

# GULF OF MEXICO HABITAT CONSERVATION & RESTORATION

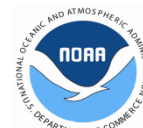
## COMPARING THE MEXICAN & UNITED STATES LEGAL & INSTITUTIONAL FRAMEWORKS

*Prepared by the*  
Environmental Law Institute &  
Centro Mexicano de Derecho Ambiental

*For the*  
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Habitat Conservation and Restoration Team

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## **About this Report**

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## FREQUENTLY USED ABBREVIATIONS

### General

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EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ICRARD	International Committee on Regulatory Authority Research and Development
ICRI	International Coral Reef Initiative
LME	Large Marine Ecosystem
MOU	Memorandum of Understanding
MPA	Marine Protected Area
NACEC	North American Commission on Environmental Cooperation
NAFTA	North American Free Trade Agreement
NAMPAN	North American Marine Protected Areas Network
NGO	Nongovernmental Organization
OCS	Outer Continental Shelf
UNCLOS	United Nations Convention on the Law of the Sea
UNIDO	United Nations Industrial Development Organization

### México

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CIMARES	Interministerial Commission for Sustainable Management of Seas and Coasts (Comisión Intersecretarial para el Manejo Sustentable de Mares y Costas)
CONABIO	National Commission for Knowledge and Use of Biodiversity (Comisión Nacional para el Conocimiento y Uso de la Biodiversidad)
CONAFOR	National Forestry (Comisión Nacional Forestal)
CONAGUA	National Commission of Water (Comisión Nacional del Agua)
CONANP	National Commission of Protected Natural Areas (Comisión Nacional de Áreas Naturales Protegidas)
CONAPESCA	National Commission of Aquaculture and Fisheries (Comisión Nacional de Acuacultura y Pesca)
LGBN	General Law of National Assets (Ley General de Bienes Nacionales)
LGEEPA	General Law for Ecological Balance and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente)
LGVS	General Law of Wildlife (Ley General de Vida Silvestre)
NOM	Official Mexican Standard (Norma Oficial Mexicana)
PECC	Special Program of Climate Change (Programa Especial de Cambio Climático, Comisión Intersecretarial de Cambio Climático)
PEMEX	National Petroleum Company (Petróleos Mexicanos)
PROFEPA	Federal Agency of Environmental Protection (Procuraduría Federal de Protección al Ambiente)
SAGARPA	Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Foods (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca, y Alimentación)

SECTUR	Ministry of Tourism (Secretaría de Turismo)
SEGOB	Ministry of the Interior (Secretaría de Gobernación)
SEMAR	Ministry of the Navy (Secretaría de Marina)
SEMARNAT	Ministry of the Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales)
SENER	Ministry of Energy (Secretaría de Energía)
ZOFEMAT	Federal Maritime Terrestrial Zone (Zona Federal Marítimo Terrestre)

#### United States

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Army Corps	U.S. Department of the Army, Army Corps of Engineers
BOEMRE	U.S. Department of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIAP	Coastal Impact Assistance Program
CMSP	Coastal and Marine Spatial Planning
CWA	Clean Water Act
CWPPRA	Coastal Wetlands Planning, Protection, and Restoration Act
DOI	U.S. Department of the Interior
DOS	U.S. Department of state
EFH / HAPC	Essential Fish Habitat / Habitat Areas of Particular Concern
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FWS	U.S. Department of the Interior, Fish and Wildlife Service
GOMA	Gulf of Mexico Alliance
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEP	National Estuary Program
NEPA	National Environmental Policy Act
NERR	National Estuarine Research Reserve
NMFS	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NOAA	U.S. Department of Commerce, National Oceanic and Atmospheric Administration
NPS	U.S. Department of the Interior, National Park Service
NRCS	U.S. Department of Agriculture, Natural Resources Conservation Service
NRDA	Natural Resource Damage Assessment
OCSLA	Outer Continental Shelf Lands Act
OPA	Oil Pollution Act of 1990
TMDL	Total Maximum Daily Load
USDA	U.S. Department of Agriculture
USFS	U.S. Department of Agriculture, Forest Service
WRDA	Water Resources Development Act

## Executive Summary

The Gulf of Mexico is a rich international seascape, a place of incredible biodiversity, and one of intense human use. To protect the natural resources while enabling economic prosperity, Mexico and the United States have developed a complex suite of international, national, state, and local laws, policies, and programs. Despite these growing legal and institutional frameworks, human impacts persist. These impacts threaten the long-term health and function of the Gulf of Mexico ecosystems.

Effectively preventing further degradation of Gulf of Mexico resources—and in some cases reversing it—requires an understanding of the legal and institutional framework that currently exists to conserve and restore habitat in the Gulf of Mexico. This report assesses and compares the Mexican and United States laws, policies, and institutions that directly or indirectly support Gulf of Mexico habitat conservation and restoration. The information is organized according to nine target issues (Table 1). For each issue, following the summary of the Mexican and United States frameworks is a list of opportunities for strengthening them individually and collectively. Each section provides an overview of the relevant framework; detailed information about the laws, policies, and institutions involved is provided in the corresponding report appendices.

**Table 1. Nine target issues discussed in the report.**

Category	Issue
Habitat types:	<i>Wetlands and estuaries</i> <i>Harvested species habitat</i> <i>Coral reefs</i> <i>Beaches and dunes</i>
Cross-cutting issues:	<i>Offshore oil and gas development and accident response</i> <i>Protected species and protected places</i> <i>Environmental impact assessments</i> <i>Coastal management</i> <i>Water quality</i>

Overall, Mexico and the United States face many similar challenges in managing ocean resources, and often take similar approaches to addressing these challenges. Challenges include difficulties with collaborative and integrated management while using a legal system that is largely fragmented and sector-based.<sup>1</sup> The United States faces fragmentation both within

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<sup>1</sup> JULIA FRAGA & ANA JESUS, COASTAL AND MARINE PROTECTED AREAS IN MEXICO 5 (2008) (discussing fragmented laws and policies in Mexico); U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21<sup>ST</sup> CENTURY (2004) (providing an extensive analysis of fragmented governance in the U.S.).



federal authorities and among various federal and state authorities in ocean and coastal areas. In Mexico, most ocean authority is concentrated in the federal government, with some state and municipal control in the terrestrial environment. While this centralized approach reduces jurisdictional complexity, it makes implementation of local and regional management difficult. In fact, there have been recent efforts to decentralize the government in Mexico.

In addition to an assessment of Mexico's and the United States' domestic frameworks, this Report explores potential ways that Mexico and the United States can develop more formal joint approaches to management. To achieve collaborative Gulf habitat conservation and restoration, Mexico and the United States may wish to (i) use existing mechanisms, authorities, and entities from established agreements to increase coordination and collaboration on relevant efforts, or (ii) develop a new agreement and/or entity specifically designed to increase Mexican and U.S. efforts. For each approach, the Report discusses possible foundations for action and key factors to consider. This includes lessons learned from examining other multilateral collaborative ocean management approaches, such as the importance of carefully considering the advantages and disadvantages of having multiple multilateral bodies working in a single region; the benefits of establishing clear objectives, implementation measures, and accountability mechanisms; the significance of a regional entity's ability to issue binding decisions; and the need to effectively balance inclusivity and manageability.

One of the conclusions drawn from this review of the United States and Mexican legal and institutional frameworks, as well as from current regional development goals and management plans in the two countries, is that there are specific areas where direct, formal collaboration is integral to successful regional habitat conservation and restoration. For example, the two countries should continue and possibly increase their engagement in efforts related to early detection of and response to invasive species. For other habitat types, such as nearshore or onshore habitats such as wetlands and estuaries, needs are more site-specific and do not require a bilateral management regime. Therefore coordination should focus on increased information-sharing, which may be realized by less formalized entities or agreements.

The information contained in this Report is designed to facilitate continued dialogue about the appropriate way to achieve increased coordination and collaboration between the United States and Mexico on habitat conservation and restoration efforts.

## A. Objectives and Approach

For decades the Gulf of Mexico has experienced a broad range of anthropogenic impacts, from coastal development to offshore resource extraction to introductions of invasive species. These impacts have degraded ocean and coastal habitats across the region, threatening myriad species of flora and fauna and diminishing important ecosystem services the Gulf provides. Most recently, in April 2010 the Gulf of Mexico suffered the largest unintentional oil spill in history, the BP *Deepwater Horizon* disaster, which resulted in the deaths of eleven rig workers and the release of over four million barrels of oil.<sup>2</sup> It affected resources around the Gulf, without regard for jurisdictions, and it will take decades to fully understand the impacts of the oil and the success of response and recovery efforts.

Effectively preventing further degradation of the Gulf of Mexico—and in some cases reversing it—requires an understanding of the legal and institutional framework that currently exists to conserve and restore habitat in the Gulf of Mexico. The complexity of the Gulf of Mexico legal and institutional framework is exacerbated by the international nature of the water body and its resources. Transboundary cooperation to achieve ecosystem management can be complicated by law and policy differences, communication challenges, social and cultural differences, and economic disparities among cooperating nations.<sup>3</sup> Yet to manage the Gulf properly, Mexico, the United States, and Cuba should work together.

This Report assesses the Mexican and United States laws, policies, and institutions that directly or indirectly support Gulf of Mexico habitat conservation and restoration. Specifically, the Report aims to:

- Examine similarities and differences between the two countries' approaches to managing Gulf of Mexico marine habitat;
- Identify lessons learned at the domestic level that are useful for both nations;
- Identify areas where bilateral coordination may be beneficial; and
- Examine pros and cons of various approaches to the development of regional management for the Gulf of Mexico.

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<sup>2</sup> NATIONAL COMMISSION ON THE BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING, REPORT TO THE PRESIDENT: DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING (Jan. 2011); Campbell Robertson & Clifford Krauss, *Gulf Spill is the Largest of its Kind, Scientists Say*, NY TIMES, Aug. 2, 2010.

<sup>3</sup> ELIZABETH HARRIS, CHASE HUNTLEY, WILLIAM MANGLE, & NAUREEN RANA, TRANSBOUNDARY COLLABORATION IN ECOSYSTEM MANAGEMENT: INTEGRATING LESSONS FROM EXPERIENCE (2001).

Within the evaluation of the domestic systems, the Report emphasizes the role of federal laws and institutions and the way in which state laws, policies, and institutions connect.<sup>4</sup> This federal focus allows more effective comparison between the two countries, as a substantial portion of relevant Mexican laws and efforts is concentrated in the federal government.

This Report contains information that should benefit a broad array of Gulf of Mexico governance efforts. In particular, it is designed to support the Gulf of Mexico Alliance (GOMA) Habitat Conservation and Restoration Team's (HCRT's) efforts to protect Gulf habitat and to increase collaboration with its Mexican partners. The second Governors' Action Plan for GOMA specified the goal of "address[ing] specific public policy issues impeding habitat conservation and restoration,"<sup>5</sup> and this report is designed to help meet this objective.

The main body of the Report provides an overview of the comparative analysis and potential steps forward at the domestic, bilateral, and regional levels. It is followed by three appendices that expand the descriptions of laws, institutions, and programs discussed in the main body of the Report. Appendix I provides a significantly more detailed summary of relevant laws. Appendix II summarizes relevant institutions and regional activities. Finally, Appendix III summarizes lessons learned from other regions and the status of cooperative efforts to date.

The analyses and recommendations contained in the Report are based on three primary sources of information: legal and institutional information gathered by the authors; secondary materials, such as law reviews, articles, white papers, and web-based sources; and discussions with United States and Mexican habitat conservation and restoration experts. These sources helped highlight key regional concerns, priority issues, and potential solutions.

The information in the Report is organized by habitat types and cross-cutting issues (Figure 1). The habitat types emphasize an ecosystem-based perspective. The cross-cutting issues are processes/drivers that can affect all marine habitats and are used to reduce redundancies.

The four habitat types are:

- ***Wetlands and estuaries*** – wetlands, estuaries, and associated coastal habitats.
- ***Harvested species habitat*** – habitat that supports commercially or recreationally harvested species (primarily fish and shellfish).

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<sup>4</sup> The Environmental Law Institute is simultaneously working on a separate, more in-depth assessment of habitat conservation and restoration laws and programs in the five U.S. Gulf states. The report is expected in Fall 2011.

<sup>5</sup> Gulf of Mexico Alliance, Governors' Action Plan II for Healthy and Resilient Coasts (2009-2014), at 14-17 [*hereinafter* GOMA Governors' Action Plan II].

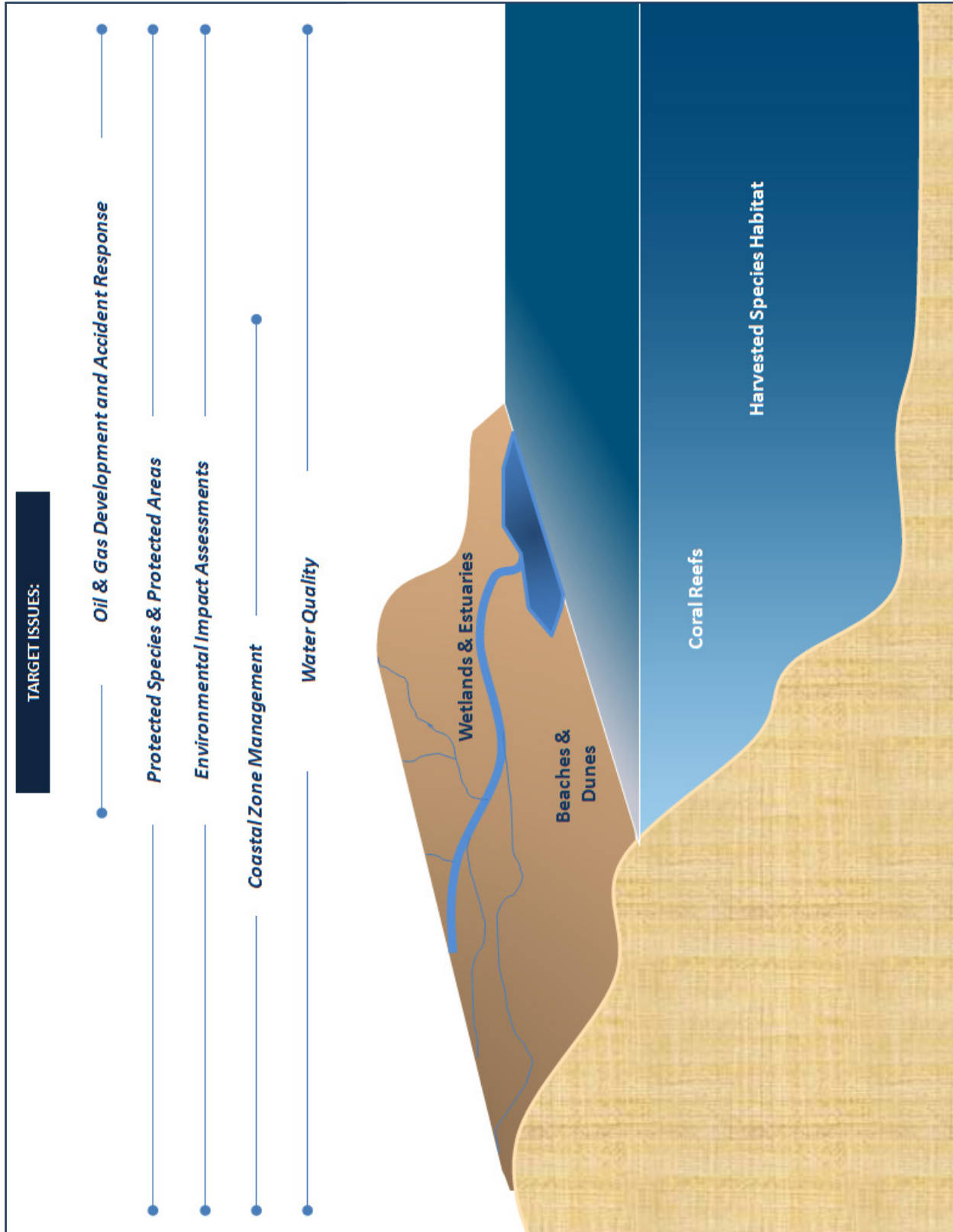
- **Coral reefs** – nearshore and offshore coral reef habitats.
- **Beaches and dunes** – beach, dune, onshore, and coastal barrier habitats.

The five cross-cutting issues are:

- **Offshore oil and gas development and accident response** – because of its economic importance, the recent disaster, and the enormous focus on this sector, this issue is treated as a separate topic.
- **Protected species and protected places** – habitat that is specially conserved, restored, or managed due to the presence or dependence of a particular protected species.
- **Environmental impact assessments** – laws and policies requiring and guiding the conduct of environmental impact assessments and related decision-making.
- **Coastal management** – laws and policies related to managing coastal areas and relevant watersheds.
- **Water quality** – laws that address point and nonpoint sources of pollution in the coastal and ocean environment.

