mexico entered into a "Coordination Agreement on the Marine Ecology Ordering of the Gulf of California" involving the Secretariat for the Protection of the Environment (SEMARNAT) and the states of Baja California, Baja California Sur, Sonora, Sinaloa, and Nayarit, and several federal agencies, including Agriculture, Communications and Transport, Tourism, the Interior, and the Navy. The purposes of this agreement were to promote the economic development of the region and, at the same time, to protect marine ecosystems.[36]

III. PROTECTIVE LEGAL REGIME UNDER MEXICAN LAW: A LEGAL REGIME COMPOSED OF DOMESTIC AND INTERNATIONAL LEGAL NORMS

With such an abundance and variety of whales (and other marine mammals),[37] and having become gradually aware of the intriguing interaction of the gray whales with the Mexican population, it is not surprising that Mexico became a true pioneer in adopting an enlightened environmental policy, which was far ahead of its time. Specifically, the policy is directed at protecting all whales, with special attention given to the gray whales, their calves, and to the breeding lagoons in the country.

This policy is reflected in Mexico's domestic legislation as well as in its foreign policy. Mexico is a party to international treaties and conventions interested in protecting the life and survival of these marine mammals; this has been Mexico's explicit and unwavering policy, from the 1930s until today.

Historically, Mexico's interest in protecting whales, and the clear commitment on the part of its government to also protect their unique habitat in Baja California Sur, has been attributed to these factors:

> [T]he legacy of foreign overexploitation of [Mexico's] natural resources including gray whales, prior to the 1910 Revolution, and the subsequent desire of its federal government to re-establish

36. *See* Ecological Marine Ordering of the Gulf of California (*Ordenamiento Ecológico Marino del Golfo de California*). SEMARNAT, April 21, 2004.

37. The number and variety of marine species that are permanently, regularly, or occasionally found within Mexican coastal and internal waters is truly amazing. Out of 119 marine species that exist in the world today, 49 of them are found in those waters (39.49%). Out of the 20 families of marine mammals scientifically recognized and distributed throughout the world, Mexico includes 12 of them, equivalent to 60% of the total. Cetaceans have the largest presence, considering that 87.23% of them are also found within Mexican lagoons and coastal waters. FLEISCHER, *supra* note 30, at 15.

> control over the national territory and its resources; the [efforts] of policy makers and environmental advocates to protect the two gray whale breeding/calving lagoons as sanctuaries and later as biosphere reserves; [the sustained] cooperation between Mexican and U.S. scientists and policy-makers [who have been legitimately] interested in the conservation of gray whales and their habitat throughout their migratory range; and the enactment of [domestic] laws that provide [Mexico's] government agencies . . . with the [legal and administrative power] to protect gray whales and their habitat.[38]

Therefore, Mexico's legal regime applicable to whales—to all kinds of whales and not only to the California gray whale—is composed of two different types of rules, policies, and institutions: those found in Mexican law and those derived from that country's commitments at the international level, as reflected in the treaties and conventions to which Mexico is a party.

A. Mexican Law Applicable to Whales

Principally, Mexico's domestic law protecting and regulating whales is found at three levels: (i) its constitution; (ii) federal statutes (with their corresponding regulations); and (iii) special presidential decrees and agreements.

1. Constitutional Provisions

With 103.5 million people, the Republic of Mexico is a federal, democratic nation, endowed with a long, rich history and culture, and vast natural resources. Compared to Latin American countries, Mexico has the longest coastlines along the Pacific Ocean, the Gulf of California, the Gulf of Mexico, and the Caribbean Sea. With hundreds of islands, Mexico has one of the largest and richest EEZs in the world.[39]

Mexico's political system was patterned after the U.S. system, as it was originally structured pursuant to the U.S. Constitution; accordingly, Mexico's national sovereignty essentially resides in the people.[40] The

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38. Urbán et al., *supra* note 1, at 282 (citation omitted).

39. For an overview of Mexico's marine spaces, see Jorge A. Vargas, *Mexico's Legal Regime Over Its Marine Spaces,* 26 U. MIAMI INTER-AM. L. REV. 189 (1994-95).

40. Constitución Política de los Estados Unidos Mexicanas, *as amended*, art. 39, D.O., 1917 (Mex.) [hereinafter Mexico's Constitution will be referenced as Const.].

Mexican people decided to establish a representative, democratic, and federal republic composed of free and sovereign states[41] for matters pertaining to their internal regime, but also united in a federation, in conformity with Article 40 of the Constitution. The people's sovereignty is exercised through the Powers of the Union (Article 41), divided into the Legislative, the Executive, and the Judiciary (Article 49).[42]

The resulting Federal Constitution is placed at the apex of Mexico's legal system; federal statutes and international treaties are secondary, and codes, other legislation, and regulations are found at the bottom of this legal hierarchy. In Mexico, many federal statutes—dealing with oil and other natural resources, foreign investment, railroad and transport systems, electricity, mining, cinematography, commerce, foreign trade, nationality and citizenship, and immigration, among others—are directly derived from the Constitution and enacted by the Congress of the Union (Article 73).

Articles 27, 42, 48, 89, and 133 contain provisions that have some relationship with the protection and conservation of great whales, marine mammals, and other marine flora and fauna.

a. Article 42

According to Article 42 of the Federal Constitution, Mexico's "national territory" is comprised of:

> The parts forming the Federation (i.e., thirty-one states and one Federal District); islands, including reefs and keys in the adjacent seas; the islands of Guadalupe and Revillagigedo situated in the Pacific Ocean; the continental shelf and the submarine areas around islands, keys, and reefs; the waters of the territorial seas in the extension and terms established by international law, and the internal maritime waters; and the air space above the national

41. Today, Mexico has thirty-one states, and one Federal District which serves as the venue of the three federal powers. *See* Const. arts. 42 and 43.