While not the sole focus of this Report, the unprecedented BP *Deepwater Horizon* oil disaster creates an opportunity to leverage national and international attention drawn to the state of the Gulf, including increasing awareness of its current ecological status and of the scale of ongoing activities. In addition, there are several actual and potential sources of funding to support Gulf recovery. Therefore, as indicated above, the Report provides an overview of the legal framework for oil spills, and identifies opportunities to capitalize on the focused efforts to restore and conduct research in the region as a result of the disaster.

Figure 1. Depiction of the nine target issues discussed in the report.



Conversations with Gulf habitat conservation and restoration experts in the United States and Mexico yielded insights about the priority challenges and needs. These included both specific issues, such as the need for improved assessments of coral reefs in protected areas, as well as more systemic issues, such as the fact that many framework weaknesses do not fall under a single entity’s responsible or authority. Table 2 summarizes some of these expert observations.<sup>6</sup> The first column lists different habitat types and cross-cutting issues affecting habitat in the Gulf of Mexico. In the second and third columns, the authors summarize the associated challenges and needs identified by United States and Mexico experts. This list is not exhaustive, but highlights some of the key issues mentioned by regional experts.

**Table 2. Gulf Coast Challenges and Needs**

Habitat/Issue	US Challenges & Needs	Mexico Challenges & Needs
<b>Wetlands &amp; estuaries</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Loss of sea grass and marsh grasses<sup>7</sup></li> <li>• <i>Challenge:</i> Loss of mangroves and other big plants</li> <li>• <i>Need:</i> Community-based estuary restoration</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Loss of sea grass and mangrove removal</li> <li>• <i>Challenge:</i> Land use change</li> <li>• <i>Need:</i> Baseline of ecosystem coverage</li> <li>• <i>Need:</i> Coordination between SEMARNAT agencies</li> </ul>
<b>Harvested species</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Loss of oyster reefs (which provide habitat, water filtration, and storm/erosion protection)</li> <li>• <i>Challenge:</i> Habitat impacts from fishing activities such as trawling</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Introduction of exotic species</li> <li>• <i>Challenge:</i> Illegal and intensive fishing</li> </ul>
<b>Coral reefs</b>	<ul style="list-style-type: none"> <li>• <i>Need:</i> Improved assessment, research, monitoring, and GIS mapping in designated sanctuaries</li> <li>• <i>Need:</i> New restoration technology</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Need:</i> Coastal water quality standards</li> <li>• <i>Need:</i> Research, monitoring, and restoration techniques</li> </ul>
<b>Deep sea and offshore</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Concern that aggressive artificial reef programs are treated as habitat restoration</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Need:</i> Research and monitoring</li> </ul>
<b>Beaches and dunes</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Erosion (primarily in Florida and Texas)</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Erosion, subsidence, and sedimentation</li> <li>• <i>Need:</i> A new model of development in the coast</li> <li>• <i>Need:</i> Adaptation and mitigation policies</li> </ul>

<sup>6</sup> The authors spoke with 15 Gulf of Mexico habitat conservation and restoration experts in the United States: 5 from the federal government, 2 from state government, 3 from academia, and 5 from nongovernmental organizations. The authors spoke with 14 experts in Mexico: 4 from the federal government, 7 from nongovernmental organizations, and 3 from academia.

<sup>7</sup> Katherine A. McGraw & Ronald M. Thom, *Protection and Restoration: Are We Having an Effect?*, 29 *Ecological Restoration* 2 (2011).

Habitat/Issue	US Challenges & Needs	Mexico Challenges & Needs
		for coastal communities
<b>Cross-cutting issue: Oil and gas development</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Habitat impacts from oil and gas activities and shipping, including drilling, pipelines, and canals</li> <li>• <i>Challenge:</i> Little to no restoration activities</li> </ul>	
<b>Cross-cutting issue: Water quality</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Impacts to the Mississippi Delta from diversions, levees, and dredging<sup>8</sup></li> <li>• <i>Challenge:</i> Nonpoint source pollution causing eutrophication and habitat degradation<sup>9</sup></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Need:</i> Wastewater treatment</li> <li>• <i>Need:</i> Effective management of hydrologic flow, e.g., flooding and dam management, highland deforestation, and river pollution</li> </ul>
<b>Cross-cutting issue: Coastal management</b>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Sea level rise affecting habitat</li> <li>• <i>Challenge:</i> Development and population increases harming habitat</li> <li>• <i>Challenge:</i> Subsidence impacting habitat</li> <li>• <i>Challenge:</i> Habitat fragmentation</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Challenge:</i> Unplanned urban and economic growth: high vulnerability of poor urban areas and minimal infrastructure located in flooding and landslide risk areas</li> <li>• <i>Challenge:</i> Sea level rise</li> <li>• <i>Need:</i> Integrated coastal policy</li> </ul>

<sup>8</sup> See, e.g., R. Eugene Turner, *Wetland Loss in the Northern Gulf of Mexico: Multiple Working Hypotheses*, 20 *Estuaries* 1 (1997); John W. Day Jr., et al, *Restoration of the Mississippi Delta: Lessons from Hurricanes Katrina and Rita*, 315 *Science* 1679 (2007).

<sup>9</sup> See e.g., Nancy N. Rabalais, R. Eugene Turner & Donald Scavia, *Beyond Science into Policy: Gulf of Mexico Hypoxia and the Mississippi River*, 52 *BioScience* 129 (2002).

## **B. Assessing and Comparing the United States and Mexican Frameworks**

The emphasis of this Report is on identifying similarities and differences between the United States' and Mexico's legal and institutional frameworks, sharing lessons learned, and identifying how increased information sharing, coordination, and/or collaboration could occur. The recommendations are organized by target issue. They focus on identifying opportunities to strengthen the Mexican and United States frameworks and to increase coordination and cooperation through a variety of mechanisms.

The first section summarizes the United States and Mexico domestic frameworks for conserving and restoring Gulf of Mexico habitat. It evaluates the strengths and weaknesses of these frameworks for achieving coordinated management of coastal and marine resources.

In each of the following Sections 2–10, the Report briefly evaluates the Mexican Framework, the United States Framework, and then the joint frameworks. Following the summaries, it provides a chart of challenges and potential opportunities to address challenges.

### ***1. Overarching Observations***

Overall, Mexico and the United States face many similar challenges in managing ocean resources, and have often used similar approaches to addressing these challenges. Challenges include difficulties with collaborative and integrated management while using a legal system that is largely fragmented and sector-based.<sup>10</sup> The United States faces fragmentation both within federal authorities and among various federal and state authorities in ocean and coastal areas. In Mexico, most ocean authority is concentrated in the federal government with some state and municipal control in the terrestrial environment. While this centralized approach reduces jurisdictional complexity, it can make implementation of local and regional management difficult.

An overarching difference between the countries' frameworks lies in their jurisdictional boundaries. From an international perspective and in accordance with the United Nations Convention on the Law of the Sea, both countries have 12-nautical mile territorial seas and 200-nautical mile Exclusive Economic Zones (EEZs). In Mexico, all marine waters within that area are federal. In the United States, Alabama, Louisiana, and Mississippi have primary jurisdiction out

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<sup>10</sup> JULIA FRAGA & ANA JESUS, COASTAL AND MARINE PROTECTED AREAS IN MEXICO 5 (2008) (discussing fragmented laws and policies in Mexico); U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21<sup>ST</sup> CENTURY (2004) (providing an extensive analysis of fragmented governance in the U.S.).



to 3 nautical miles from shore, and Texas and the Gulf coast of Florida have primary jurisdiction out to 9 nautical miles. Beyond these boundaries the federal government has primary jurisdiction. This difference in balance of federal and state jurisdictional authorities has rippling implications for the nature of the management systems and how collaboration can best occur between the United States and Mexico in the Gulf of Mexico region.

## 2. Wetlands and Estuaries

The problems with wetlands and estuaries habitat conservation in Mexico and the United States are largely the same (including development pressure and sea level rise). Also, the legal mechanisms for achieving conservation and restoration have many similarities. Mexico’s framework is dominated by a species- and place-based approach along with environmental impact assessment requirements. The United States also has many place-based protection programs in place and requires environmental impact analysis. It has additional components to its framework, including dredge and fill requirements and restoration funding programs.

In Mexico, protection and restoration of wetlands and estuaries occurs in accordance with general environmental and land use laws, in addition to specific provisions related to mangrove protection and restoration. Table 3 lists laws and institutions that are important to wetland and estuarine conservation and restoration in Mexico.

**Table 3. Mexico federal laws and institutions addressing wetland and estuarine conservation and restoration.**

Mechanism	Law	Implementing Institution
Regulatory	<ul style="list-style-type: none"> <li>• Pollution limitations under the General Law of Ecological Balance and Environment Protection (LGEEPA), Article 28<sup>11</sup></li> <li>• Environmental impact assessments under LGEEPA Article 15</li> <li>• Mangrove protection under Official Mexican Standard NOM-059-SEMARNAT-2010 (focused on environmental protection of native species)</li> </ul>	<ul style="list-style-type: none"> <li>• Federal Agency of Environmental Protection (PROFEPA)</li> <li>• General Direction of Risk and Impact Assessment</li> </ul>
Restoration	<ul style="list-style-type: none"> <li>• General Law of Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• National Forestry Commission (CONAFOR)</li> <li>• National Commission of</li> </ul>

<sup>11</sup> See General Law of Ecological Equilibrium and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente, LGEEPA), Diario Oficial 28 Jan. 1988, available at <http://www.ordenjuridico.gob.mx/Documentos/Federal/wo5442.doc>.

Mechanism	Law	Implementing Institution
		Aquaculture and Fisheries (CONAPESCA)
Environmental Analysis	<ul style="list-style-type: none"> <li>Coastal wetlands in mangrove areas protected, conserved, and restored under Official Mexican Standard NOM-022-SEMARNAT-2003<sup>12</sup></li> </ul>	<ul style="list-style-type: none"> <li>General Direction of Risk and Impact Assessment</li> </ul>
Place-based Protection / Management	<ul style="list-style-type: none"> <li>LGEEPA</li> <li>Rule of the LGEEPA</li> <li>Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention)</li> <li>National Park System</li> </ul>	<ul style="list-style-type: none"> <li>National Commission of Protected Natural Areas (CONANP)</li> </ul>
Funding		<ul style="list-style-type: none"> <li>CONAFOR</li> <li>United Nations Industrial Development Organization (UNIDO)</li> </ul>
Research	<ul style="list-style-type: none"> <li>Coverage baseline</li> </ul>	<ul style="list-style-type: none"> <li>National Commission for Knowledge and Use of Biodiversity (CONABIO)</li> <li>National Commission of Water (CONAGUA)</li> </ul>

Of particular importance to wetlands protection in Mexico are mechanisms for protecting mangroves, which are found along most of Mexico's Gulf Coast. The Ministry of Environment and Natural Resources (SEMARNAT) is the primary protection authority. In accordance with the National Assets Law, mangrove habitat is national property. Therefore private ownership or use of a mangrove area is illegal without a permit or concession from SEMARNAT. Such concessions prohibit the logging or clearing of mangroves, and only the concession holder has the right to use it.

The General Law of Wildlife (LGVS) establishes the regulations for species listed under the **Official Mexican Standard NOM-059-SEMARNAT-2010**, which focuses on environmental

<sup>12</sup> See Official Mexican Standard NOM-022-SEMARNAT-2003, That establishes the specifications for the preservation, conservation, sustainable use and restoration of coastal wetlands in mangrove areas (Que establece las especificaciones para la preservación, conservación, aprovechamiento sustentable y restauración de los humedales costeros en zonas de manglar), Diario Oficial (Primera Sección) 10 Apr. 2003, art. 26, available at <http://200.77.231.100/work/normas/noms/2003/022semarnat.pdf>.

protection of native species.<sup>13</sup> According to the Official Mexican Standard, mangroves are a species subject to risk of extinction, and it provides special protection to species in danger of extinction as a consequence of human activities. In addition, **Official Mexican Standard NOM-022-SEMARNAT-2003** establishes specifications for the preservation, conservation, sustainable use, and restoration of coastal wetlands in mangrove areas.<sup>14</sup>

In addition to protection and regulation, significant efforts have been made to restore mangrove habitat and to conduct research and monitoring. In particular, the National Forestry Commission (CONAFOR), in collaboration with the National Commission of Aquaculture and Fisheries (CONAPESCA), has conducted mangrove restoration projects.<sup>15</sup>

Internationally, Mexico is a Contracting Party to the Convention on Wetlands of International Importance (commonly referred to as the Ramsar Convention). The country is committed to fulfilling its international commitments under the Convention,<sup>16</sup> and does so by applying three pillars:

- Implementing rational use of all wetlands in the country;
- Designating sites to the Ramsar List and for sustainable management; and
- Taking actions to increase international cooperation.

In 2003 the National Commission of Protected Natural Areas (CONANP) was designated as the Ramsar Administrative Authority in Mexico.<sup>17</sup> It serves 130 Ramsar sites, covering approximately nine million hectares of wetlands (4.5% of the country) in collaboration with state and local governments, research institutions, and civil society organizations.

In the United States an extensive patchwork of federal laws supports the protection and restoration of wetlands and estuarine habitat (Table 4).

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<sup>13</sup> Official Mexican Standard NOM-059-SEMARNAT-2010, Environmental protection, Native species of Mexican flora and fauna, Risk categories and specifications for inclusion, exclusion or change, List of species at risk (Protección ambiental, Especies nativas de México de flora y fauna silvestres, Categorías de riesgo y especificaciones para su inclusión, exclusión, o cambio, Lista de especies en riesgo), Diario Oficial (Segunda Sección) 30 Dec. 2010, available at <http://200.77.231.100/work/normas/noms/2010/059semarnat2010a.pdf>.

<sup>14</sup> See NOM-022-SEMARNAT-2003, *supra* note 12, para. 3.36.

<sup>15</sup> See CONAFOR, Los Manglares, <http://www.conafor.gob.mx/micrositios/Humedales/>.

<sup>16</sup> See, e.g., CONANP, La Importancia de los Humedales para la CONANP, [http://ramsar.conanp.gob.mx/conanp\\_hum.php](http://ramsar.conanp.gob.mx/conanp_hum.php).

<sup>17</sup> See, e.g., CONANP, Sitios Ramsar. <http://ramsar.conanp.gob.mx/sitios.php>.

**Table 4. United States federal laws and institutions addressing wetland and estuarine conservation and restoration.**

Mechanism	Law	Implementing Institution
Regulatory	<ul style="list-style-type: none"> <li>• Clean Water Act (CWA) requires permits for actions that dredge and/or fill water bodies</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Protection Agency (EPA) &amp; U.S. Army Corps of Engineers (USACE)</li> </ul>
Restoration	<ul style="list-style-type: none"> <li>• CWA and Water Resources Development Act (WRDA) allow for beneficial use of dredged materials</li> </ul>	<ul style="list-style-type: none"> <li>• EPA &amp; USACE</li> </ul>
Environmental Analysis	<ul style="list-style-type: none"> <li>• Estuary Protection Act requires agency to propose mechanisms to prevent impact</li> <li>• National Environmental Policy Act (NEPA) requires environmental impact analysis for all major federal actions</li> </ul>	<ul style="list-style-type: none"> <li>• Department of the Interior (DOI)</li> <li>• Lead agency of federal action</li> </ul>
Place-based Protection/ Management	<ul style="list-style-type: none"> <li>• National Estuary Programs (NEPs)</li> <li>• National Estuarine Research Reserves (NERRs)</li> <li>• National Wildlife Refuge System</li> <li>• National Park System</li> </ul>	<ul style="list-style-type: none"> <li>• EPA</li> <li>• National Oceanic and Atmospheric Administration (NOAA)</li> <li>• Fish and Wildlife Service (FWS)</li> <li>• National Park Service</li> </ul>
Funding for Restoration	<ul style="list-style-type: none"> <li>• North American Wetlands Conservation Act</li> <li>• Federal Aid to Wildlife Restoration Fund</li> <li>• Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA)</li> <li>• Coastal Impact Assistance Program (CIAP)</li> </ul>	<ul style="list-style-type: none"> <li>• FWS</li> <li>• FWS</li> <li>• FWS</li> <li>• Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE)</li> </ul>
Research	<ul style="list-style-type: none"> <li>• Nonindigenous Aquatic Nuisance Prevention and Control Act</li> <li>• NERRs</li> </ul>	<ul style="list-style-type: none"> <li>• Interagency</li> <li>• NOAA</li> </ul>

Wetlands and estuaries are protected, in part, through the **Clean Water Act** and the **Rivers and Harbors Act**, which regulate dredging or filling in a wetland or estuary, among other things.<sup>18</sup> For wetlands that will be impacted by a permitted activity, compensatory mitigation is required in order to achieve “no net loss” of wetlands. Approximately 47,000 acres of mitigation per year

<sup>18</sup> 33 USC § 1344; 40 CFR Part 232.3.

are required to compensate for 21,000 lost acres per year. However, many studies show that the mitigation efforts often result in a net loss of ecosystem services.<sup>19</sup>

The CWA authorized creation of the **National Estuary Program (NEP)**, which works to preserve and restore “estuaries of national significance.” Designated estuaries in the Gulf of Mexico include: Coastal Bend Bays and Galveston Bay in Texas; Barataria-Terrebonne Estuary in Louisiana; Mobile Bay in Alabama; and Tampa Bay, Sarasota Bay, and Charlotte Harbor in Florida. Within these seven NEP sites, habitat protection and restoration efforts have covered 33,750 acres in 2009.<sup>20</sup>

A similar program exists under the **Coastal Zone Management Act: the National Estuarine Research Reserve (NERR) System**. A NERR is a “living laboratory” in which staff combine research and education and “work with local communities and regional groups to address natural resource management issues, such as non-point source pollution, habitat restoration and invasive species.”<sup>21</sup> As one of the lead federal agencies for coastal and marine ecosystem and resource research and management, the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce partners with coastal states to conduct research at 28 NERRs. Once NERRs are established, the federal government may grant funds to the state for acquiring, managing, and conducting research and monitoring activities in it.<sup>22</sup> The five NERRs in the Gulf are Rookery Bay and Apalachicola in Florida; Weeks Bay in Alabama; Grand Bay in Mississippi; and Mission-Aransas in Texas.<sup>23</sup>

The goal of the **North American Wetlands Conservation Act** is to conserve and restore wetlands in the United States, Mexico, and Canada and to sustain migratory bird species protected by international agreement.<sup>24</sup> The Act establishes the North American Wetlands Conservation Council and allows it to recommend projects for funding by the Federal Aid to Wildlife Restoration Fund. Thirty to sixty percent of the total funding for the program is required to support projects in Canada or Mexico.<sup>25</sup>

In addition to funding under the North American Wetlands Conservation Act, several federal laws establish funding mechanisms including the following (see also Table 5):

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<sup>19</sup> Rebecca L. Kihlsinger, *Success of Wetland Mitigation Projects*, 30 NATIONAL WETLANDS NEWSLETTER 14 (2008).