42. This was enacted by the Constitutional Assembly convened in the colonial City of Querétaro from 1916-17. Once the revolutionary movement of 1910 was over, Mexico's Federal Constitution was influenced by the populist nature and the philosophical principles advanced by this massive social movement that was principally led by peasants and workers, which included women. *See* Jorge A. Vargas, *The Constitution of Mexico, in* MEXICAN LAW: A TREATISE FOR LEGAL PRACTITIONERS AND INTERNATIONAL INVESTORS 36-67 (Jorge Vargas ed. 1998). *See also* Jorge A. Vargas, *An Introductory Lesson to Mexican Law: From Constitutions and Codes to Legal Culture and Nafta,* 41 SAN DIEGO L. REV. 1137, 1342-72 (2004).

> territory, with the extension and modalities established by international law.[43]

Pursuant to Article 42, Mexico's "national territory" may be composed of these three components: (i) land, (ii) marine areas, and (iii) air spaces.

The land mass is where the Republic is physically located. Islands and keys, as well as the submarine geological prolongation of the Mexican land mass into the marine environment (known as the continental shelf), are also included in this land component.[44]

Mexico's marine territory embraces the surrounding marine spaces over which the country exercises either sovereignty—such as the internal waters and the territorial sea of twelve nautical miles (22.22 km)—or only certain jurisdictions, such as the contiguous zone, and an EEZ extending out to 200 nautical miles (370.40 km).[45] Mexico was a global pioneer in the establishment of its EEZ, and with the enactment of its Federal Oceans Act, Mexico stands today among the first nations to have adjusted its domestic legislation in conformity with the new international oceanic legal regime, as contained in the 1982 United Nations Convention on the Law of the Sea (UNCLOS).[46]

The third and final component is the air space situated over the national territory (i.e., the land mass) and above the territorial sea and internal waters, in the extension and modalities established by international law.[47]

As marine creatures, during their annual migration, the California gray whales swim relatively close to the coastline, well within the marine belt of twelve nautical miles, known as the territorial sea of the United States,

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43. Const. art. 42.

44. *See* Const. ¶¶ I-IV.

45. For the historical development and legal content of this modern marine space, see JORGE A. VARGAS, LA ZONA ECONÓMICA EXCLUSIVA DE MÉXICO, DESCRIPCIÓN, TEXTOS LEGALES Y BIBLIO-GRAFÍA [The Exclusive Economic Zone of Mexico, Description, Legal Texts and Bibliography] (1980). *See also* Const. art. 27 regarding the submarine continental shelf, the internal waters, the exclusive economic zone, and certain lagoons. All of these marine spaces are regulated by Ley Federal del Mar [Mexico's Federal Oceans Act], D.O., 8 de Enero de 1986 (Mex.).

46. *See* United Nations Convention on the Law of the Sea (UNCLOS), Dec. 10, 1982, 1833 U.N.T.S. 397 (entered into force Nov. 16, 1994). On December 10, 1982, Mexico was among the 117 states to sign the Convention; pursuant to its constitutional procedures, the Mexican Senate approved the 1982 Convention on December 29, 1982, and the corresponding decrees of approval and promulgation were published in the D.O. on 18 de Febrero and 1 de Junio de 1983, respectively. Moreover, the instrument of ratification was deposited with the Secretary General of the United Nations on March 18, 1983. For detailed information of this process, *see* Vargas, *supra* note 39, at 192-94.

47. Const. art. 27, ¶ VI.

Canada, and Mexico. Once in Mexico, the whales move from the territorial waters into its coastal lagoons and bays, legally defined as that country's internal waters.[48]

Accordingly, under Mexican law, as soon as the gray whales (or any other living resources, such as tuna, sail fish, and marlin, among others) enter into Mexico's EEZ,[49] they fall under the exclusive jurisdiction and legal protection of that country. Mexico's rights over the whales are reputed as "sovereign" (a legal category even more intense and exclusive than those in the EEZ) when these cetaceans are found within Mexico's territorial sea or its coastal lagoons and bays.

Under Mexican law, no country has any right to hunt, take, harass, molest, injure, or kill any whales in any of these three marine spaces, (the internal waters, the territorial sea, and the EEZ), because these marine spaces form a part of the "legal territory" of Mexico.

b. Article 48

This Article reiterates that all the above mentioned marine spaces, including the air space situated over the national territory, "shall depend directly on the Government of the Federation, with the exception of those islands over which the States have, up to the present, exercised their jurisdiction." Incidentally, because many of these islands remained abandoned for some time in the past, and given the increased political power that states have slowly acquired, the question of whether the federal government or the respective coastal state exercises jurisdiction over certain islands may result in some possible controversies in the future.

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48. Pursuant to Article 36 of the Federal Oceans Act, Mexico's internal marine waters include the northern part of the Gulf of California, inland bays, ports, waters inland of reefs, and the mouths of deltas and rivers, lagoons, and estuaries connected permanently or intermittently with the sea. *See* Vargas, *supra* note 39, at 205 and 215-19.

49. Article 27 of Mexico's Constitution reads:

> The Nation exercises control over an exclusive economic zone situated outside the territorial seas and adjacent to them, consistent with the rights of the sovereignty established by the laws of Congress. The exclusive economic zone shall extend two hundred nautical miles established from where the territorial seas start. In those instances where this extension produces conflict with the exclusive economic zones of other counties [such as the United States and Cuba in the Gulf of Mexico, for example], the boundaries of the respective zones shall be determined, as necessary, through agreements with those countries.

Const. art. 27. *See also* Vargas, *supra* note 39, at 206-19.

c. Article 27

In general, this Article addresses questions pertaining to lands and waters, and certain natural resources, including the outright prohibition on individual foreigners having the direct ownership of real estate along Mexico's coastlines and international borders.