<sup>20</sup> EPA, Gulf of Mexico GPRA Report Summary by Habitat Category, at [http://www.epa.gov/owow\\_keep/estuaries/pivot/mapping/gulf\\_sum.htm](http://www.epa.gov/owow_keep/estuaries/pivot/mapping/gulf_sum.htm).

<sup>21</sup> National Estuarine Research Reserve System, Overview, <http://www.nerrs.noaa.gov/BGDefault.aspx?ID=61>.

<sup>22</sup> 16 USC § 1461(b).

<sup>23</sup> See National Estuarine Research Reserve System, <http://www.nerrs.noaa.gov/>.

<sup>24</sup> 16 USC § 4407(a)-(b).

<sup>25</sup> *Id.* § 4401(b), 4404; *Id.* § 669b.

- The **Federal Aid to Wildlife Restoration Fund** provides direct funding to state agencies for wildlife conservation, including improvement and management of habitat.<sup>26</sup>
- The **Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA)** establishes a funding source for coastal wetlands restoration and conservation projects. The statute creates the National Coastal Wetlands Conservation Grant Program, which enables the Fish and Wildlife Service (FWS) within the Department of the Interior to provide matching grants to states for coastal wetlands acquisition, restoration, and management.
- The **Coastal Impact Assistance Program (CIAP)** funds projects in states affected by offshore energy extraction that target conservation, protection, or restoration of coastal areas and wetlands; fish, wildlife, or natural resources damage mitigation; planning assistance; federally-approved marine, coastal, or comprehensive conservation management plans; or onshore infrastructure projects and public service needs that mitigate the impact of offshore activities.<sup>27</sup> Funding is apportioned in proportion to the quantity of drilling offshore of each state.

**Table 5. United States funding mechanisms for wetlands and/or estuaries management, noting match requirements and implementing institutions.**

Law	Match Requirement	Implementing Institution
North American Wetlands Conservation Act	50% non-federal match required (i.e. grant will only pay 50% of project costs)	FWS
Federal Aid to Wildlife Restoration Fund	At least 25% non-federal match required (more in some circumstances)	FWS
CWPPRA	At least 25% match required	FWS
CIAP	No match required	BOEMRE (transferring to FWS in 2011)
WRDA	At least 25% non-federal match required	USACE
Wetlands Reserve Program	Cost-share program with varying limits	Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA)
Wildlife Habitat Incentive Program	Cost-share program with varying limits	NRCS, USDA

<sup>26</sup> *Id.* § 669a-669b. The Fund was created by the Federal Aid to Wildlife Restoration Act, commonly known as the Pittman-Robertson Act, and is supported by a tax on arms and ammunition. Interest and earnings on the Fund support the North America Wetlands Conservation Act. *Id.*; see also Louis Alan Talley, *Wildlife Restoration Projects Fund* (1997), CRS No. 97-506.

<sup>27</sup> 43 USC § 1356a.

Other federal laws provide additional place-based wetland protection. Thousands of acres of habitat are conserved in the Gulf region through the **National Wildlife Refuge System**. The **National Parks System** manages several areas along the Gulf coast, including the wetlands and estuaries of the Everglades. In addition, the 2008 Farm Bill incorporates various conservation and restoration measures in federal agriculture policy; it protects wetlands by making farmers who grow crops on converted wetlands ineligible for several major agricultural subsidies.<sup>28</sup>

Finally, many other laws are also important for wetland and estuary habitat protection and restoration, including cross-cutting federal laws like the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA; NEPA and ESA are described in other sections of this Report), state laws, and local land use laws.

Like Mexico, the United States is party to the Ramsar Convention. The United States National Ramsar Committee supports implementation of the Convention domestically and internationally. There are twenty-four Ramsar sites in the United States, including the Everglades National Park and Corkscrew Swamp Sanctuary.<sup>29</sup>

## CHALLENGES AND OPPORTUNITIES: WETLANDS AND ESTUARIES

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	To evaluate the effectiveness and success of wetlands policies in Mexico, baseline information is needed. Observed increases in overall mangrove coverage may partially be due to the fact that new mangrove areas are still being mapped, not that degraded areas are being successfully restored.	Increase baseline research and mapping efforts to enable effective monitoring of restoration efforts and evaluation of programmatic success.
2	Mexico does not currently have a strategy for addressing wetland and coastal vulnerability and adaptation to changing conditions.	Create an instrument at both the federal and the state level – such as a policy, regulation, plan, or other – that makes it a priority to develop a strategy for addressing vulnerability and adaptation to changing conditions.
3	There are provisions in place that require private parties to protect mangroves on	Increase understanding of the ecosystem services that mangroves provide, so as to understand the

<sup>28</sup> 16 USCS § 3821. The term “converted wetlands” is defined at 16 USCS § 3801. Note that the definition of wetlands in this section is broader than the definition of wetlands under the Clean Water Act.

<sup>29</sup> For more information on the Committee and a complete list of sites within the United States, see U.S. National Ramsar Committee, at <http://www.ramsarcommittee.us/index.asp>.

	Challenge	Opportunity
	their property. However, instead of leading to enhanced protection, this mandate may create a perverse incentive to remove the mangroves so that the property owner does not have to manage them.	economic advantages of protecting mangroves. Use this understanding to establish a framework where private property owners are incentivized to protect mangroves.
4	The framework for protecting wetlands and estuaries in Mexico is composed of disjointed pieces. For example, CONAGUA oversees estuaries management; CONANP oversees Ramsar wetlands; and CONAFOR oversees reforestation. This results in a system that only protects the mangrove plants themselves, rather than managing the ecosystem as a whole.	Establish a mechanism for coordinating relevant entities to collaborate and develop a national strategy for comprehensive wetlands and estuaries management.
5	Mexico does not have an overarching national policy for addressing climate change impacts such as sea level rise, which is expected to impact wetland and estuarine habitats dramatically.	Consider developing federal or state strategies to properly prepare for forecasted sea level rise and associated wetland and estuary migration. This may be implemented through land use planning (in both urban and rural areas).  Utilize climate adaptation tools <sup>30</sup> to integrate climate change considerations into decision-making.

## 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	The Mississippi River delta ecosystem has been altered extensively, requiring large-scale restoration.	Concentrate restoration efforts under the actions of the Gulf Coast Ecosystem Restoration Task Force, which is designed to be the engine for large-scale restoration, including restoration needed in the Mississippi River Delta. The final restoration plan is expected by the end of 2011. While so far unfunded, significant efforts are underway to legislate that Clean Water Act fines associated with the <i>Deepwater Horizon</i> be used to

<sup>30</sup> For example, EcoAdapt hosts CAKE, the Climate Adaptation Knowledge Exchange, which is a website containing case studies of adaptation strategies around the world. CAKE, at <http://www.cakex.org/>.



	Challenge	Opportunity
		fund the Restoration Task Force plan.
2	There are myriad wetlands and estuaries conservation programs in the United States. These programs provide numerous opportunities. However, they are implemented by numerous entities with varying requirements. This variability may mean that the programs fail to realize their full synergistic potential.	Coordination could enable synergistic conservation efforts. Potential mechanisms for addressing the lack of coordination between programs include the Gulf of Mexico Alliance, the Gulf Coast Ecosystem Restoration Task Force, or implementation activities under the new National Ocean Policy (described in greater detail under <i>Coastal Management</i> ) – including the strategic action plans for protection and restoration of ocean and coastal ecosystems, water quality, and coastal and marine spatial plans, among others.
3	Funding is a major challenge for wetlands and estuaries programs in the United States. In addition to a lack of funding to accomplish all of the needed restoration and conservation objectives, and the sometimes challenging short-term timeframes, matching requirements often create obstacles to undertaking projects. With few exceptions, federal conservation and restoration programs that support wetlands and estuaries require at least a 25% match with non-federal funds (see <i>supra</i> Table 5).	Explore options for coordinating the funding requirements for different wetlands and estuaries conservation and restoration programs, to enable collaboration and long-term funding. Also explore the potential for public/private partnerships to address matching requirements. Finally, legislative changes could remove or alter matching requirements to enable more comprehensive approaches to restoration.
4	The Coastal Impact Assistance Program (CIAP) provided substantial funds for conserving and restoring wetlands and estuaries in Alabama, Louisiana, Mississippi, and Florida. However, CIAP appropriations have statutorily sunset (although all the funds have not yet been fully expended).	Consider extending or re-enacting CIAP to allow continued ecosystem recovery in states affected by offshore oil and gas extraction.
5	Continued loss of wetlands due to permitted impacts.	Increase focus on avoidance and minimization of project impacts, and on improved, targeted compensation.
6	Climate change impacts such as sea level rise are expected to impact wetland and estuarine habitats dramatically.	Target wetlands protection in concert with the development and implementation of the United States Strategic Action Plan for Resiliency and Adaptation to Climate Change and Ocean

	Challenge	Opportunity
		<p>Acidification, under development as part of the National Ocean Policy implementation.<sup>31</sup></p> <p>Consider developing additional state and local strategies to properly prepare for sea level rise and associated wetland and estuary migration. This may be implemented through land use planning (in both urban and rural areas).</p> <p>Utilize climate adaptation tools to integrate climate change considerations into decision-making.</p>

### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunities
1	Both the United States and Mexico have experienced substantial degradation of wetlands and estuaries.	Sharing information (including data, strategies, and lessons learned) could benefit efforts in both the United States and Mexico.

### 3. *Harvested Species Habitat*

In both Mexico and the United States, specific laws require regulation of fisheries and aquaculture and include requirements to establish fishery management plans. In both countries, areas may be designated for conservation of certain species and their habitat. In terms of basic structure, in Mexico, the federal government (primarily through CONAPESCA and in some specific cases SEMARNAT) has primary authority over all fisheries resources. However, any coastal state may participate in the development of fishery management plans and may establish agreements with the federal government to share other duties. In the United States, federal fisheries law applies to fisheries primarily located in federal waters, and state law governs fisheries located primarily in state waters. There are two bodies that coordinate United States Gulf of Mexico regional management: the Gulf of Mexico Fisheries Management Council (federal resources) and the Gulf States Marine Fisheries Commission (state resources), which coordinate on overlapping issues.

<sup>31</sup> See National Ocean Council, *Strategic Action Plans*, at <http://www.whitehouse.gov/administration/eop/oceans/sap>.

In Mexico, the General Law on Fisheries and Sustainable Aquaculture governs fisheries and aquaculture activities. It does not explicitly address management of artificial reefs. CONAPESCA and SEMARNAT collaborate in the creation of refuge areas for ecosystem protection, restoration, rehabilitation, and conservation, as well as in the establishment of measures designed to protect vulnerable species. Protected natural areas may also be established within the national system of natural protected areas. It is noteworthy that fishing in a natural protected area requires not only a permit or concession from CONAPESCA but also permission from SEMARNAT. The General Law on Fisheries and Sustainable Aquaculture also led to the creation of the National Program for Sustainable Fisheries and Aquaculture.

In the United States, fisheries habitat is protected by two major federal mechanisms established under the Magnuson-Stevens Fisheries Conservation and Management Act (MSA): (1) Fishery Management Plans that control where, when and how fishing occurs; and (2) Essential Fish Habitat (EFH) provisions.<sup>32</sup> The MSA is the primary federal law governing fisheries management in the United States. The Gulf of Mexico Fishery Management Council is the major institution implementing these federal requirements, with oversight and input from the National Marine Fisheries Service (NMFS). The Council has implemented over half a dozen fishery management plans for Gulf species, as well as one for regulating future offshore marine aquaculture.<sup>33</sup>

The fishery management plan provisions only apply to fishing activities—i.e., habitat is protected only against fishing impacts.<sup>34</sup> In contrast, the EFH provision provides a mechanism to identify EFH, develop management measures to protect and conserve EFH, and consult with other agencies to ensure EFH conservation.<sup>35</sup> Gulf of Mexico regional NMFS staff members are responsible for consulting with other agencies about potential EFH impacts.

In some ways, the EFH provision is underutilized. Large areas are designated as EFH in the Gulf, such that most coastal waters are designated as EFH of one or more commercial species. As some have pointed out, by making everything essential, nothing is essential. Second, in addition to EFH, fisheries managers can designate “habitat areas of particular concern” (HAPC).<sup>36</sup> These areas are more carefully characterized and much smaller in size. There are 18 HAPC

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<sup>32</sup> 16 USC § 1801 *et seq.* (2007).

<sup>33</sup> Gulf of Mexico Fishery Management Council & National Marine Fisheries Service, Fishery Management Plan for Regulating Offshore Marine Aquaculture in the Gulf of Mexico (Jan. 2009), *available at* <http://www.gulfcouncil.org/Beta/GMFMCWeb/Aquaculture/Aquaculture%20FMP%20PEIS%20Final%202-24-09.pdf>.

<sup>34</sup> 16 USC § 1852.

<sup>35</sup> 16 USC § 1855(b); 50 CFR § 600.815(a)(5).

<sup>36</sup> 50 CFR § 600.815(a)(8).

designations in the Gulf according to NOAA’s EFH Habitat Mapper.<sup>37</sup> Of these, only six prohibit fishing.

Another challenge with the EFH provisions is related to implementation. Given the amount of habitat defined as EFH, there is little capacity within the regional NMFS team to actually undertake EFH consultations.<sup>38</sup> Further, the MSA does not require consulting agencies to adopt NMFS’ recommendations regarding proposed project impacts on EFH,<sup>39</sup> which may limit the adoption of mitigation and avoidance measures. Finally, there is no requirement for states to engage in EFH consultation.

At the bilateral level, Mexico and the United States have worked together for decades through the United States-Mexico Fisheries Cooperation Program. The Program does not have a formal legal basis, although United States participation is authorized by the Magnuson-Stevens Act.<sup>40</sup> Rather, it is a cooperative effort that has resulted in the creation of three Memoranda of Understanding between NMFS and SEMARNAT regarding the MEXUS-Gulf and MEXUS-Pacifico research programs and information exchange. NMFS and CONAPESCA organize meetings for relevant agencies to discuss issues related to conservation, management, marine mammals and endangered species, information sharing and cooperative research, and other matters. The meetings are typically held annually, although there have been periods when they were less frequent.<sup>41</sup>

## CHALLENGES AND OPPORTUNITIES: HARVESTED SPECIES HABITAT

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	Harvested species habitat protection would benefit from increased coordination between the agencies responsible for managing and permitting fishing in Mexico. SAGARPA (through CONAPESCA) has primary authority over fisheries and other harvested	The Interministerial Commission for the Sustainable Management of Seas and Coasts (CIMARES) requires different participating ministries to coordinate with one another. This includes both SAGARPA and SEMARNAT. In addition, the National Policy of Coasts and Seas

<sup>37</sup> NOAA Fisheries, Essential Fish Habitat Mapper, at [http://sharpfin.nmfs.noaa.gov/website/EFH\\_Mapper/map.aspx](http://sharpfin.nmfs.noaa.gov/website/EFH_Mapper/map.aspx).