The fourth paragraph prescribes that "[t]he Nation has direct ownership of all the natural resources of the continental shelf and the submarine shelf of the islands," in clear symmetry with Article 77, paragraph I, of the UNCLOS.[50]

Paragraph eight defines the legal content and outer boundaries of Mexico's EEZ. This paragraph was added as an amendment to the Constitution in 1976.[51]

d. Articles 89 and 133

Inspired by Article II, Section 2, of the Constitution of the United States, which empowers the President "to make treaties, by and with the consent of the Senate," Article 89 of Mexico's Federal Constitution enumerates the powers and obligations of the President including, *inter alia*, "to direct [that country's] . . . foreign policy and conclude international treaties, submitting them for the ratification of the Senate."

Mexico conducts a very active foreign policy at bilateral, regional, and multilateral levels, having signed most international treaties and conventions regarding the protection and conservation of whales and those of other species of flora and fauna.

Article 133 of the Constitution prescribes:

> This Constitution, the laws of the Congress of the Union that emanate therefrom, and all the treaties that have been concluded and shall be concluded in accordance therewith, by the President of the Republic, *with the approval of the Senate, shall be the Supreme Law of the Whole Union*. The judges of each state shall conform to this Constitution, the laws and treaties, in spite of any

50. This paragraph reads: "The coastal state exercises over the continental shelf *sovereign rights* for the purpose of exploring and exploiting its natural resources." UNCLOS, *supra* note 46, art. 77 (emphasis added).

51. For the text of the corresponding decree, see the D.O., 6 de Febrero de 1976, the EEZ Regulations appeared in the D.O., 13 de Febrero de 1976, and the decree that established the EEZ's outer boundaries in the D.O., 7 de Junio de 1976. For the language of these decrees, and a brief commentary, see Vargas, *supra* note 41, at 24, 59, 61 and 65, respectively.

> contradictory provisions that may appear in the constitutions and laws of the States.[52]

2. Special Presidential Decrees and Agreements

Once the California gray whales are found within Mexico's "national territory," they are governed by the "Principle of Territoriality."[53] This principle mandates that when people, certain human acts, or natural resources (including whales, fish, oil and gas deposits, or polymetallic nodules) are found (or take place) within the territory of Mexico, they should be regulated by and subject to Mexican law. In Mexico, therefore, gray whales (and other species) are subject not only to the specific constitutional provisions discussed in the preceding section, but also to the application of certain legislative enactments, such as Presidential decrees and federal statutes.

a. The Pioneer Presidential Decree of 1972

In early 1972, Mexico became well-known internationally by enacting an unprecedented decree signed by Lic. Luis Echeverría Alvarez, then President of Mexico, establishing a "Zone of Refuge for Whales and their Calves in Scammon's Lagoon in Baja California Sur."[54] This legislative enactment by Mexico marks, in the history of international environmental law, the establishment of the first sanctuary for the special protection of gray whales and their calves on a global scale.

This decree was prepared based on the technical opinion rendered by Mexico's Comisión Nacional Consultiva de Pesca (National Advisory Commission on Fisheries), which recommended that "it was both necessary

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52. Const. art. 133.

53. This principle is enunciated by Article 12 of Mexico's Federal Civil Code, which reads:

> Mexican laws apply to all persons within the Republic [of Mexico], as well as to acts and events which take place within its territory or under its jurisdiction, including those persons who submit themselves thereto, unless the law provides for the application of a foreign law, or it is otherwise prescribed by treaties or conventions to which Mexico is a signatory party.

THE FEDERAL CIVIL CODE OF MEXICO, BILINGUAL EDITION 3 (Jorge A. Vargas trans., 2005).

54. Decreto que declara "Zona de Refugio para Ballenas y Ballenatos" las aguas del área de la Laguna Ojo de Liebre, al sur de la Bahía Sebastián Vizcaíno, en el Litoral del Océano Pacífico, Territorio de Baja California Sur [Decree declaring as a "Zone of Refuge for Whales and their Calves" the waters of Scammon's Lagoon, south of Sebastián Vizcaíno Bay, in the littoral of the Pacific Ocean, in the Territory of Baja California Sur], D.O.,14 de Enero de 1972 (Mex.).

and urgent" to establish such a sanctuary in Scammon's Lagoon.[55] The Commission based its conclusion on the fact that the lagoon was a major breeding area for the California gray whale. Further, it also took into account the threat posed at that time by certain whaling countries that wanted to continue hunting large whales on a global scale, including in places such as breeding and nursing grounds.

On September 11, 1972, months after the first decree was enacted, a complementary decree was passed providing protection also to migratory aquatic birds and wildlife and enlarging the protected area to include San Ignacio Lagoon. In this decree, which continued with the prohibition "to hunt, capture, pursue, and harm in any way the birds and other animals that seasonally or permanently inhabit the area," a special exception was made for "scientific or cultural institutions" for the conduct of research and scientific studies, provided that the institutions receive the required permit from the Secretariat of Agriculture and Livestock, the federal agency in charge of enforcing said decree.[56]

In 1979, Mexico's policy of providing special protection to large whales was further advanced when San Ignacio Lagoon was declared a "Sanctuary for pregnant whales and their calves and Area of Maritime Tourist Attraction."[57] Mexico's articulated rationales in establishing this new Sanctuary included the prohibition on taking or destroying pregnant whales, originally made by the International Whaling Commission, and the declaration that "sanctuaries must be created for the preservation and development of whaling stocks."[58] The Secretariats of the Navy and Communications and Transport, and the Fishing Department, were empowered to control, supervise, and enforce this decree.[59]

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55. *See id.* ¶ 1 (entered into force on February 14, 1972).

56. This decree was published in the D.O. of September 11, 1972. The decree entered into force three days later pursuant to the Sole Transitory Article. Decreto que declara Zona de Refugio para bellenas y ballenatos, las área de la Laguna Ojo de Liebre, al sur de la Bahía de Sebastián Litoral del Océanno Pacífico, Territorio de Baja California [Declaration establishing a refuge zone for whales and calves in the area of Ojo de Liebre]. This decree was later amended to create a "Scammon's Lagoon Complex" by adding two lagoons as part of this sanctuary: Laguna Manuela and Laguna Guerrero Negro (Black Warrior's Lagoon). *See* D.O., 18 de Marzo de 1980 (Mex.) (entered into force the day after its publication in the D.O.).