<sup>38</sup> ELI, personal communication with NMFS, April 9, 2011.

<sup>39</sup> MSA, § 305(b)(4)(B); 16 U.S.C. 1855(b)(4)(B) (“In the case of a response that is inconsistent with the recommendations of the Secretary, the Federal agency shall explain its reasons for not following the recommendations.”)

<sup>40</sup> See 16 U.S.C. § 1822(a) (authorizing negotiation of international fishery agreements).

<sup>41</sup> For more information, see NOAA, Office of International Affairs, *International Agreements Concerning Living Marine Resources of Interest to NOAA Fisheries* (2010), at 118–19, available at [http://www.nmfs.noaa.gov/ia/docs/international\\_agreements\\_2010.pdf](http://www.nmfs.noaa.gov/ia/docs/international_agreements_2010.pdf).

	Challenge	Opportunity
	marine species, but a permit applicant must also obtain permission from SEMARNAT.	identified strengthening of interministerial coordination as one of its priorities.
2	SAGARPA (through CONAPESCA) does not fully utilize its restoration authority.	Some of SAGARPA's internal programs, such as its fisheries program, recognize the need to engage in restoration activities. Explore ways to ensure this authority is used to its fullest extent.
3	The General Law of Fisheries establishes a mechanism for creating fishing refuge areas. However, few to none have been created to date.	The National Policy for Seas and Coasts calls for alignment of the various institutions and authorities relevant to environmental conservation and fishing, including fishing refuge areas. Explore ways to ensure robust implementation and creation of new fishing refuge areas.
4	SEMARNAT and CONANP have authority to prohibit fishing in natural protected areas. However, some question whether they could utilize this authority more frequently and effectively.	SEMARNAT and SAGARPA have authority to limit fishing activities in natural protected areas where conservation and restoration actions are urgent. Explore how these authorities may be most effectively exercised and enforced.

## 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	EFH designations in the Gulf of Mexico cover the majority of coastal waters. It is unlikely that these broad designations achieve their stated objectives. NMFS has limited capacity to work with the Gulf of Mexico Fishery Management Council and comment on EFH designations, regulations, and implementation. Also, NMFS has limited capacity to engage in EFH consultations.	Increase NMFS resources directed to management of essential fish habitat and specifically target the identification, development, and protection of "habitat areas of particular concern."
2	Federal agencies are not required to follow NMFS' recommendations regarding impacts to EFH. State agencies are not required to consult with NMFS regarding impacts to EFH.	The MSA could be amended to require federal agencies to follow NMFS' recommendations, such as mitigation measures to reduce activities' impacts on EFH.  States could create EFH and consultation requirements for EFH in state waters, and could establish procedures to voluntarily consult with NMFS for activities that could affect EFH.

<b>3</b>	The protective measures within fishery management plans only apply to fishing activities, not other Gulf of Mexico activities such as oil and gas development, shipping, and recreation.	Build coordinated protection under the developing coastal and marine spatial planning process, and more broadly in conjunction with the National Ocean Policy.
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### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunity
<b>1</b>	Many fisheries resources are shared between the United States and Mexico, including finfish, cetaceans, and mollusks.	Work together to establish comprehensive measures to protect key habitats of commercial fish species from fishing and other impacts.
<b>2</b>	Commercial and recreational fishing activities can damage myriad habitat types. While the United States and Mexico both have extensive regulatory systems in place, impacts continue.	It may be beneficial to pursue market-based mechanisms to incentivize reduced impacts to habitat from both commercial and recreational fishing. For example, a large percentage of fish harvested in Mexico are exported to the United States. Therefore stimulants from the market, such as ecolabeling, could be useful. At this time, Marine Stewardship Council-certified fisheries exist in the Gulf of Mexico, although some are in assessment. <sup>42</sup>

## 4. Coral Reefs

Overall, Mexico and the United States largely manage coral reefs with the use of broad environmental laws that apply to coral reefs along with many other habitats. The United States legal framework does include a specific law that creates a grant-based program for protecting coral reef habitat, and an Executive Order creating the United States Coral Reef Task Force.

In Mexico there is no specific legal framework governing the conservation and restoration of coral. There are, however, public policies and the Species at Risk Conservation Program, within CONANP, which includes some types of corals as target species.<sup>43</sup> Protected natural areas also protect coral reefs. However, better protection of coral reef will likely require strengthening and codifying existing requirements.

<sup>42</sup> Among several other Western Central Atlantic fisheries, Southeast US North Atlantic big eye tuna and yellow tuna (located in the North Atlantic Ocean) and Sian Ka'an and Banco Chinchorro Biosphere Reserves spiny lobster (located in nearshore waters of the biosphere reserves off Quintana Roo, Mexico) are currently under assessment. See Marine Stewardship Council, at <http://www.msc.org/track-a-fishery>.

<sup>43</sup> See Programa de Conservacion de Especies en Riesgo, <http://procer.conanp.gob.mx/>.

The United States has specific legislation targeting corals, including the Coral Reef Conservation Act,<sup>44</sup> which focuses on preservation, restoration, and sustainable use of coral reef ecosystems, and development of scientific knowledge. It is a grant-based program that provides matching funds for state and local governments and for NGOs. The Coral Reef Executive Order 13,089 is intended to “preserve and protect the biodiversity, health, heritage, and social and economic value of United States coral reef ecosystems and the marine environment,” and provides additional legal support for protection and restoration of coral reefs.<sup>45</sup> Other laws that provide protection to deep sea corals include the Magnuson-Stevens Fishery Conservation and Management Act (protections from fishing activities) and the Outer Continental Shelf Lands Act (protections from outer continental shelf development activities). Perhaps the strongest law protecting corals in the Gulf of Mexico is the Endangered Species Act, given that staghorn and elkorn corals are listed as threatened species.

In addition to the laws directed at protecting and restoring coral habitats, many environmental laws and policies ultimately affect the health and well-being of coral reefs, such as the Clean Water Act, National Environmental Policy Act, and many more.

When considering the potential for bilateral conservation and restoration, it is worth noting that the United States Coral Reef Conservation Act provides a mechanism for international funding and collaboration.<sup>46</sup> Further, both the United States and Mexico are listed as active members of the International Coral Reef Initiative (ICRI), a network of countries focused on the conservation and restoration of coral reefs.<sup>47</sup> The ICRI is an existing international mechanism that could provide a platform for the United States and Mexico to collaborate on coral reef conservation and restoration. The United States Coral Reef Executive Order calls for the United States to expand its collaboration with ICRI partners, “especially foreign governments,” to implement the ICRI.

The Global Coral Reef Monitoring Network is another international network that the United States Coral Reef Executive Order recognizes as a target for expanded collaboration.<sup>48</sup> This network includes 17 regional networks worldwide. From the perspective of Gulf of Mexico bilateral collaboration, the Gulf is divided into three separate networks: (1) the Mesoamerican that includes Mexico’s waters; (2) the United States Caribbean that includes all United States

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<sup>44</sup> 16 U.S.C. §§ 6401 *et seq.*

<sup>45</sup> Exec. Order 13089, Coral Reef Protection, June 11, 1998.

<sup>46</sup> 16 U.S.C. §§ 6403, 6406. NOAA may also provide emergency grant assistance to state, local, and territorial governments, and partner with an NGO to create a coral reef conservation fund for public-private partnerships. *Id.* §§ 6404–6405.

<sup>47</sup> International Coral Reef Initiative, <http://www.icriforum.org/about-icri>.

<sup>48</sup> Exec. Order 13089, *supra* note 45.

Gulf of Mexico reefs; and (3) the Northern Caribbean and Atlantic that includes the reefs of the island nations of the Caribbean.<sup>49</sup>

## CHALLENGES AND OPPORTUNITIES: CORAL REEFS

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	Mexico does not have a specific law that protects coral reefs. The primary mechanism used to protect such ecosystems is the authority to establish marine protected areas.	Develop specific instruments (e.g., a law, policy, or official standard) that specifically protect coral reef ecosystems (e.g., from fishing, tourism, pollution, harvest, sand cover, and other activities).
2	Water quality standards are the same in all urban areas, even for coastal populations located near marine protected areas.	Establish wastewater standards for urban runoff near coral reefs, and establish new standards for specific polluters/sectors.

### 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	There are few coral reef areas that are fully protected as no-take marine reserves in the United States. <sup>50</sup>	Expand marine reserves to include more coral reefs in the Gulf of Mexico.
2	United States coral reef protection authority is rooted in the Coral Reef Conservation Act, and secondarily the Marine Protection, Research, and Sanctuaries Act. Beyond that, coral reef conservation depends upon statutory provisions that focus on other resources, goals, and/or activities.	Recognizing the limited number of no-take reserves and the impacts to reefs that come from areas outside of protected zones, it is important to move towards more ecosystem-based measures that address a broader spectrum of environmental parameters that affect coral reefs.

### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunities
1	Coral reefs in the Gulf of Mexico face severe	Sharing management information, scientific

<sup>49</sup> See Global Coral Reef Monitoring Network, Where We Work, <http://www.gcrmn.org/nodes.aspx>.

<sup>50</sup> "Coral reef ecosystems and the tourism interests they support continue to suffer in the United States from fragmented laws and policies that privilege fishing interests at the expense of more extensive no-take marine reserves, despite the demonstrated economic value of coral reef tourism and despite the potential for MPAs and marine reserves to benefit both tourism and fishing interests." Robin Kundis Craig, *Coral Reefs, Fishing, and Tourism: Tensions in U.S. Ocean Law and Policy Reform*, 27 STANFORD ENVTL L. J. 3, 27 (2008).



	Challenge	Joint Opportunities
	threats and have already suffered significant adverse impacts, and therefore require additional protection. <sup>51</sup>	data, and lessons learned will benefit both countries' efforts to preserve coral ecosystems.
2	There is a need for continued and increased coordination and collaboration on coral reef protection and restoration.	Potentially the most efficient path forward is to build from the existing international structures. The ICRI and the Global Coral Reef Monitoring Network are already in place, and there is United States policy calling for increased collaboration using existing international mechanisms. To improve collaboration even further, the Monitoring Network could consider reformulating the regional networks to create a specific network that focuses on coral reefs in the Gulf of Mexico.
3	Lionfish has spread rapidly in the Gulf of Mexico over the past decade.	(See discussion of lionfish coordination in the <i>Water Quality</i> section)

## 5. Beaches and Dunes

Beaches and dunes face a variety of threats including development pressure, sea level rise, and pollution. Both Mexico and the United States have limited legal mechanisms dedicated to the protection and restoration of these habitats. Both countries have place-based protection that includes beach and dune habitat. Both countries have some regulation of beach areas as public resources. Mexico has a Clean Beaches Program that promotes cleaning and maintaining beaches. The U.S. has law to provide grants for protection of coastal barrier resources.

In Mexico, roughly one-third of the natural protected areas include coastal dunes. There is also a federal permitting system for any activities occurring in the federal maritime zone (the ZOFEMAT). The National Assets Law defines the ZOFEMAT as the area of passable land extending up to 20 meters above the high tide mark, adjacent to the seashore, and the first 100 meters of river bank upstream of an estuary or lagoon.<sup>52</sup> The Directorate General of Environmental Impact and Federal Maritime Zone is responsible for overseeing inspection and monitoring of compliance with relevant laws in this zone, as well as other areas.

<sup>51</sup> UN Environment Programme, Caribbean Environment Programme, *Sedimentation and Erosion*, <http://www.cep.unep.org/publications-and-resources/marine-and-coastal-issues-links/sedimentation-and-erosion>.

<sup>52</sup> National Assets Law (Ley General de Bienes Nacionales), Diario Oficial 20 May 2004 (last amended 31 Aug. 2007), art. 119, available at <http://www.ordenjuridico.gob.mx/Federal/Combo/L-141.pdf>; see also Marine Conservation Agreements, A Practitioner's Toolkit, Country and Regional Analyses: Mexico, [http://www.mcatoolkit.org/Country\\_Analyses/Mexico.html](http://www.mcatoolkit.org/Country_Analyses/Mexico.html).

Aside from the ZOFEMAT, beach management of water channels generally falls under the authority of CONAGUA. Among other things, CONAGUA has established a Clean Beaches Program that attempts to promote cleaning and maintenance of beaches and associated features. To evaluate and exchange experience, members of the Clean Beaches Committees establish their respective work programs and meet at least four times a year to coordinate efforts to develop and implement program goals. They also meet once a year at national meetings, to learn and share successful experiences with other Clean Beaches Committees.

In the United States, the coastal zone is largely under authority of the states—the Gulf states control the submerged lands out to three (or nine) nautical miles from shore.<sup>53</sup> At the federal level, beach and dune conservation is largely accomplished through four tools: the Coastal Zone Management Act (CZMA), the Coastal Barrier Resources Act, the Rivers and Harbors Act, and the Federal Emergency Management Act.

The CZMA provides support for approved state coastal programs.<sup>54</sup> Two requirements of the CZMA are particularly relevant for beaches and dunes: (1) management programs must include a “definition of the term ‘beach’ and a planning process for the protection of, and access to, public beaches and other public coastal areas of environmental, recreational, historical, esthetic, ecological, or cultural value;”<sup>55</sup> and (2) management programs must include a “planning process for assessing the effects of, and studying and evaluating ways to control, or lessen the impact of, shoreline erosion, and to restore areas adversely affected by such erosion.”<sup>56</sup>

The Coastal Barrier Resources Act provides substantial federal financial support for projects that seek to develop coastal barrier resources. The Rivers and Harbors Act facilitates and manages Army Corps shore protection and beach nourishment research and projects. The Federal Emergency Management Act prohibits destruction of protective foredunes.<sup>57</sup> Some beaches and dunes also may be more broadly protected as part of a national park or similar conservation area.

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<sup>53</sup> Alabama, Louisiana, and Mississippi have a three-mile boundary. Texas and Gulf Coast of Florida have a nine-mile boundary.

<sup>54</sup> One of the policies of the Coastal Zone Management Act is “the protection of natural resources, including ... estuaries, beaches, dunes, barrier islands ...” 16 U.S.C. § 1452.

<sup>55</sup> *Id.* § 1455(d)(2)(G).

<sup>56</sup> *Id.* § 1455(d)(2)(I).

<sup>57</sup> “The Federal Emergency Management Agency (FEMA) classifies all foredunes as “coastal high-hazard areas,” or “high-velocity zones” (V-zones). ... FEMA requires more rigorous construction standards within V-zones and also prohibits “any human-caused alterations of sand dunes which could increase potential flood damage.”” TEXAS GENERAL LAND OFFICE, DUNE PROTECTION AND IMPROVEMENT MANUAL FOR THE TEXAS GULF COAST 23 (2005).

Beach and dune conservation may also be promoted through relevant local and state laws and policies—such as generally applicable development constraints and zoning measures. Many Gulf states have enacted supplemental protective measures to limit the impacts of certain activities on beach resources.

## CHALLENGES AND OPPORTUNITIES: BEACHES AND DUNES

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	Mexico’s beaches and dunes face several threats, such as increased erosion caused by development on dunes and associated vegetation removal. Although there are legal tools to regulate this ecosystem, including granting concessions in the ZOFEMAT and the Clean Beaches Program, Mexico does not have legislation specifically protecting beaches and dunes.	Consider several tools and approaches for improving beach and dune protections: <ul style="list-style-type: none"> <li>• Make the coastal zone, including all beaches and coastal dunes, a territorial unit for planning and management.</li> <li>• Consider including a chapter on coastal vulnerability in the Federal Special Program for Climate Change (PECC).<sup>58</sup></li> <li>• Develop further land use planning rules for protecting dunes and beaches under climate change scenarios.</li> <li>• Consider increased partnerships with the tourism sector to help them understand the importance of beach conservation to their industry.</li> </ul>
2	In addition to reducing vegetation on the beach, dredging for re-filling beaches does significant damage to near-shore benthic communities. <sup>59</sup> However, there are no specific environmental provisions on dredging; rather, each action is decided on a case-by-case basis during the environmental impacts evaluation.	Develop dredging policies and systems to manage project impacts on coastal resources in a systematic manner.

<sup>58</sup> Comision Insecretarial de Cambio Climatico, Programa Especial de Cambio Climatico 2009–2012, *available at* [http://www.semarnat.gob.mx/temas/cambioclimatico/Documents/pecc/090828\\_PECC.Capitulos\\_DOF.pdf](http://www.semarnat.gob.mx/temas/cambioclimatico/Documents/pecc/090828_PECC.Capitulos_DOF.pdf).

<sup>59</sup> *See e.g.*, National Research Council, Committee on Beach Nourishment and Protection, *Chapter 5: Environmental Issues Associated with Beach Nourishment* (1995), *available at* [http://www.nap.edu/openbook.php?record\\_id=4984&page=107](http://www.nap.edu/openbook.php?record_id=4984&page=107).