57. Refugio de Ballenas y Zona de Atracción Turístico-Marítima [Whale Refuge and Maritime Tourist Zone], D.O., 16 de Julio de 1979 (Mex.) (entered into force the following day).

58. *See id.* at the Fourth and Fifth "Whereas".

59. *Id.* at Second Article.

b. Mexico Establishes the World's Largest Whale Sanctuary in 2002

On May 24, 2002, environmental communities in Mexico and abroad celebrated the enactment of a singular decree establishing a "Sanctuary to Protect Large Whales (*Mysticeti* and *Odontocenti*) in the Marine Areas forming a part of Mexico's national territory."[60] Today, this Sanctuary constitutes the largest whale sanctuary in the world, embracing a marine area of 1.15 million square miles in the Pacific Ocean, the Caribbean Sea, and the Gulf of Mexico.

The decree enlists eight *Mysticeti* whales, including the gray whale, and thirteen whales of the *Odontoceti* suborder to be protected by the Secretariat of the Environment and Natural Resources, in coordination with other agencies of the Federal Executive, in conformity with the applicable provisions of Mexican law. The sanctuary is comprised of "the marine zones that form a part of the national territory and those in which the Nation exercises its sovereignty and jurisdiction, which include the territorial sea, the internal marine waters, the contiguous zone and the exclusive economic zone."[61] In essence, the Sanctuary's boundary coincides with Mexico's outer boundary of its 200 nm EEZ.

Academic and scientific institutions, with the participation of social and private interested entities, are charged with the formulation of the protective programs at the regional level, which shall eventually conform to the Sanctuary's protective program, in symmetry with Mexico's National Development Plan.[62]

The decree is explicit in pointing out that the protection of whales within the Sanctuary "shall not become an obstacle or restrict the productive, commercial, recreational and tourism activities undertaken therein, save for what is prescribed by the applicable regulations and legal provisions."[63] In recent years, Mexico has become increasingly interested in expanding and strengthening all types of ecological tourism (eco-tourism) activities involving whales, monarch butterflies, birds, and other endemic species.[64]

The regional programs incorporated into that "Protection Program" are to address:

- The physical, biological, social and cultural description of the Refuge Area;

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60. 2002 Sanctuary Decree, *supra* note 11.

61. *Id.* art. 3.

62. *See id.*

63. *Id*. art. 4.

64. See the section on California gray whales and eco-tourism, *infra* note 71 and the accompanying text.

- Its specific objectives;
- Measures for the management and conservation of the area;
- Delimitation of priority zones for the conservation of species according to their importance for the reproduction, growth, feeding, migration and other functions;
- The relationship of these programs and actions to Mexico's National Development Plan; and
- The administration of the area and the coordination with federal, state and municipal agencies, including the social and private sectors.[65]

SEMARNAT is required to promote the maintenance of the environmental conditions necessary for the continuity of the biological functions of the species, such as reproduction, birth, rearing, growth, learning, migration, and feeding. This Secretariat shall coordinate, promote, and implement scientific research activities devoted to the conservation and protection of these marine species in conjunction with academic and scientific institutions. Any activities within the Sanctuary or Refuge Area are to be governed by the Official Technical Norm No. 131 (1998) regarding whale observation.[66]

As Mexico elevates, diversifies, and expands its scientific and technological infrastructure, it has become apparent that, contrary to past experiences, the access by foreign scientists to conduct scientific research projects in that country, in conjunction with a growing number of Mexican scientists and leading specialists, is becoming the rule rather than the exception. This is a most positive development. A shining example of this is the close cooperation currently existing between the United States and Mexico in the case of the California gray whale.

c. The Presidential Agreement of January 10, 2000

In June 2000, Mexico enacted an Agreement that included Scammon's, Black Warrior, and Manuela Lagoons, jointly with twenty-one other areas, declaring them under the legal category of "Protected Natural Areas."[67]

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65. 2002 Sanctuary Decree, *supra* note 11, art. 6.

66. *See* Norma Oficial Mexicana que establece Lineamientos y Especificaciones para el Desarrollo de Actividades de Observación de las Ballenas, relativas a su Protección y a la Conservación de su Hábitat [Official Mexican Policy establishing specifications for the development of whale observation activities along with the protection and conservation of habitat], D.O., 10 de Enero de 2000 (Mex.) [hereinafter NOM-131]. For further discussion of NOM-131, see *infra* notes 74-78 and accompanying text.

67. For a legal discussion of these areas, see JOSÉ MANUEL GALINDO JARAMILLO &

These areas are defined by Mexico's General Act of Ecological Balance and Environmental Protection as:

> Areas to be strategic instruments for the preservation of biodiversity, formed by portions of the national territory, terrestrial or aquatic, representative of different ecosystems where the original environment has not been significantly altered by human activity and which are subject to different regimes of protection, conservation, restoration and sustainable utilization of their resources.[68]

In addition to their environmental and ecological significance, these areas offer special opportunities for eco-tourism. Mexico is currently promoting them to open and develop new markets endowed with an "ecological certification" to induce the proper management and operation oriented towards the preservation of wild flora and fauna and the economic revenue resulting from eco-tourism activities. These areas are under the control and regulation of Mexico's Secretariats of the Environment and Natural Resources and of Tourism.

d. California Gray Whales, Eco-Tourism, and NOM-131

Whereas in the past the commercial exploitation of great whales had an eminently economic value derived from the destruction of the cetacean and the use of its body parts for diverse purposes, today the interest in the California gray whale (and others) is premised upon protecting the life and its natural habitat in Mexico as its winter breeding grounds. A "destructive use" has been replaced by a "non-consumptive use." Humans are fascinated with the majesty and beauty of the whales: their mysterious and ancient migratory habits; the care and affection shown by whale cows to nurture, protect, and teach their calves; and their intelligence and

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ELEAZAR LOA LOZA, MARCO JURÍDICO E INSTITUCIONAL PARA EL USO Y LA CONSERVACIÓN DE LA BIODIVERSIDAD [Legal and Institutional Framework for the Use and Conservation of Biodiversity] (2004). *See also* EXEQUIEL EZCURRA, TRENDS IN ENVIRONMENTAL INSTITUTIONS IN MEXICO (1996) and MARTA RIVERA-KORTMAN, NATURE CONSERVATION IN MEXICO (1996).

68. *See* Ley General de Equilibrio Ecológico y la Protección del Ambiente [Mexico's general Act of Ecological Balance and Environmental Protection], art. 3, ¶ II, D.O., 7 de Junio de 2000 (Mex.). The other protected areas included the Alacranes, Cozumel and Veracruz Reefs, Isla Mujeres, Punta Can Cún and Punta Nizuc, Loreto Bay; all the Islands in the Gulf of California, the Monarch Butterfly Reserve, Cabo San Lucas, the Mapimí and Michilía Reserves, Valle of the Cirios, Sierra La Mojonera, El Jabalí, Sierra de Quila, and Selva del Ocote.

gentleness. But, above all, humans enjoy the very special relationship between two species of mammals—man and whale—which link them to a very remote ancestor in the past and to a closer and intriguing relationship in the future.

Because gray whales are primarily coastal creatures, humans have been observing their presence and movements in coastal waters during their annual migrations since time immemorial.[69] This is the same interest—enhanced today with the incredible advancements of science and technology—that has moved humans to channel and direct this widespread attention to the development of eco-tourism activities associated with these fascinating marine giants.

From a Mexican perspective, there are numerous and varied interests in the ecological observation of the California gray whale:

> *An aesthetic and recreational value*
> The migration of these mammals and their gathering at the Baja California Sur lagoons is among the most fascinating demonstrations of whale behavior anywhere on the globe.
> *An educational value*
> People visiting these breeding coastal lagoons learn about the biological aspects of the whale and their unique habitats, while becoming aware of the importance of protecting and preserving these mammals and their lagoon habitats for the benefit of whales and humankind.
> *A scientific value*
> Considering that whales and their calves are quite accessible in these coastal lagoons, it is possible to conduct systematic observation and methodic study of these cetaceans. Indeed, the California gray whale is one of the most studied and best known whales on the entire planet. The information gathered on the grays also assists in learning about and understanding other whales.
> *An economic value*
> According to Sánchez Pacheco, U.S. companies initiated commercial activities in these Mexican lagoons some thirty years

69. Both in Baja California and Baja California Sur there are a number of caves and other places with fascinating ancient paintings depicting people, animals, fish, and whales. Scientists are of the opinion that the first settlers of the Baja California peninsula arrived from Asia probably more than seven thousand years ago. *See* CLEMENT MEIGHAN, et al., SEVEN ROCK ART SITES IN BAJA CALIFORNIA (Clement Meighan, ed., 1978); HARRY CROSBY, THE CAVE PAINTINGS OF BAJA CALIFORNIA (1997); and Adalberto Walther Meade, *La Pintura Rupestre*, PANORMA HISTÓRICO DE BAJA CALIFORNIA 46-50 (David Piñera Ramírez, ed., 1983).

> ago. Today, Mexican companies—many of them established by cooperatives that failed in their fishing and agricultural activities—turned their commercial interest to eco-tourism associated with the California gray whale. These activities have become a profitable source of income for both the U.S. and Mexican companies involved.
>
> *A political value*
>
> The commitment of the government of Mexico to protect the California gray whale has allowed it to utilize the gray whale as a symbol of its national efforts to protect the environment. Mexico takes pride in becoming a model for other developing countries to protect, conserve, and undertake non-extractive uses (*i.e.,* eco-tourism) for certain marine spaces and their living resources, such as whales.[70]

The geographic proximity of Mexico to the United States and to the gray whale winter breeding grounds along the Baja California peninsula has resulted in numerous American and Mexican companies organizing and promoting environmental tours where participants visit the breeding lagoons; this practice has become increasingly popular during the last two decades.[71]

At the global level, whale-watching has turned into a very profitable activity, jumping from $4 million in revenue in 1981 to $122 million in 1994. Whereas 4 million people watched whales in 1991, this number increased to 5.4 million in 1994.[72]

Based on several scientific studies, the frequency and high volume of these eco-tours in the Mexican lagoons is beginning to take a toll on the whales, their calves, and their habitat.[73]

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70. *See* JOSÉ ANGEL SÁNCHEZ PACHECO, INSTITUTO NACIONAL DE ECOLOGÍA, PROTECCIÓN Y CONSERVACIÓN DE LA BALLENA GRIS EN MÉXICO [Protection and Conservation of the Gray Whale in Mexico] (2005), *available at* http://www.ine.gob.mx/ueajei/publicaciones/gacetas/gaceta40/964022.html.

71. *See* SOPHIE ÁVILA FOUCAT & LAURA SAAD ALVARADO, INSTITUTO NACIONAL DE ECOLOGÍA, VALUACIÓN DE LA BALLENA GRIS (*Eschrichtius robustus*) Y LA BALLENA JOROBADA (*Megaptera novaeangliae*) EN MÉXICO [Evaluation of the Gray Whale and the Humpback Whale in Mexico] (2004), *available at* http://www.ine.gob.mx/ueajei/publicaciones/gacetas/155/ballena.html. The first observation of California gray whales in Baja California Sur for eco-tourism purposes was in 1960. *Id.*

72. *Id.*

73. *See, e.g.*, G. Heckel, et al., *The influence of whale watching on the behavior of migrating whales in Todos Santos Bay and surrounding waters, Baja California, Mexico,* 3(3) J. OF CETACEAN RES. MGMT. 227-37 (2001); G.C. Rivera Garcia, Impacto del ecoturismo en el comportamiento de la ballena gris en Bahía Magdalena*,* [Impact of

i. NOM-131's Rationale

On January 10, 2000, as a result of the negative impacts of eco-tourism on whale habitats, SEMARNAT published Mexican Official Norm: NOM-131-Ecol-1988, which establishes guidelines and specifications regarding whale observation activities and the protection and conservation of their habitat.