## 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	Loss of beach and dune habitat due to development, subsidence, and sea level rise. A specific challenge is that state and local land use law does not facilitate effective planning and response to sea level rise. <sup>60</sup>	Beaches are often managed at the local government level, but can be affected by state and federal policies. Develop construction siting policies that allow shoreline migration. <sup>61</sup> “There are a number of potential solutions for addressing sea level rise: setbacks, rolling easements, armoring prohibitions, financial incentives, and elevation and new construction techniques in vulnerable areas.” <sup>62</sup>
4	As in Mexico, in the United States dredging for beach renourishment can significantly impact onshore and near-shore communities. Beach renourishment efforts may expand as a coastal adaptation measure in response to sea level rise and other impacts of climate change.	Continue to recognize the potential effects of existing and future dredging practices and plan for their impacts on onshore and near-shore habitats.

## 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunity
1	Habitat loss due to the impacts of development and encroachment, combined with coastal erosion caused by storm surge, subsidence, and sea level rise. In addition to the direct impacts, this will reduce coastal adaptive capacity to adapt to changing conditions.	Share information gathered and lessons learned regarding beach and dune protection in the face of development and sea level rise. This will enable improved efforts to tackle habitat and species degradation. These efforts may be complicated by asymmetries in coastal definitions and authorities.

<sup>60</sup> “The Atlantic and Gulf Coast shorelines are especially vulnerable to long-term sea level rise, as well as any increase in the frequency of storm surges or hurricanes. ... Texas, for example, loses approximately five to ten feet of beach per year, shifting the high water line landward approximately five to ten feet per year.” Megan Higgins, *Legal and Policy Impacts of Sea Level Rise to Beaches and Coastal Property* 1 SEA GRANT L. & POL’Y J. 43, 49 (2008). While Texas law has been the gold standard for rolling easements, the law has been challenged under Texas law. The Texas Supreme Court is still in the process of deciding the case.

<sup>61</sup> For an analysis of Florida’s coastal zone land use laws and policies, see, Thomas K. Ruppert, *Eroding Long-Term Prospects for Florida’s Beaches: Florida’s Coastal Construction Control Line Program* SEA GRANT L. & POL’Y J. 65, 97 (2008) (stating that “[c]onstruction sited sufficiently landward of the active beach to allow for natural shoreline migration effectively minimizes coastal hazards to development, protects natural ecosystems, and reduces the multi-million-dollar yearly cost of beach nourishment and armoring. In many instances, past developers built too close to the beach, resulting in high losses from storms and exorbitant costs for rebuilding, armoring, and nourishing of beaches.”

<sup>62</sup> *Id.* at 64.

## **6. Cross-cutting issue: Offshore Oil and Gas Development and Accident Response**

Offshore oil and gas development in the Gulf of Mexico is a key economic activity that has wide-ranging potential impacts and effects on ocean resources. Both Mexico and the United States have fairly extensive programs for oil and gas leasing, development, and accident response. Further, as demonstrated by the recent BP *Deepwater Horizon* oil spill, it appears that government and industry actors are poorly equipped to address large-scale spills in deep water. Therefore this section assesses the existing legal frameworks for oil and gas development, as well as accident response related to spills and other injuries to the marine environment.

In Mexico, several mechanisms are available to assist with habitat protection related to oil and gas development. Official Mexican Standard NOM-149-SEMARNAT-2006 sets standards for oil and gas activities occurring further than 12 miles from shore. It states that during the drilling or well maintenance, no commercial fishing activities are allowed. It also states that the project is prohibited from negatively impacting species in the project area.

Also of importance to protecting offshore areas is a suite of general ecosystem conservation mechanisms relevant to offshore ecosystems. These measures include water quality laws, such as the National Water Law, prohibiting discharges that may harm natural resources, water quality, or the environment. However, implementation suffers from inadequate inspection and enforcement. These measures also include a strong cross-cutting tool, the environmental impact assessment (EIA) process mandated by the General Law of Ecological Balance and Environmental Protection (and discussed in detail below in the *Environmental Impact Assessment* section). If the work or activity in question affects or adds to the possibility of one or more species being declared as threatened or endangered species, SEMARNAT must deny authorization.

In Mexico, for oil spills the primary plan is the National Contingency Plan to Combat and Control Spills of Hydrocarbons and Other Harmful Substances at Sea, published in the Official Gazette on December 8, 1981. The Secretariat of the Navy coordinates and executes the Plan, assisted by federal agencies, parastatals, and state and municipal governments, whose main objectives are to: (i) control and combat pollution incidents in the marine environment, and (ii) coordinate and assist in the implementation of national action plans and, where appropriate, international contingency actions for pollution at sea.<sup>63</sup> Regulations related to environmental accident response are contained in the General Health Act, the Federal Penal Code, the General Law for

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<sup>63</sup> See SEMAR, [http://www.semar.gob.mx/sitio\\_2/index.php](http://www.semar.gob.mx/sitio_2/index.php).

the Prevention and Integral Management of Waste, and the Regulation to Prevent and Control Marine Pollution by Dumping of Wastes and Other Matter.

An example of implementing this National Contingency Plan is the action taken as a result of the BP *Deepwater Horizon* oil spill. In responding to the spill, SEMARNAT created an Environmental Action Plan to implement the National Contingency Plan. It targets the protection and care of coastal ecosystems such as beaches, coral reefs, wetlands, estuaries, and coastal lagoons, which are vital habitats for many marine species. The Plan also calls for monitoring of the water column, as it contains marine species key to the overall functioning of marine ecosystems that benefit coastal communities.<sup>64</sup>

There have been many oil spills in the Mexican portion of the Gulf of Mexico. While the National Petroleum Company (Pemex) takes action to address spill impacts, regional governments and surrounding communities often do not have the information necessary to act. A potential path forward is to establish long-term monitoring systems and restore ecosystems affected by oil spills.

In the United States, as one moves from shore to the limit of EEZ jurisdiction, habitat conservation and restoration efforts decline overall. Moreover, “U.S. laws applicable to the [Outer Continental Shelf (OCS)] and EEZ reflect a resource-by-resource, sectoral approach.”<sup>65</sup> Although there are numerous relevant statutes, laws governing the OCS “have failed to keep pace with the range of activities ongoing or proposed and in turn both conservation efforts and development opportunities have been frustrated. Both gaps and overlaps in the law present obstacles to effective management.”<sup>66</sup>

Of particular importance to oil and gas development is the Outer Continental Shelf Lands Act (OCSLA). OCSLA creates a regulatory framework for the leasing of the OCS for offshore oil and gas extraction. The statute contains resource protection and harm prevention measures that may not currently be used to their full extent. According to OCSLA, development and production plans (DPPs)<sup>67</sup> are required for all places in the United States except the Gulf of Mexico.

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<sup>64</sup> SEMARNAT, Acciones del Gobierno Federal, [http://app2.semarnat.gob.mx/derrame/index.php?option=com\\_content&view=article&id=2005:acciones-del-gobierno-federal-&catid=111:plan-de-accion-&Itemid=184](http://app2.semarnat.gob.mx/derrame/index.php?option=com_content&view=article&id=2005:acciones-del-gobierno-federal-&catid=111:plan-de-accion-&Itemid=184).

<sup>65</sup> Rachael E. Salcido, *Air and Maritime Law: Law Applicable on the Continental Shelf and in the Exclusive Economic Zone*, 58 AM. J. COMP. L. 407, 412 (2010) (citing Robin Kundis Craig, *Sustaining the Unknown Seas: Changes in U.S. Ocean Policy and Regulation Since Rio '92*, 32 ENVTL. L. REP. 10190, 10192 (2002), and Donna R. Christie, *Living Marine Resources Management: A Proposal for Integration of United States Management Regimes*, 34 ENVTL. L. 107, 110-11 (2004)).

<sup>66</sup> *Id.* at 434.

<sup>67</sup> The development production plan is developed by OCS lessee and must include environmental and safety safeguards. 43 U.S.C. § 1351.

Prior to 2010, the Department of Interior’s (DOI’s) Minerals Management Service implemented OCSLA. As a result of concerns and criticisms brought to the surface following the BP *Deepwater Horizon* spill, the implementing agency within DOI changed to the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), which reflects the current reorganization efforts to separate leasing functions from management functions to ensure they are carried out objectively and effectively.

As in Mexico, in addition to the sector-specific provisions, a network of United States laws addresses marine water quality, including the Clean Water Act, Ocean Dumping Act, and Marine Debris Research, Prevention, and Reduction Act.

In the United States, accident response laws relate to accidental discharges of oil and hazardous waste, as well as to injury to natural resources in protected areas, including national marine sanctuaries and national parks as shown in Table 6.

**Table 6. Natural Resources Damages Statutory Authority<sup>68</sup>**

	<b>CERCLA</b>	<b>OPA</b>	<b>CWA</b>	<b>PSRPA</b>	<b>NMSA</b>
<b>Cause of Injury</b>	Hazardous substances	Oil	Oil and hazardous substances	<i>Any</i> means of injury	<i>Any</i> means of injury
<b>Location of Event</b>	Any place where hazardous substances are released or have come to be located	Navigable waters (United States waters), adjoining shorelines, and Exclusive Economic Zone	Navigable waters of the United States, adjoining shoreline, contiguous zones	Within a park unit	Within a marine sanctuary
<b>Trustees</b>	Federal agencies, states, and Indian tribes	Federal agencies, states, Indian tribes, and foreign governments	Federal agencies, states, and Indian tribes	Secretary of the Interior	Secretary of Commerce

Key: CERCLA–Comprehensive Environmental Response, Compensation, and Liability Act; OPA–Oil Pollution Action of 1990; CWA–Clean Water Act; PSRPA–Park System Resources Protection Act; NMSA–National Marine Sanctuaries Act.

The broadest components of this framework are those related to discharges of oil and hazardous waste into marine and freshwater environments (i.e., CERCLA, OPA, and CWA), which apply in all United States waters. For other types of injuries, including physical injuries

<sup>68</sup> Adapted from VALERIE ANN LEE, PJ BRIGDEN, & ENVIRONMENT INTERNATIONAL LTD, THE NATURAL RESOURCE DAMAGE ASSESSMENT DESKBOOK: A LEGAL AND TECHNICAL ANALYSIS §3.2. (2002).

caused by anchors or ship groundings, liability schemes only exist in protected areas—specifically national parks and national marine sanctuaries (i.e. PSRPA and NMSA).

The BP *Deepwater Horizon* oil disaster made restoration of the Gulf of Mexico a national priority for the United States. A natural resource damage assessment (NRDA) is underway, and BP has provided \$1 billion for early restoration efforts to begin the restoration process. This is only part of the total damages expected to be paid by responsible parties in this case.

Under the Oil Pollution Act, foreign governments can become trustees in the NRDA process. This could enable Mexico and the United States to work together on transboundary restoration actions related to a United States spill that affects Mexican resources.

#### **BP *Deepwater Horizon* Oil Spill: Opportunity in the Wake of Injury?**

In April 2010, the Gulf of Mexico suffered the largest unintentional marine oil release in United States history. The BP *Deepwater Horizon* disaster affected resources around the Gulf, and it will take decades to fully understand the impacts of the oil itself and response and recovery efforts.

There is substantial litigation proceeding in United States courts related to the Deepwater Horizon spill and its impacts on the environment, communities, and economies in the Gulf of Mexico. The United States federal government and the states of Alabama and Louisiana have all filed suit against the parties responsible for the Deepwater Horizon oil spill, including BP. Their claims have been incorporated into multi-district litigation alongside hundreds of other claims related to the spill.<sup>69</sup> In addition to domestic claimants, in September 2010, the Mexican states of Veracruz, Tamaulipas and Quintana Roo filed separate claims against the responsible parties in the United States District Court for the Western District of Texas. The claims targeted financial damages, focusing on the pending injuries that will be caused when the oil reaches Mexican waters, including the costs of preparing for the arrival of the released oil.<sup>70</sup> Like the domestic parties' cases, the three suits were moved into the Deepwater Horizon multidistrict litigation (MDL-2179) in November, 2010.<sup>71</sup>

<sup>69</sup> United States of America v. BP Exploration & Production, Inc. et al, No. 2:10-cv-04536, E.D. La. (filed Dec. 15, 2010), transferred to MDL-2179; United States of America v. Transocean Holdings LLC et al, No. 2:10-cv-04397, E.D. La. (filed Nov. 23, 2010), transferred to MDL-2179.

<sup>70</sup> See Guillermo Contreras, *3 Mexican states sue over gulf spill*, San Antonio Express-News, Sept. 29, 2010, available at <http://www.mysanantonio.com/news/environment/article/3-Mexican-states-sue-over-gulf-spill-678548.php>; Eric Andreas, *The BP Spill—Geologic Backdrop and Litigation Roundup*, 22 *Envtl. Litigator*, \*4 (2011). See also State of Veracruz v. BP, No. 5:10-cv-00761, W.D. Tex. (Sept. 15, 2010); State of Tamaulipas v. BP, No. 5:10-cv-00762, W.D. Tex. (Sept. 15, 2010); State of Quintana Roo v. BP, No. 5:10-cv-00763, W.D. Tex. (Sept. 15, 2010).

<sup>71</sup> The multidistrict litigation, In re: Oil Spill by the Oil Rig "Deepwater Horizon" in the Gulf of Mexico, on April 2010, No. MDL-2179, is before Judge Carl J. Barbier in the Eastern District of Louisiana. See U.S. Judicial Panel on Multidistrict Litigation, Distribution of Pending MDL Dockets (as of May 2, 2011), available at [http://www.jpml.uscourts.gov/Pending\\_MD\\_Litigation\\_By\\_District-May-2011.pdf](http://www.jpml.uscourts.gov/Pending_MD_Litigation_By_District-May-2011.pdf); U.S. District Court of the Eastern District of Louisiana, MDL-2179 Oil Spill by the Oil Rig "Deepwater Horizon," Introduction, <http://www.laed.uscourts.gov/OilSpill/Intro.htm>). The centralized case dockets are No. 2:10-cv-04239, No. 2:10-cv-04240, and No. 2:10-cv-04241, respectively. See Environmental Law Institute, *Deepwater Horizon Oil Spill Litigation*



Yet this unprecedented ecological catastrophe may also offer opportunities. First, the release drew national and international attention to the Gulf of Mexico, from the current state of the ecosystem to the spectrum of ongoing activities in the region. Second, significant funding is being directed towards Gulf recovery and restoration. The Habitat Conservation and Restoration Team should leverage both of these resources—public momentum and available funds—to ensure coastal habitats are a focal point of ongoing efforts.

In terms of ensuring adequate recovery, it is critical that the public trustees' natural resource damage assessment (NRDA) and restoration processes gauge the full extent of habitat injury and obtain sufficient damages to enable long-term restoration projects. BP recently provided \$1 billion for early restoration projects, which has been divided among the Gulf states and federal trustees (\$100 million per state and federal trustee, with \$300 million remaining for jointly decided uses). Habitat experts must be consulted at all stages to ensure resources are used effectively and efficiently, and adaptability must be built into restoration projects to account for impacts that will only be seen over time.

As for financing the recovery, in addition to the NRDA process the United States federal government is seeking to levy penalties against the responsible parties under the Clean Water Act. Depending on whether the court finds that the parties were negligent or whether there was gross negligence or willful misconduct, per-barrel civil penalties could total billions of dollars. How these funds are used, however, is up to the U.S. Congress to decide. The National Oil Spill Commission recommended that 80% of the fines levied under the Clean Water Act should be devoted to Gulf restoration, and legislation has been introduced to that effect. At the time of writing, neither the total penalty amount nor its use had been determined.

For recovery generally, the President has tasked the Gulf Coast Ecosystem Restoration Task Force with the responsibility of coordinating the numerous restoration efforts ongoing in the Gulf. This may provide a venue for integrating the disparate state and federal Gulf restoration efforts. However, it is important to note that, at present, the Task Force is not funded. It is possible that Clean Water Act penalty monies will be used to support its activities.

Finally, the public momentum and attention generated by the Deepwater Horizon disaster could serve as a platform to educate the public about Gulf of Mexico habitats and the myriad challenges and threats they face. Citizen engagement is critical to public support for and buy-in to long-term restoration and conservation efforts, programs, and projects.

There are some existing mechanisms that form a basis for Mexico and the United States to work together on oil and gas issues. Broadly speaking, the nations have negotiated maritime boundaries in large part to ensure fair division of the oil and gas resources in the Gulf of Mexico. Existing bilateral and domestic moratoria have limited production near the boundaries. In recent years there have been efforts to establish a memorandum of understanding (MOU) between the two countries (specifically BOEMRE and Mexico’s Ministry of Energy (SENER)), to facilitate scientific and technical information-sharing relevant to oil and gas development, including but not limited to subjects such as risk perception, personnel safety, and environmental protection. Knowledge transfers, including research related to health, safety, and environmental protection in the oil and gas industry, already occurs in part through the joint membership of Mexico and the United States in the International Committee on Regulatory Research and Development (ICRARD), which focuses on knowledge transfer, including research related to health, safety, and environmental protection in the oil and gas industry.<sup>72</sup>

Finally, Mexico and the United States have a bilateral agreement, *Mexico and the United States of America Agreement of Co-Operation Regarding Pollution of the Marine Environment by Discharge of Hydrocarbons and other Hazardous Substances*, which enables joint action to address oil spills through contingency planning and joint clean-up operations.<sup>73</sup> However, the existing treaty does not address joint natural resource restoration.