This Technical Norm recognizes that the gray whales' mating and breeding grounds have generated a growing interest from a large number of people, and that "this has provoked a tremendous flow of vessels and tourists to the Mexican coastal lagoons where these activities take place, thus representing a threat to the habitat that may cause alterations in the behavior and biological processes of the species."[74] Therefore, based on the studies conducted by SEMARNAT's Instituto Nacional de Ecología (National Institute of Ecology), and in coordination with other agencies, it was considered appropriate to regulate these activities through the Technical Norm. Pursuant to this Norm,

> the observation of whales . . . constitutes a non-extractive utilization or indirect use since the companies rendering these services, scientists and publishers of educational and promotional materials, receive benefits from this [natural] resource, [while at the same time causing] potential adverse effects to the functioning of the ecosystems . . . in which the whales are found, feed, reproduce, and breed.[75]

At the same time, this Technical Norm underlines the fundamental importance of observing the California gray whales for scientific purposes to develop knowledge regarding Mexico's biodiversity and, in particular, to generate information on the impact of the observation activities upon the whales and their habitat. Finally, the Norm requires that the observation of whales for recreational purposes be conducted in such a manner as to comply with the applicable sustainability criteria.[76]

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ecotourism on the behavior of gray whales in Magdalena Bay] 2003 (unpublished thesis, UNAM) (on file with author); and F.J. Ollervides, Gray whales and boat traffic: Movement, vocal, and behavioral responses in Bahia Magdalena, Mexico (2001) (unpublished Ph.D. dissertation, Texas A&M, University of Galveston) (on file with author).

74. NOM-131, *supra* note 66, at Considerando.

75. *Id.* The enactment of this NOM by SEMARNAT is based on the Public Administration Act, the General Act of Ecological Balance and Environmental Protection, and the Federal Act on Metrology and Normalization.

76. *Id.* § 4. SEMARNAT's Comité Consultivo Nacional para la Protección Ambiental

ii. Marine Areas Regulated by the NOM

NOM-131 applies to the enlarged area of Scammon's Lagoon (including Black Warrior Lagoon and Manuela Lagoon), San Ignacio Lagoon and Magdalena Bay (including the Boca de la Soledad region at the end of the Santo Domingo Channel) and, in theory, "to any portion of waters under federal jurisdiction" where any whales may be present "and where any person may, in compliance with the NOM, conduct activities of observation of whales."[77]

iii. Whales Protected

All kinds of whales, both *Mysticeti* and *Odontoceti,* are protected by NOM-131, including the gray whale, the humpback whale, the blue whale, the sei whale, the fin whale, Bryde's whale, the minke whale, and the right whale.[78]

iv. Non-Consumptive Uses

Non-consumptive uses are any uses of the marine space and its habitat, including the observation of whales, allowing for the close encounter of whales and passenger vessels with the purpose of establishing visual contact with the whales in their natural habitat for recreational, scientific, educational, or mass media purposes.

Recreational uses, where the purpose is for enjoyment, are conducted from vessels or boats duly registered with SEMARNAT. Scientific uses are generally projects that are directed at the study of the life cycle of whales and their habitat. These projects are based on scientific methodologies or techniques for the systematic observation and census-data gathering and are destined to generate studies and scientific knowledge. Finally, educational and mass media purposes are those activities directed at gathering information or producing video and digital recordings.

[National Consultative Committee on the Normalization of Environmental Protection] approved NOM-131 on October 15, 1999. *Id.* at Considerando.

77. *Id.* § 3.1.

78. *Id.* § 3.3.

v. Service Providers

Service providers are individuals or companies that provide transportation to areas where individuals can observe whales from vessels or boats that are duly registered with SEMARNAT and the Secretariat of Communications and Transport.

vi. Technical Specifications

The NOM-131 includes technical specifications regarding: open and closed seasons, land and marine areas under control, technical and safety conditions of the vessels, protocols to be observed during the whale sightings and observations, use of established sea lanes and speed limits, maximum time limits for observation purposes, pollution control measures, and the creation of restricted areas, among others.[79]

e. Additional Presidential Decrees

In November 1988, Mexico's President, Miguel de la Madrid, established the El Vizcaíno Biosphere Reserve[80] as a part of Mexico's National System of Protected Areas. The corresponding decree pointed out that:

> It is necessary to protect the patrimony and to promote the conservation of the representative ecosystems found in the State of Baja California Sur, with the object of conserving their natural beauty, rationally regulating productive activities, as well as conducting ecological research and natural resource management in this area; this will promote ecosystem conservation while also allowing the rational utilization of its resources, tasks previously based on the technical opinion of SEMARNAT.
>
> In the littoral of the Pacific Ocean there is a system of lagoons known as Manuela Guerrero Negro, Ojo de Liebre, and San Ignacio, where the gray whale migrates every year to complete its biological cycle. At the same time, this system constitutes a unique refuge for different migratory aquatic and resident birds . . . .

79. *Id.* §§ 4-5.

80. *See* Decreto por el que se declara la reserva de la biósfera "El Vizcaíno," ubicado en el Municipio de Mulegé, BCS [Declaration regarding the creation of the El Vizcaíno Biosphere Reserve], D.O., 30 Noviembre de 1988 (Mex.).