**CHALLENGES AND OPPORTUNITIES: OIL AND GAS DEVELOPMENT**

**1) Challenges and Opportunities in Mexico**

	Challenge	Opportunity
1	Effectively responding to oil spills in the marine environment that have the potential to adversely coastal and marine habitat.	Explore ways to improve institutional responsibility for responding to oil pollution events. One possibility is to establish new and effective tribunals to manage liability questions in catastrophic events. Establish funding mechanism for restoration purposes.

<sup>72</sup> BOEMRE, *BOEMRE Cooperation with Mexico*, <http://www.boemre.gov/International/Mexico.htm>.

<sup>73</sup> Mexico and the United States of America Agreement of Co-Operation Regarding Pollution of the Marine Environment by Discharge of Hydrocarbons and other Hazardous Substances (with Annexes) 32 UST 5899; TIAS 10021; 1241 UNTS 225 (1981), available at [http://untreaty.un.org/unts/60001\\_120000/8/4/00014160.pdf](http://untreaty.un.org/unts/60001_120000/8/4/00014160.pdf).

## 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	Generally, oil and gas producers are required to submit a development and production plan before moving forward with extraction activities. However, site-specific plans are not required in the Gulf of Mexico.	Conduct further research on whether site-specific development and production plans would be beneficial. Plans must demonstrate that the activities will be conducted in a manner that does not “cause undue or serious harm or damage to the human, marine, or coastal environment.” Consider whether this could support specific habitat protection measures that are not currently realized in the Gulf. <sup>74</sup>
2	Prior to the BP <i>Deepwater Horizon</i> oil spill, BOEMRE’s predecessor Minerals Management Service allowed NEPA categorical exclusions for exploration and development plans. This meant that oil and gas exploration and development plans in the Gulf of Mexico did not require an EA or EIS (cross-listed with <i>Environmental Impact Assessment</i> section). <sup>75</sup>	BOEMRE is reviewing its categorical exclusion policy now, creating an opportunity to remove or severely curtail categorical exclusions for oil and gas operations in the Gulf of Mexico (thereby requiring at least environmental assessments in these cases).
3	The BP <i>Deepwater Horizon</i> oil spill has shed light on many challenges related to spills, including the need for effective and up-to-date oil spill response plans and the need to better understand vulnerable resources before the spill occurs.	Use the existing legal framework to improve planning approaches and to conduct necessary research, including: <ul style="list-style-type: none"> <li>• National Ocean Policy strategic action plans related to protection and restoration; and</li> <li>• CMSP development, including accompanying ecosystem assessments</li> </ul>

<sup>74</sup> 30 CFR § 150.202(e).

<sup>75</sup> Bureau of Energy Management, Regulation, and Enforcement, *National Environmental Policy Act (NEPA) – Categorical Exclusion Reviews*, at <http://www.boemre.gov/eppd/compliance/nepa/policy/ce/index.htm>.

### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunity
1	As oil and gas exploration and development continues to expand into new areas, technology transfer and information sharing becomes increasingly important for ensuring the protection of ocean and coastal habitats.	Build on existing international and bilateral efforts to expand knowledge transfer and potentially determine mitigation, conservation, and restoration priorities related to oil and gas development for both nations, including ICRARD and the efforts of the North American Commission for Environmental Cooperation. <sup>76</sup>
2	Both countries need to be able to respond rapidly and effectively in the event of an oil spill or other hazardous substance spill that may affect transboundary habitat.	Continue improving implementation of relevant protocols under the Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (Cartagena Convention) and the 1980 Agreement of Cooperation between the USA and Mexico Regarding Pollution of the Marine Environment by Discharged of Hydrocarbons and Other Hazardous Substances (the most recent contingency plan [MEXUS Plan] developed pursuant to this agreement was issued in 2000). <sup>77</sup>
3	There is no transboundary environmental impact assessment agreement in place between the two countries.	Develop a transboundary environmental impact assessment approach (see <i>Environmental Impact Assessment</i> section for additional discussion and opportunities).
4	While the United States OPA allows foreign trustees, the existing agreement between Mexico and the United States regarding oil and hazardous substance spills does not address joint natural resource restoration.	Establish bilateral mechanisms to engage in joint restoration of shared natural resources in the event of an oil or hazardous substance spill.

### 7. Cross-cutting issue: Protected Species and Protected Places

Both the United States and Mexico have legal structures and institutions for protecting vulnerable species and important or unique areas. In both countries there are mechanisms for designating critical habitat and special protections afforded to certain species, such as marine

<sup>76</sup> But see John H. Knox, *The North American Commission for Environmental Cooperation and Transboundary Pollution*, 34 ENVTL L REP 10142 (2004) (internal citations removed).

<sup>77</sup> MEXUS Plan, available at <http://www.epa.gov/region6/6sf/pdffiles/mexusplan.pdf>.

mammals. Both countries also have authorities for establishing marine protected areas and protected area systems.

In terms of protected species, endangered species in Mexico are managed exclusively by the federal government (through SEMARNAT). States may propose additional modifications to the list of protected species, but SEMARNAT makes the final decision. Overall, there are very few marine species in the Gulf of Mexico that are protected in a comprehensive way. The only marine species that are broadly protected from most types of harm are marine mammals and marine turtles. For all other species, targeted and comprehensive protection comes only when a species is threatened with extinction or is classified under a special protection. Mexico is still working to implement the legal framework for the migratory bird protections included in international agreements.

As for protected places, the General Law for Ecological Equilibrium and Environmental Protection establishes the framework for creating and managing protected natural areas. Such areas are established by SEMARNAT, which has one year to develop a management program, and overseen by CONANP.<sup>78</sup> There are thirty-three natural protected areas in the Gulf of Mexico, of which 17 have management programs currently in place to implement conservation and restoration efforts. In 1998, the National Commission for the Knowledge and Use of Biodiversity (CONABIO) organized workshops to identify priority marine regions, 27 of which are located in the Gulf of Mexico.<sup>79</sup>

In the United States, protected species laws such as the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA) provide tools to designate critical habitat and essential habitat, respectively. The Migratory Bird Species Act authorizes acquisition or rental of lands necessary for migratory bird conservation. The Marine Turtle Conservation Act provides the Fish and Wildlife Service with authority and funding to support marine turtle protection projects in foreign countries.

There are pros and cons to a species-based approach to protecting marine habitat. On the one hand, species-based protection is not targeted at addressing the broader ecosystem and protecting the services upon which people depend. On the other hand, species-based protection laws have strong mechanisms to protect habitat and strong agency coordination

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<sup>78</sup> LGEEPA, *supra* note 11, arts. 45, 46, 66; National Commission of Protected Natural Areas, [http://www.conanp.gob.mx/quienes\\_somos](http://www.conanp.gob.mx/quienes_somos).

<sup>79</sup> L. Arriaga Cabrera, E. Vázquez Domínguez, J. González Cano, R. Jiménez Rosenberg, E. Muñoz López, & V. Aguilar Sierra (coord.), *Regiones marinas prioritarias de México* (CONABIO 1998).

components, as well as citizen suit provisions in some cases. These species-based protection laws can enable a more comprehensive ecosystem-based management approach.<sup>80</sup>

In terms of protected places, there are a variety of non-species based laws that enable conservation or restoration of different areas. Habitat conservation laws such as the National Marine Sanctuaries Act, Antiquities Act, National Wildlife Refuge System Administration Act, and National Park System Organic Act offer opportunities for place-based habitat protection and management. Habitat acquisition is enabled by laws such as the Migratory Bird Conservation Act and Land and Water Conservation Fund Act.

The advantage of place-based approaches is that all resources within the area can be protected. Further, place-based protection can support other ecosystem services, including nutrient cycling and water quality. Success with these laws depends on effective implementation of conservation measures. Limitations include the following: (1) only a relatively small percentage of the total Gulf of Mexico coastal and ocean habitat is protected under these laws; (2) it is difficult to expand designations under some laws (e.g., there are restrictions on designations under NMSA); and (3) designations do not mean permanent or absolute protection (e.g., an oil spill in the Gulf of Mexico will harm refuges, sanctuaries, and other protected places just as it will non-designated sites).

The United States and Mexico have cooperated on joint conservation efforts in a variety of ways.<sup>81</sup> United States and Mexican agencies have a joint program: Wildlife Without Borders, which has a goal of preserving shared natural heritage.<sup>82</sup> Some marine species are the focus of joint efforts, including the West Indian manatee and seven species of sea turtle.<sup>83</sup> This program could be expanded to include additional marine species, or duplicated to develop a similar program that targets the marine environment.

CONANP and its predecessors have worked in partnership with the National Park Service in the United States in a variety of ways, including the development of a “Sister Park” program that links adjacent United States and Mexico parks.<sup>84</sup> While the United States Padre Island National

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<sup>80</sup> See, e.g., Janis Searles Jones & Steve Ganey, *Building the Legal and Institutional Framework*, in *ECOSYSTEM-BASED MANAGEMENT FOR THE OCEANS* 162–179 (2009).

<sup>81</sup> See, e.g., Memorandum of Understanding on Cooperation for Wilderness Conservation between the U.S. Fish and Wildlife Service, Bureau of Land Management, Forest Service, and Office of Ecosystem Services and Markets, Mexican Ministry of Environment and Natural Resources, and Canadian Parks Canada Agency (Nov. 2009), available at [http://www.wilderness.net/NWPS/documents/Wild9\\_MOU\\_on\\_Cooperation\\_for\\_Wilderness\\_Conservation.pdf](http://www.wilderness.net/NWPS/documents/Wild9_MOU_on_Cooperation_for_Wilderness_Conservation.pdf).

<sup>82</sup> USFWS, *Mexico*, available at <http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/MEXFS2010.pdf>.

<sup>83</sup> *Id.*

<sup>84</sup> CONANP & National Park Service, *Shared Heritage – Shared Stewardship: U.S.–Mexico Cooperation in Parks and Protected Areas*, [http://www.nps.gov/oia/around/Presentations/Sister\\_Park\\_History\\_NPS\\_CONANP.pdf](http://www.nps.gov/oia/around/Presentations/Sister_Park_History_NPS_CONANP.pdf).

Seashore and the Laguna Madre y Delta del Rio Bravo Park in Mexico are close in proximity, they are not considered “Sister Parks” under this agreement.

Also, the United States and Mexico have worked together to protect species and habitats through multilateral and international agreements and programs. The trilateral Commission for Environmental Cooperation (CEC) was established in conjunction with the North American Free Trade Agreement to address regional environmental concerns.<sup>85</sup> The treaty establishing the CEC also established the North American Fund for Environmental Cooperation.<sup>86</sup>

In 1996, the United States, Mexico and Canada developed an MOU establishing the Trilateral Committee for Ecosystem Conservation and Management. In fulfilling its mission, the Trilateral Committee developed the North American Marine Protected Area Network (NAMPAN).<sup>87</sup> This program is, in part, supported by the CEC.<sup>88</sup> So far, most efforts have concentrated on MPAs along the west coast of Mexico, the United States and Canada. This program could serve as a platform in the future to target and fund, through the North American Fund for Environmental Cooperation, coordinated development and implementation of MPAs in the Gulf of Mexico.

In addition to formal legal agreements, academic institutions and others also are working jointly on key issues. For example, pursuant to a cooperative agreement between Texas A&M University-Corpus Christi and the University of Veracruz, and in partnership with the University of Veracruz and the Gulf of Mexico Large Marine Ecosystem Project, in 2010 the Harte Research Institute hosted an *International Workshop on Governance for the Gulf of Mexico: Overcoming International Obstacles to Create Marine Protected Areas in the Gulf of Mexico*. Participants discussed whether a network of marine protected areas (MPAs) was necessary, as well as the obstacles that could impede development.<sup>89</sup>

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<sup>85</sup> Commission for Environmental Cooperation, <http://www.cec.org>.

<sup>86</sup> Commission for Environmental Cooperation, *North American Fund for Environmental Cooperation*, [http://www.cec.org/Page.asp?PageID=749&SiteNodeID=374&BL\\_ExpandID=93](http://www.cec.org/Page.asp?PageID=749&SiteNodeID=374&BL_ExpandID=93).

<sup>87</sup> NAMPAN, <http://www2.cec.org/nampan/>.

<sup>88</sup> CEC, *Project 4: Engaging Communities to Conserve Marine Biodiversity through NAMPAN*,

[http://www.cec.org/Page.asp?PageID=122&ContentID=25025&SiteNodeID=1005&BL\\_ExpandID=](http://www.cec.org/Page.asp?PageID=122&ContentID=25025&SiteNodeID=1005&BL_ExpandID=)

<sup>89</sup> See Harte Research Institute, Summer Workshop on Governance for the Gulf of Mexico: Extended Report, June 20-25, 2010 (Ivonne Cruz & Richard McLaughlin, eds), *available at*

[http://www.hartheresearchinstitute.org/images/research/marinepolicy/governance/extended\\_report.pdf](http://www.hartheresearchinstitute.org/images/research/marinepolicy/governance/extended_report.pdf).

## CHALLENGES AND OPPORTUNITIES: PROTECTED SPECIES AND PROTECTED PLACES

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	Species subject to special protection are listed in an Official Mexican Standard. The process of modification of these standards states that they are updated annually or triennially, which does not necessarily promote the most effective species conservation.	Increase the frequency of updates to the list of specially protected species to prevent listing delays.
2	In Mexico, although a state entity can propose additions or subtractions to the list of protected species, SEMARNAT has ultimate decision-making authority (and subsequent jurisdiction).	Develop a mechanism for states to add to the list of specially protected species within their jurisdictions.
3	Mexico has established natural protected areas in the Gulf of Mexico. Of the 33 protected areas along the Gulf coast, 17 have management programs in place.	Complete management programs and plans for all 33 natural protected areas in the Gulf of Mexico.
4	There is no systematic mechanism for identifying areas for restoration.	Create a federal and/or state restoration program, beginning with restoration of existing protected areas.

### 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	The federal government currently has limited ability to expand the national marine sanctuaries program due to legal constraints, and there are few other federal mechanisms for designating marine protected areas.	Amend the National Marine Sanctuaries Act, upon reauthorization, to enable expansion of this program. Otherwise encourage the President to designate protected areas under the Antiquities Act authority allowing the designation of national monuments.
2	Threatened and endangered species listings provide only single-species-focused protection.	Consider developing more coordinated protection of threatened and endangered species and their habitats.
3	There are relatively few comprehensively protected areas in the coastal environment or in the open ocean.	Use existing authorities – such as the ability to designate national parks, refuges, and other protected areas – to increase the quantity of areas



	Challenge	Opportunity
		proactively conserved, instead of focusing on restoring already impacted and/or degraded areas.

### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunities
1	Both countries have laws to protect vulnerable species that include tools to protect the habitats they depend on.	Build from existing bilateral and multilateral programs to enhance protection of vulnerable species and habitats, including the CEC, Wildlife Without Borders, NAMPAN, and the Sister Park program.
2	In both countries, invasive species threaten biodiversity.	Identify invasive species in both countries and develop a strategy for early detection and management. (See additional discussion in the section on <i>Water Quality</i> )
3	Compliance and enforcement is a continuing challenge for both countries.	Create cooperation agreements or interagency agreements that aim to strengthen the capacities of both countries in terms of application and enforcement of the law.

## 8. Cross-cutting issue: Environmental Impact Assessments

Mexico and the United States both use environmental impact assessments to determine whether activities will harm the environment. In Mexico, the environmental impact assessment (EIA) procedure is established by Article 28 of the General Law of Ecological Equilibrium and Environmental Protection. In the United States, an overarching EIA requirement is established by the National Environmental Policy Act (NEPA). Although both countries have EIA requirements, there are important differences in their application and procedures.<sup>90</sup> While the United States' impact assessment law requires only an analysis, Mexico's framework creates substantive mitigation requirements.

First, in Mexico, the EIA may result in the approval or disapproval of a certain activity or project (e.g., oil extraction, tourism, fisheries). The reviewing agency has discretion to evaluate the technical information and decide whether to approve the project, potentially with restrictions

<sup>90</sup> For a summary of the legal frameworks for EIAs in Mexico and the U.S., see Jameson Tweetie, *Transboundary Environmental Impact Assessment Under the North American Free Trade Agreement*, 63 WASH. & LEE L. REV. 849 (2006).

and specific mitigation measures. Most activities in coastal and marine areas require the completion of an EIA. If a development or activity is going to take place in or near a natural protected area, the local division of CONANP must analyze likely impacts and issue an opinion, although the opinions are not binding and may not be incorporated into SEMARNAT's decision.

Second, in Mexico, an EIA is required for all activities, both public and private. States may also request an EIA in instances outside of those directly provided for in Article 28 of LGEEPA.