> In the areas regulated by this decree, there are species of flora and fauna which are endemic, rare, threatened, or endangered with extinction, including . . . the gray whale, the blue whale, fin whale, humpback whale, the sei whale, [and] the killer whale.[81]

A few years later, in 1993, portions of these reserves, namely, Scammon's and San Ignacio Lagoons, were inscribed on the World Heritage Sites List created by UNESCO.[82] This reserve is managed by SEMARNAT through its Institute of National Ecology.[83]

3. Mexican Federal Statutes

Under Mexican law, the protection of whales is governed by the following federal statutes: the General Act of Ecological Balance and Environmental Protection, the Federal Fishing Act, the Federal Act for the Protection of Wildlife, the Federal Oceans Act, and the Federal Penal Code.

The General Act of Ecological Balance and Environmental Protection[84] provides the regulatory framework on ecological and environmental matters throughout the Republic of Mexico. Adopted pursuant to Article 73 of Mexico's Federal Constitution of 1917 (as amended), this legislative enactment enunciates Mexico's national policies and establishes programs and regulations for the control of major environmental areas such as air, land, water, natural resources, toxic wastes and hazardous materials, among others. Programs and regulations created include the establishment of natural protected areas, and the protection and conservation of certain

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81. *Id.* This decree declares "a total and indefinite prohibition for hunting and catching of species" protected by the decree, including the gray whale, pursuant to Article 84 of Mexico's Environmental Protection Act. *Id.* arts. 20-21.

82. *See* United Nations Educational, Scientific and Cultural Organization (UNESCO), World Heritage Sites, *Whale Sanctuary of El Vizcaíno,* http://www.unep-wcmc.org/sites/wh/vizcaino.html (last visited Mar. 30, 2007). This site comprises an area of 370,950 hectares: Scammon's Lagoon (227,994 hectares) and San Ignacio Lagoon (142,956 hectares). *Id.* The Vizcaíno Biosphere Reserve totals 2,546,790 hectares and encompasses Desierto de Vizcaíno, Bahía Sebastián Vizcaíno, and Laguna San Ignacion together with numerous coastal lagoons. *Id.* This site is located in the central part of the Baja California Peninsula, between the Gulf of California and the Pacific Ocean. *Id.*

83. Institute of National Ecology, What is The National Institute of Ecology?, http://www.ine.gob.mx/index.html (last visited Mar. 30, 2007).

84. Ley General del Equilibrio Ecológico y la Protección al Ambiente [General law of ecological balance and environmental protection], *as amended*, D.O., 28 de Enero de 1988 (Mex.). For a discussion of the content of this Act, see Federico M. Ruanova & William J. Stansfield. *Environmental Law* in Vargas, *supra* note 42, Chap. 12, Vol. I at 433-78.

species, including great whales.[85] SEMARNAT is the federal agency empowered to monitor, implement and enforce the Act.

The Federal Fishing Act[86] regulates fishing activities, issues licenses and permits, cites violations, conducts inspections, and imposes sanctions, among other activities. SEMARNAT and the Mexican Navy also implement this Act.[87]

The Federal Act for the Protection of Wildlife[88] enunciates the policies and regulations regarding the protection of wildlife throughout the country. The Federal Ocean Act defines all the marine spaces subject to Mexico's sovereignty or jurisdiction.[89]

The Federal Penal Code was substantially amended in 1991 to add a new section on "environmental crimes."[90] Article 420 of this Code prescribes:

> [A]nyone who illicitly captures, injures or kills a turtle or a *marine mammal*, or collects or stores any of their products or sub-products . . . will receive a penalty ranging from one to nine years imprisonment and a fine equivalent ranging from 300 to 3000 Mexican pesos.[91]

Article 420 Bis imposes very stringent penalties and fines to those who:

> Illicitly damage, dry-out or fill in . . . mangroves, lagoons, estuaries or swamps; damage reefs; or introduce or free in a natural environment an individual of an exotic flora or fauna that may damage the ecosystem, or that may hinder, alter or affect native or migratory species in the natural cycles of their reproduction or migration . . . ."[92]

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85. *Id.*

86. Ley de Pesca [fishing law], *as amended*, D.O., 25 de Junio de 1992 (Mex.).

87. *See* Jorge A. Vargas, *Mexico's Fishing Law: Translating the Transition*, 14 TRANSN'L LAW 1, 8-9 (2001).

88. Ley Federal de Protección a la Vida Silvestre [Federal Act for the Protection of Wildlife], D.O., 26 de Junio de 2006 (Mex.).

89. For a detailed discussion of this federal statute, see Vargas, *supra* note 42.

90. Código Penal Federal [Federal Criminal Code], *as amended*, D.O., 30 de Diciembre de 1991 (Mex.) (adding Title XXV: Crimes against the Environment and Environmental Control).

91. *Id.* art. 420 (emphasis added).

92. *Id.* art. 420 Bis. The penalties range from two to ten years in prison and a fine ranging from 300 to 3000 Mexican pesos. *Id.*

Pursuant to the earlier Federal Act for the Protection of Wildlife,[93] governing endangered and threatened species, as well as those under special protection, Article 60 Bis prescribes:

> No marine mammal, whatever its species, may be subject to extractive utilization, whether for survival or commercial purposes, except for the taking for scientific research or for higher education by duly accredited institutions.
>
> The applicant seeking authorization for the taking of marine mammals to which this Article refers to, shall submit to the competent authority the corresponding comprehensive research project that supports his or her application. The review of this application shall be subject to the provisions of this Act and other applicable laws.[94]

4. Mexico and International Law Conventions Regarding Whales

For decades, Mexico's foreign policy has been based on its serious commitment and deep respect for the principles and institutions of international law at the bilateral, regional, and multilateral levels.[95] At the same time, the country has been a pioneer in its efforts to protect and conserve the great whales and, in particular, the California gray whale.

For example, in 1931, Mexico ratified the Geneva Convention for the Protection of Whales.[96] In 1938, it approved the International Convention

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93. Ley General de Vida Silvestre [Federal Act for the Protection of Wildlife], *as amended*, D.O., 3 de Julio de 2000 (Mex.). The Act entered into force the day following its publication in the D.O.

94. Article 60 Bis of this Act was added by decree. D.O., 1 de Noviembre de 2002 (Mex.).

95. Jointly with the principles that norm Mexico's foreign policy, and enunciated by Article 89 of the Federal Constitution, Mexico adheres to the following precept in the area of environmental policy:

> Even though [Mexico] accepts that the primary responsibility in the solution of environmental problems may be found at the local level, it also recognizes that these problems may become a danger to humankind, and their solution may necessarily require the involvement of international cooperation based on the principles of national sovereignty, equality among nations, equity in the responsibility and a cautious approach regarding future problems.

JARAMILLO & LOA LOZA, *supra* note 67, at 282.

96. The Convention was signed at Geneva, Switzerland, on September 24, 1931. Mexico ratified it on March 13, 1932; the Convention entered into force for Mexico on June 11, 1933. D.O., 10 de Noviembre de 1933. *See* MÉXICO: RELACIÓN DE TRATADOS EN VIGOR [MEXICO: TREATIES IN FORCE] 140 (1996).

for the Regulation of Whaling (with Schedule and Protocol), signed in Washington, D.C. on December 2, 1946,[97] and the corresponding Protocol, signed in Washington, D.C. on November 19, 1956.[98] Mexico is also a party to the U.N. Convention on the Law of the Sea, held in Montego Bay, Jamaica, on December 10, 1982,[99] and to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which convened in Washington, D.C. on March 3, 1973.[100]

IV. CONCLUSION

The great whales have been roaming the world's oceans for millions of years. In contrast, the gray whales are confined to living their existence embedded in a long and perilous migration that takes place between two incredible, but contrasting, environments: from the freezing cold and monumental icebergs of the Bering and Chuckchi Seas during the summer, to the remote beauty of the shallow turquoise waters of the Mexican lagoons along the Peninsula of Baja California during the winter.

Unlike any other cetacean, the California gray whale has a mysterious and close attachment to those Mexican waters. Therefore, it is only natural that Mexico has manifested a strong cultural and legal sense of possession over this great whale as if it were a part of its national territory. Indeed, the undisputed fact that the overwhelming number of gray whales are born every winter in the warm waters of the Mexican lagoons has legitimized the country's reference to these cetaceans as "Mexican by birth."

From a legislative viewpoint, Mexico has been a pioneer in establishing a total prohibition against the hunting of whales since the early twentieth century. When many whaling countries were intent on continuing to penetrate into the Mexican internal waters to hunt the gray whale, Mexico

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97. This Convention replaced the Convention of June 8, 1937. Mexico ratified it on June 30, 1949; the Convention entered into force in general on November 10, 1948, and for Mexico on June 30, 1949. D.O., 6 de Diciembre de 1949 (Mex.). *See* MÉXICO: RELACIÓN DE TRATADOS EN VIGOR [MEXICO: TREATIES IN FORCE] 228 (2007) [hereinafter TREATIES IN FORCE 2007].

98. Mexico ratified this Protocol on March 9, 1956; the Protocol entered into force in general and for Mexico on May 4, 1959. *See* TREATIES IN FORCE 2007, *supra* note 97, at 238.

99. The LOS Convention entered into force on November 16, 1994; Mexico ratified it without qualifications on March 18, 1983. Annex I of this Convention declares great whales as "Highly migratory species." UNCLOS, *supra* note 46, Annex I § 17.

100. *See* CITES, *supra* note 11. CITES entered into force on July 1, 1975 and Mexico ratified it on July 2, 1991.

protected them, disregarding the protests of whaling nations that characterized the Mexican policy as an act in violation of international law.

Later, during the 1970s and 1980s, Mexico enacted legislative pronouncements—initiated by the President of the Republic—to continue to sustain and foster this policy as a means to protecting the very existence, survival, and conservation of the gray whale, as well as its unique habitat. The Presidential Decree by the then President of Mexico, Lic. Luis Echeverría Alvarez, on January 14, 1972, that established the first sanctuary for whales in Laguna Ojo de Liebre, constitutes a singular and exemplary measure in the international environmental law arena.

The culmination of these legislative conservationist efforts came on May 24, 2002, when Mexico established the "world's largest whale sanctuary" embracing not only the California grays, but all large cetaceans existing in the world today. This is another decisive conservationist measure acclaimed by environmentalists across the globe.

As a result of a more enlightened whale policy gradually emerging in recent years, Mexicans have capitalized on this trend and transformed the original "refuge zones for whales and their calves" into areas where tourists visit to observe, interact with, admire, and celebrate the life of the gray whales and their inquisitive newborns. However, this new eco-tourism interest fosters the proliferation of companies and other service providers, both in the United States and Mexico. Eco-tourism has become a fierce commercial battleground and an increasingly contentious area. Surely, the rise of the industry requires wise but practical rules that, above all, look out for the well-being and conservation of the grays. It is evident that an uncontrolled number of tourists, with the resulting increase in boat traffic, noise, and pollution, may cause serious problems for the mother whales—especially to their calves—and to the surrounding delicate habitat.

Recent data proves that the risks and dangers to the California gray whale do not come from commercial whalers, as was the case in the late 19th and early 20th centuries. Today, the threats posed to the grays come from increased maritime traffic, coastal pollution, acoustic underwater noise, sporadic but lethal oil spills, sophisticated military active-passive sonar and, obviously, rampant and unregulated eco-tourism activities.

In light of all of these contemporary threats, Mexico must respond affirmatively and constructively to all of these challenges to the whales. The legislative emphasis must shift from establishing "whale sanctuaries" to providing those that already exist with the necessary surveillance, the proper regulations, and the most effective enforcement mechanisms, coupled with well-funded scientific research that will demonstrate, once again, Mexico's unwavering commitment to the protection and conservation of the California gray whale.