In the United States, in contrast, the environmental assessment process only requires the agency to assess the potential environmental impacts of its activities—it does not mandate a certain outcome or the adoption of any mitigation measures. The purpose of the statute is to enable informed decision-making with regard to environmental impacts, and to provide transparency and the opportunity for public engagement in the decision-making process.

NEPA's planning requirements apply only to major federal actions (including actions directly undertaken or funded, licensed, or authorized by a federal agency) that significantly affect the environment.<sup>91</sup> State NEPA equivalents may apply to state agency activities, although none of the United States Gulf states have enacted state NEPA-like environmental planning requirements except Texas, which implemented EIA rules via a state Executive Order.<sup>92</sup>

There are no explicit requirements that mandate transboundary collaboration for EIA development. According to Knox (2004):

U.S. law does not specifically address transboundary EIA. Although some judicial decisions have assumed that the federal government should take into account extraterritorial effects of actions within the United States, courts have not held that federal law requires that result.

Similarly, the Mexican statute requiring EIA does not say whether it must include the extraterritorial effects of actions within Mexico. A 1988 regulation implementing the statute seemed to require EIA for projects with extraterritorial effects, but it was replaced in 2000 by a regulation that does not mention transboundary EIA.<sup>93</sup>

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<sup>91</sup> 42 U.S.C. § 4332; 40 C.F.R. §1508.18.

<sup>92</sup> See Council on Environmental Quality, National Environmental Policy Act, States with NEPA-like Environmental Planning Requirements, [http://ceq.hss.doe.gov/state\\_information/states.html](http://ceq.hss.doe.gov/state_information/states.html); James M. McElfish, *State Environmental Law and Programs*, § 7.11, in SHELDON M. NOVICK ET AL., *THE LAW OF ENVIRONMENTAL PROTECTION* (Clark Boardman Callaghan, updated annually); 30 TEX. ADMIN. CODE § 281.4(7), 281.5(7).

<sup>93</sup> John H. Knox, *The North American Commission for Environmental Cooperation and Transboundary Pollution*, 34 ENVTL L REP 10142 (2004) (internal citations removed).

In the past, Mexico and the United States (with Canada) have engaged in efforts to develop a North American transboundary environmental impact assessment agreement through the Commission for Environmental Cooperation established by the North American Agreement on Environmental Cooperation, an agreement accompanying the North American Free Trade Agreement.<sup>94</sup> While a draft agreement exists, it has not been adopted by any of the nations.

## CHALLENGES AND OPPORTUNITIES: ENVIRONMENTAL IMPACT ASSESSMENTS

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	CONANP opinions issued on EIAs for projects that will take place in or near a natural protected area are not binding, and may not be taken into account when SEMARNAT issues a decision on the EIA. <sup>95</sup>	Increase communication between CONANP and SEMARNAT regarding the extent and direction of potential impacts and risks associated with projects taking place in or near a natural protected area. Consider making CONANP's opinions binding.
2	Public comments and suggestions may not always be properly incorporated during consideration of project proposals and EIA determinations.	Ensure that public comments and recommendations are properly considered and integrated.

### 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	NEPA only requires an analysis of environmental impacts, not mitigation of potential harms. However, mitigation is often adopted to prevent a finding of significant impact and therefore avoid a full assessment of environmental impacts.	Improve mitigation by requiring monitoring and adaptation to ensure that mitigation actually avoids significant impacts.
2	Prior to the BP <i>Deepwater Horizon</i> oil spill, the predecessor to BOEMRE allowed NEPA categorical exclusions for exploration and development plans. This meant that oil and gas exploration and development plans in	BOEMRE is reviewing its categorical exclusion policy now, creating an opportunity to remove or severely curtail categorical exclusions for oil and gas operations in the Gulf of Mexico (thereby requiring at least environmental assessments in

<sup>94</sup> In 1997, the Commission for Environmental Cooperation created the draft North American Transboundary Environmental Impact Assessment Agreement. It has not been adopted.

<sup>95</sup> See LGEEPA, *supra* note 11, art. 24 (providing SEMARNAT with discretionary authority to request technical advice when appropriate, but neither requiring it nor making received advice binding).

the Gulf of Mexico did not require an EA or EIS. <sup>96</sup>	these cases). (Cross-listed with <i>Environmental Impact Assessment</i> section)
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### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunity
1	No treaty or agreement exists between the United States and Mexico that requires a transboundary environmental impact analysis.	<p>The United States and Mexico could pursue a bilateral, trilateral, or international approach to transboundary environmental impact analyses by:</p> <ul style="list-style-type: none"> <li>• Designing a new bilateral treaty;</li> <li>• Ratifying the Espoo Convention (an international EIA treaty);<sup>97</sup> or</li> <li>• Reviving past efforts under the Commission for Environmental Cooperation to create a North American EIA treaty.<sup>98</sup></li> </ul> <p>To begin, the countries could review the past border experiences between the United States and Mexico to develop a mutual platform, methods, guidelines, checklist, and/or projects for EIA in the Gulf of Mexico.</p>

## 9. Cross-cutting issue: Coastal Management

Coastal management is important in both Mexico and the United States. Structural differences between the countries' frameworks lead to distinct differences in their approaches to coastal and ocean management. The most fundamental difference is that, in the United States, all submerged lands out to three nautical miles (Alabama, Mississippi, and Louisiana) or nine nautical miles (Gulf coast of Florida and Texas) from shore are largely under state jurisdiction. Federal jurisdiction extends from the state boundary line out to the limits of the EEZ. In contrast, in Mexico the federal government has jurisdiction over all submerged marine lands and the overlying waters unless it delegates authority to the states.

<sup>96</sup> Bureau of Energy Management, Regulation, and Enforcement, *National Environmental Policy Act (NEPA) – Categorical Exclusion Reviews*, <http://www.boemre.gov/eppd/compliance/nepa/policy/ce/index.htm>.

<sup>97</sup> Convention on Environmental Impact Assessment in a Transboundary Context, Feb. 25, 1991, 1989 U.N.T.S. 309, reprinted in 30 I.L.M. 800 [hereinafter Espoo Treaty], available at <http://www.unece.org/env/eialdocuments/conventiontextenglish.pdf>. The United States has signed but not ratified this treaty. Mexico has not signed nor ratified this treaty.

<sup>98</sup> For additional discussion of EIAs and a potential trilateral treaty, see Jameson Tweetie, *Transboundary Environmental Impact Assessment Under the North American Free Trade Agreement*, 63 WASH. & LEE L. REV. 849 (2006).

There is no overarching coastal zone law in Mexico. Rather, coastal management is fragmented among the different laws that regulate various aspects of the coasts – such as the laws that govern wildlife, fisheries, environmental impact assessments, and ports, among others. As of 2006, there were seventeen federal laws and eight regulations related to coastal and marine governance.<sup>99</sup> Power is concentrated within the federal government unless it specifically delegates some authority to a state government.

Recently, CIMARES published a National Policy for Seas and Coasts that sets priorities and objectives for coastal and marine resources. One of the most important aspects of this policy is that it tries to establish and standardize national criteria for preserving and managing the coasts. The policy also establishes, as a line of action, promotion of the creation and strengthening of relationships with international organizations recognized for their experience in marine and coastal management.<sup>100</sup>

In the United States, the federal government engages in coastal habitat conservation and restoration through three existing mechanisms. First, the Coastal Zone Management Act (CZMA) provides grants for preservation or restoration of coastal natural resources, as well as enhancement projects such as wetlands restoration and marine planning; funding for acquisition of coastal and estuarine lands; and matching grants for research in National Estuarine Research Reserves. Second, pursuant to the Watershed Protection and Flood Prevention Act, USDA provides technical and financial assistance for flood control and conservation projects, including land acquisition. Third, NEPA requires an information-sharing process during which state and local governments can comment on proposed federal activities and agencies must specifically consider project impacts on wetlands and floodplains.

One of the emerging tools for habitat conservation and restoration in the U.S. coastal zone is the planning process established in the new National Ocean Policy expressed in President Obama's Executive Order 13,457 issued July 19, 2010. The coastal and marine spatial planning (CMSP) process required by the Executive Order may provide a mechanism for state and federal entities, and others, to coordinate their actions and decision-making for coastal uses and resources. The Executive Order states that "it is the policy of the United States to . . . protect, maintain, and restore the health and biological diversity of ocean, coastal and Great Lakes ecosystems and resources."

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<sup>99</sup> UNGA, Letter dated 18 September 2006 from the Permanent Representative of Mexico to the United Nations addressed to the Secretary-General, Doc. A/61/372 (Sept. 21, 2006).

<sup>100</sup> Interministerial Commission for Sustainable Management of Seas and Coasts (Comisión Intersecretarial para el Manejo Sustentable de Mares y Costas, CIMARES), National Policy for Seas and Coasts: Proposal by CIMARES (Política Nacional de Mares y Costas de México: Propuesta de CIMARES) (2010), at 8, available at [http://www.semarnat.gob.mx/participacion/consultaspublicas/marescostasymanglares/Documents/dcto\\_trab\\_22oct10\\_conspub.pdf](http://www.semarnat.gob.mx/participacion/consultaspublicas/marescostasymanglares/Documents/dcto_trab_22oct10_conspub.pdf).

To help achieve this policy, the Executive Order calls for the establishment of CMSP, which could increase coordination between the various agencies that manage different uses, activities, and resources in coastal and marine areas. The process will be overseen by the National Ocean Council at the national level, and the Gulf of Mexico Alliance and partners at the regional level in the Gulf. A recent policy analysis posits that, if well-designed, CMSP “could increase the resilience and productivity of the Gulf of Mexico marine ecosystem,” but “requires better integration than currently exists” in the region.<sup>101</sup> The Executive Order also states that part of the United States policy is “cooperating and exercising leadership at the international level.”<sup>102</sup>

## CHALLENGES AND OPPORTUNITIES: COASTAL MANAGEMENT

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	<p>Fraga &amp; Jesus (2008) identify the following coastal zone management challenges:</p> <ul style="list-style-type: none"> <li>• Lack of knowledge regarding biophysical, socioeconomic and cultural aspects of the coastal zone</li> <li>• Challenges with fragmented management</li> <li>• Legal gaps</li> <li>• Juridical weakness of state governments</li> <li>• Lack of transparency</li> <li>• Lack of participation mechanisms<sup>103</sup></li> </ul> <p>CIMARES is working to integrate currents to improve the fragmented nature of Mexican coastal management.</p>	<p>According to Fraga &amp; Jesus (2008): “Rivera-Arriaga and Azuz-Adeth (2004) make some key recommendations to improve coastal management:</p> <ul style="list-style-type: none"> <li>• establish a national policy and create an integrated instrument (juridical and administrative) that will be effective in the long term;</li> <li>• develop mechanisms that promote intra (among the same sector) and intersector integration (between all the involved sectors), conflict resolution and strategic planning, including fund-raising strategies; and</li> <li>• promote the creation of an environmental database which will help plan development strategies and contribute to solving coastal issues, encourage multidisciplinary studies, impart environmental education and get the public to participate.”</li> </ul>

<sup>101</sup> See Linwood Pendleton et al., *Marine Protection in the Gulf of Mexico*, NI PB 10-04, Nicholas Institute for Environmental Policy Solutions, Duke University (Oct. 2010).

<sup>102</sup> *Stewardship of our Ocean, Our Coasts, and the Great Lakes*, Ex. Order 13457, 75 Fed. Reg. 43023 (July 22, 2010).

<sup>103</sup> FRAGA & JESUS, *supra* note 1.

	Challenge	Opportunity
		CIMARES recently established a National Policy for Seas and Coasts. The policy calls for a review of the existing legal framework to increase the consistency of provisions related to coastal management, which provides an opportunity for targeted action on the other fronts.
3	The existing legal framework for managing coastal ecosystems is not stringently implemented and enforced. <sup>104</sup>	Work with PROFEPA to develop and promote effective enforcement through existing and new instruments.

## 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	It has long been recognized that United States ocean and coastal governance and management mechanisms are disaggregated, with authority vested in over a dozen agencies and departments through more than 140 laws. <sup>105</sup>	Follow the recommendations made by the United States Commission Ocean Policy (2004) and the Pew Commission on Ocean Policy (2003), and described in the National Ocean Policy (2010).
2	Although there is a new National Ocean Policy and framework for CMSP, there is currently no dedicated funding mechanism to support these efforts.	Dedicate funding to support implementation of the National Ocean Policy, including CMSP, and efforts to coordinate regional actors and implement ecosystem-based planning approaches.

## 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunity
1	Mexico has a relatively new National Policy for Seas and Coasts, which seeks the establishment of coastal preservation and management measures and promotes strengthening of international relationships. The United States has a relatively new National Ocean Policy that promotes ecosystem-based management of coastal	The entities tasked with implementing Mexico's policy and the entities tasked with implementing the United States policy should coordinate and collaborate on efforts to increase ecosystem-based approaches to managing Gulf of Mexico resources. For example: <ul style="list-style-type: none"> <li>• Relevant authorities in both countries may share lessons learned and discuss potential</li> </ul>

<sup>104</sup> Carlos Valdes and Hans Hermann, *International Cooperation in Integrated Coastal Zone Management in Mexico*, in EVELIA RIVERA ARRIAGA, EL MANEJO COSTEJO EN MEXICO (Universidad Autonoma de Campeche, Centro de Ecologia, Pesquerias y Oceanografia del Golfo de Mexico, 2004).

<sup>105</sup> U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY (2004); PEW OCEANS COMMISSION, AMERICA'S LIVING OCEANS: CHARTING A COURSE FOR SEA CHANGE (2003).

Challenge	Joint Opportunity
and marine areas, including through coastal and marine spatial planning, and makes it policy to cooperate and lead internationally.	<p>approaches to addressing transboundary issues such as (i) impacts from oil and gas exploration and development, (ii) invasive species, and (iii) migratory species.</p> <ul style="list-style-type: none"> <li>• The United States CMSP process requires the creation of a national information system for coastal and marine data. The system could be open to and incorporate information from Mexican collaborators.</li> </ul>

### ***10. Cross-cutting issue: Water Quality***

In both the United States and Mexico, waters – and marine waters in particular – are public goods. In both countries, national laws dominate the regulation of water pollution. In both, municipalities play a central role in regulating sewage. In the United States, states implement water pollution control programs in accordance with national law, including many regulatory programs in state marine waters (which can extend out to three or nine nautical miles offshore, depending on the state). In contrast, the Mexican Federation is mainly responsible for implementing land-based pollution programs and is the sole water quality regulator in the marine environment. In both countries, the federal governments address marine pollution from ships and ocean dumping in offshore waters, and both countries are parties to relevant International Maritime Organization agreements.

In Mexico, there is a need to create specific standards for coastal water quality and use and to differentiate between the use and disposal of waste water in urban areas and coastal settlements. Tools are also needed to manage water use in different soils, such as karstic places in the Yucatan Peninsula where sinkholes are used for recreation, construction activities, and waste water disposal. PROFEPA and CONAGUA oversee the inspection of water quality, but they do not have the capacity (equipment and trained personnel) to verify discharges and the functionality of water treatment plants in coastal settlements.

One of the greatest challenges to achieving a healthy Gulf of Mexico is the enormous amount of land-based pollution pouring into it from the Mississippi River watershed. The nutrient runoff comes largely from upstream agricultural states and causes an enormous “dead zone,” an area



of extremely low oxygen levels, which was 6,765 square miles in 2011.<sup>106</sup> The Clean Water Act is the key federal law used to address such water pollution. While the CWA creates strict measures for regulating point sources of pollution, it contains few requirements that mandate effective reduction of nonpoint sources of pollution—the major sources causing the Gulf of Mexico nutrient problem.<sup>107</sup> Overcoming the Gulf of Mexico dead zone problem will require effective collaboration and strong action throughout the Mississippi River basin.<sup>108</sup>

As one moves from onshore to offshore, water quality regulation declines significantly. This reflects both the legal structure (fewer provisions apply offshore) and the implementation of the CWA. To this latter point, the CWA, for example, has several provisions that enable stronger water quality management of the ocean, which are often under-utilized.

These under-utilized provisions include the Ocean Discharge Criteria—a provision of the CWA that calls upon the EPA to issue discharge criteria for point sources of marine pollution. The EPA’s criteria are minimal and have not been updated since the early 1980s. Another example is the relatively few oceanic water quality standards and total maximum daily loads (TMDLs) that have been developed for ocean water bodies. Oceanic water quality standards are often limited to nearshore water quality where most human recreation and shellfishing occur. Very few TMDLs have been developed for marine waters, and those that have typically concern bays, estuaries, and areas near river mouths.

Another key and growing issue related to water quality management (as well as almost all habitat types, depending on species) is the introduction and management of harmful non-indigenous aquatic species. Harmful non-indigenous (or invasive) species can be introduced through many vectors, including ballast water exchange, hull fouling, and aquarium releases.<sup>109</sup> Recognizing that it is unrealistic to expect that all introductions of invasive species can be prevented, NOAA notes that ecosystem monitoring and early detection that enables rapid response is critical. “Often the only way to successfully eradicate an invasive species is to take action very early in the invasion process before an infestation becomes widespread. Failure to respond rapidly to an incipient invasion may result in permanent control expenditures.”<sup>110</sup>

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<sup>106</sup> Mississippi River Gulf of Mexico Watershed Nutrient Task Force, *Hypoxia in the News*, <http://water.epa.gov/type/watersheds/named/msbasin/gulfnews.cfm#2011zone>.

<sup>107</sup> For an extensive analysis of the CWA and Mississippi River water quality, see National Research Council, *Mississippi River Water Quality and the Clean Water Act: Progress, Challenges, and Opportunities* (2008), available at [http://www.nap.edu/openbook.php?record\\_id=12051&page=R1](http://www.nap.edu/openbook.php?record_id=12051&page=R1).

<sup>108</sup> *Id.*

<sup>109</sup> NOAA, Office of Oceanic and Atmospheric Research, *Aquatic Invasive Species*, at [http://www.oar.noaa.gov/oceans/t\\_invasivespecies.html](http://www.oar.noaa.gov/oceans/t_invasivespecies.html).

<sup>110</sup> *Id.*

Over the past decade lionfish have firmly established themselves in the Gulf of Mexico and now compete with commercial reef species such as snapper and grouper.<sup>111</sup> Mexico and the United States have been participating in efforts to jointly establish a regional lionfish strategy.<sup>112</sup> The International Coral Reef Initiative has created an Ad Hoc Regional Lionfish Committee to develop a strategy to address the species. The committee is co-chaired by Mexico, the United States, and the Regional Activity Centre that implements the Cartagena Convention protocol that concerns specially protected areas and wildlife in the Caribbean region (SPAW-RAC).<sup>113</sup>

Beyond lionfish, other invasive species pose potentially increasing risk to the Gulf of Mexico. For example, *Caulerpa* (*Caulerpa taxifolia*) is an aquarium strain of seaweed native to the Caribbean that may spread through the Gulf of Mexico and threaten native plant and wildlife species.<sup>114</sup> As an example of the difficulty of eradicating infestations, small-scale *Caulerpa* outbreaks that were discovered offshore of Southern California took six years and over \$7 million to eradicate.<sup>115</sup> These and other invaders may require multilateral action to prevent their introduction and spread in the Gulf.

## CHALLENGES AND OPPORTUNITIES: WATER QUALITY

### 1) Challenges and Opportunities in Mexico

	Challenge	Opportunity
1	There is limited water quality monitoring in Mexico. Legal authorities are insufficient, and there is insufficient capacity to enforce existing provisions.	Teach citizens how to test coastal water quality, and what they can do to report irregularities.

<sup>111</sup> NOAA, National Centers for Coastal and Ocean Science (NCCOS), Center for Coastal Fisheries and Habitat Research, Assessment of Lionfish Ecological Impacts, at [http://www.ccfhr.noaa.gov/stressors/lionfish\\_impacts.aspx](http://www.ccfhr.noaa.gov/stressors/lionfish_impacts.aspx).

<sup>112</sup> These efforts included a workshop involving participants from 20 different Caribbean countries and governmental and nongovernmental institutions that was held in Cancun, Mexico, in August 2010. The workshop planning team included NOAA, CONANP, the Reef Environmental Education Foundation, the Regional Activity Center for the Protocol on Specially Protected Areas and Wildlife, and the International Coral Reef Initiative. See Regional Lionfish Strategy Workshop, Cancun, Mexico (Aug. 27-28, 2010), Workshop Summary, available at <http://www.icriforum.org/sites/default/files/ICRI-Lionfish-Workshop-Summary.pdf>.

<sup>113</sup> See ICRI, Terms of Reference, ICRI Ad-Hoc Committee on Caribbean Regional Response to Lionfish Invasion (adopted Nov. 12, 2010), available at <http://www.icriforum.org/sites/default/files/ICRIGM25-ToRLionfish-final.pdf>; CAR-SPAW-RAC, 2010 Summary (Mar. 2, 2011), available at [http://www.car-spaw-rac.org/IMG/article\\_PDF/article\\_a242.pdf](http://www.car-spaw-rac.org/IMG/article_PDF/article_a242.pdf).

<sup>114</sup> See ANS Task Force, *Caulerpa* (*Caulerpa taxifolia*), at <http://www.anstaskforce.gov/spoc/caulerpa.php>.

<sup>115</sup> Southern California *Caulerpa* Action Team (SCCAT), *The Caulerpa Information Center*, at <http://www.sccat.net/#the-caulerpa-information-center-1e86c5>.

## 2) Challenges and Opportunities in the United States

	Challenge	Opportunity
1	Enormous annual dead zone in Northern Gulf of Mexico is one of the major impacts to Gulf of Mexico pelagic and benthic habitats.	Build from existing efforts and programs to implement stronger measures to control nonpoint sources of pollution, including: the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force; National Research Council recommendations to collaborate and create a Nutrient Control Implementation Initiative; <sup>116</sup> and the Gulf of Mexico Alliance efforts to address water quality and nutrients and nutrient impacts.
2	Clean Water Act provisions are not applied stringently in marine waters. One of the biggest challenges in the Gulf region is the pollution from the Mississippi River, due to both point and nonpoint sources throughout the basin states. Although the United States has a strong point source pollution control program, it does not have a robust program for addressing nonpoint sources.	<p>There is a need to:</p> <ul style="list-style-type: none"> <li>• Improve monitoring;</li> <li>• Implement more robust water quality standards; and</li> <li>• Increase enforcement efforts.</li> </ul> <p>One path to achieve these goals is through the effective development and implementation of the Water Quality Strategic Action Plan and CMSP in accordance with the National Ocean Policy.</p> <p>In addition, existing approaches to managing basin-wide challenges should be adequately funded and implemented, such as the Mississippi River/Gulf of Mexico Watershed Nutrient Task Force and the Gulf of Mexico Alliance.</p>
3	Ocean discharge criteria for marine waters have not been updated since the early 1980s.	Revive efforts from 2000 to draft new ocean discharge criteria, including the designation of healthy ocean waters and creation of special ocean sites that would have heightened water quality criteria. <sup>117</sup>
4	Climate change and associated impacts.	Implement the recent guidance memorandum from the EPA to assist regions and states in

<sup>116</sup> NATIONAL RESEARCH COUNCIL, NUTRIENT CONTROL ACTIONS FOR IMPROVING WATER QUALITY IN THE MISSISSIPPI RIVER BASIN AND NORTHERN GULF OF MEXICO (2008), available at [http://www.nap.edu/openbook.php?record\\_id=12544&page=27](http://www.nap.edu/openbook.php?record_id=12544&page=27)

<sup>117</sup> Robin Kundis Craig & Sarah Miller, *Ocean Discharge Criteria and Marine Protected Areas: Ocean Water Quality Protection Under the Clean Water Act*, 29 B.C. ENVTL. AFF. L. REV. 1 (2001).

	Challenge	Opportunity
		preparing, reviewing, and reporting the impacts of ocean acidification. <sup>118</sup>

### 3) Shared Challenges and Opportunities to Collaborate Bilaterally

	Challenge	Joint Opportunity
1	Invasive species of flora and fauna may endanger Gulf of Mexico resources and habitat.	Continue and expand regional efforts to address invasive species. This may include information sharing, joint monitoring and detection efforts, and/or joint actions to respond to invasions. The new Regional Lionfish Committee may offer a model for similar regional efforts including Mexico and the United States and possibly other affected parties and partners.

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<sup>118</sup> U.S. Environmental Protection Agency, Memorandum, Integrated Reporting and Listing Decisions Related to Ocean Acidification (Nov. 15, 2010), available at [http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/oa\\_memo\\_nov2010.pdf](http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/oa_memo_nov2010.pdf).

## C. Potential for a Regional Agreement and Entity

The prior section discussed the domestic tools in Mexico and the United States and some multilateral and bilateral mechanisms that may directly or indirectly support or impede habitat conservation and restoration in the Gulf of Mexico, and identified potential areas for collaboration and coordination. This Section focuses specifically on potential ways to achieve regional collaboration in the Gulf of Mexico through bilateral or multilateral agreements and institutions.

Many Mexican and United States federal agencies work to manage resources in and near the Gulf of Mexico. Some Mexican and United States agencies have joint non-binding agreements to address shared resources. For environmental issues, Mexican and United States joint efforts concentrate on the terrestrial and freshwater environments, with considerably fewer ocean and coastal efforts (Table 7). Therefore, many bilateral institutional efforts could be expanded or refined to better include ocean and coastal resources.

**Table 7. Mexico's Management Authorities and United States Equivalents<sup>119</sup>**

**Mexican Agency:** Ministry of the Environment and Natural Resources (Secretaria de Medio Ambiente y Recursos Naturales) [SEMARNAT]

**Role:** Broad authority related to environmental protection, hazardous materials, forestry and soil, wildlife protection, ocean and coastal zones, and air emissions.

**U.S. Federal Equivalent:** Department of the Interior (DOI), Department of Commerce (DOC), Environmental Protection Agency (EPA), U.S. Department of Agriculture

**Relevant Agreements & Partnerships:** (1) U.S.-Mexico Border 2012 Program<sup>120</sup> with SEMARNAT & EPA as lead agencies. Its mission is to protect the environment and public health in the border region.<sup>121</sup> It is focused mainly on terrestrial and freshwater environments.<sup>122</sup> (2) Memorandum of Understanding between the Department of the Interior of the United States of America and the Secretariat of Environment, Natural Resources and Fisheries of the United Mexican States to Work Jointly in Matters Related to the Protection and Conservation of the Environment (DOI-SEMARNAT MOU)<sup>123</sup>

<sup>119</sup> Raul Valdez et al., *Wildlife Conservation and Management in Mexico*, 34 WILDLIFE SOCIETY BULLETIN 270 (2006); JULIA FRAGA & ANA JESUS, *supra* note 1, at 7-8.

<sup>120</sup> EPA, *What is Border 2012?*, at <http://www.epa.gov/usmexicoborder/framework/index.html>.

<sup>121</sup> Border region defined by La Paz Agreement as "62.5 miles (100 kilometers) on each side of the international border." *Id.*

<sup>122</sup> EPA, US-MEXICO ENVIRONMENTAL PROGRAM: BORDER 2012, available at <http://www.epa.gov/Border2012/news/NCM-Fact-Sheet-English.pdf>.

<sup>123</sup> See Memorandum of Understanding between the Dep't of the Interior of the United States of America and the Secretariat of Environment, Natural Resources and Fisheries of the United Mexican States to work jointly in matters related to the protection and conservation of the environment (2000), available at <http://www.doi.gov/intl/agreements/Secretariat-of-Environment-Natural-Resources-and-Fisheries-Mexico.cfm>.

**Mexican Agency:** Federal Agency of Environmental Protection (Procuraduria Federal de Proteccion del Ambiente) [PROFEPA] (under SEMARNAT)

**Role:** Natural resource enforcement under the following laws: General Act of Ecological Balance and Environmental Protection (LGEEPA-1996), the Forestry Act (1997), the National Water Act, the Land Act, the Soil Conservation Act, the Fishery Act, the National Property Act and the General Act on Human Settlements.<sup>124</sup>

**U.S. Federal Equivalent:** Ocean enforcement agencies include DOI, DOC (National Oceanic and Atmospheric Administration, NOAA), U.S. Coast Guard, & EPA. States have joint enforcement agreements with NOAA to participate in fisheries enforcement

**Relevant Agreements & Partnerships:** None identified.

**Mexican Agency:** Office of Wildlife of the Ministry of the Environment and Natural Resources (under SEMARNAT)

**Role:** Conservation and protection of biodiversity including marine mammals, sea turtles, and endangered aquatic species.

**U.S. Federal Equivalent:** DOI's Fish and Wildlife Service (USFWS), DOC's NOAA, U.S. Coast Guard

**Relevant Agreements & Partnerships:** Wildlife Without Borders-Mexico with multiple Mexican agencies and USFWS participating. The program's mission is to preserve shared natural heritage.<sup>125</sup> It is mainly focused on terrestrial species.<sup>126</sup>

**Mexican Agency:** National Commission of Natural Protected Areas (Comisión Nacional de Areas Naturales Protegidas) [CONANP] (under SEMARNAT)

**Role:** Establishment, management and enforcement of national protected areas.

**U.S. Federal Equivalent:** NOAA's National Marine Sanctuaries Program (marine areas), National Park Service (mainly terrestrial or coastal), FWS (national wildlife refuges—35 in Gulf with a coastal or marine component).

**Relevant Agreements & Partnerships:** The National Park Service and its Mexican counterparts have worked together for decades.<sup>127</sup> In the 1970s and 1980s, the United States and Mexico partnered to support the Kemp's Ridley sea turtle at Padre Island National Seashore. In 1988, NPS and SEMARNAT signed an MOU: Memorandum of Understanding between the National Park Service of the United State of America, and the Secretariat of Urban Development and Ecology, United Mexican States, on Cooperation in Management and Protection of National Parks and Other Protected Natural and Cultural Heritage Sites, with Annex. In 1996, the United States, Mexico, and Canada developed the Trilateral Committee for Wildlife and Ecosystem Conservation, which included the North American Marine Protected Area Network (NAMPAN). Beginning in 1997, the United States and Mexico initiated a "Sister Park" concept that enables coordinated management. In 2006, NPS and CONANP signed the Sister Park Declaration. While the U.S. Padre Island National Seashore and the Laguna Madre y Delta del Rio Bravo Park in Mexico are close in proximity, they are not considered "Sister Parks" under this agreement.

<sup>124</sup> PROFEPA, *Our History*, [http://www.profepa.gob.mx/innovaportal/v/1402/1/mx/our\\_history.html](http://www.profepa.gob.mx/innovaportal/v/1402/1/mx/our_history.html).

<sup>125</sup> USFWS, *Mexico*, available at <http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/MEXFS2010.pdf>.

<sup>126</sup> Gulf of Mexico marine species benefitting from this program include: West Indian manatee and seven species of sea turtle.

See USFWS, *WILDLIFE WITHOUT BORDERS-MEXICO: ACTIVITIES REPORT 1995-2006*, available at [http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/2007\\_MexicoReport.pdf](http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/2007_MexicoReport.pdf).

<sup>127</sup> CONANP & National Park Service, *Shared Heritage – Shared Stewardship*, *supra* note 84.

**Mexican Agency:** National Institute of Ecology (Instituto Nacional de Ecología) [INE] (under SEMARNAT)

**Role:** Generate scientific and technical information on environmental challenges, support decision-making, promote the sustainable use of natural resources, and support the Ministry of Environment and Natural Resources.

**U.S. Federal Equivalent:** The United States does not have a corresponding agency. However, many U.S. agencies engage in research related to ocean and coastal habitat restoration and conservation.

**Relevant Agreements & Partnerships:** None identified.

**Mexican Agency:** National Water Commission (Comisión Nacional del Agua) [CONAGUA] (under SEMARNAT)

**Role:** Manage and preserve water nationally to achieve its sustainable use, including ground and surface water resources as well working with other agencies to address clean beaches.

**U.S. Federal Equivalent:** EPA

**Relevant Agreements & Partnerships:** U.S.-Mexico Border 2012 Program<sup>128</sup> (see SEMARNAT section for more information).

**Mexican Agency:** Geography and Census Bureau (Instituto Nacional de Estadística y Geografía) [INEGI]

**Role:** The purpose of the Bureau is to collect, process, and disseminate information about the land, population, and the economy in order to generate statistical and geographical information.

**U.S. Federal Equivalent:** U.S. Geological Survey (USGS)

**Relevant Agreements & Partnerships:** U.S.–Mexico Border Environmental Health Initiative (BEHI) is a joint initiative led by USGS, INEGI and other agencies to develop transboundary information using watershed boundaries to define a region of joint action. The goal of this effort is to provide a transboundary framework to understand and address disease-causing agents in the environment and examine linkages between human and environmental health.

**Mexican Agency:** Ministry of Livestock, Agriculture, Rural Development, Fisheries, and Foods (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca, y Alimentación) [SAGARPA]

**Role:** To promote development of the countryside and seas to enable sustainable use of resources, sustained growth and balanced development. Its jurisdiction extends to agriculture, animal husbandry, fisheries, and rural development.

**U.S. Federal Equivalent:** U.S. Department of Agriculture (agriculture and animal husbandry) and NOAA's NMFS (fisheries)

**Relevant Agreements & Partnerships:** MOU between USDA, the Office of the U.S. Trade Representative, SAGARPA, and the Mexican Secretariat of Economy, which creates a Consultative Committee on Agriculture.<sup>129</sup> The MOU focuses on increasing the dissemination of information on bilateral trade. An annex to this agreement focuses on improving and strengthening agricultural trade relationships.

<sup>128</sup> EPA, *What is Border 2012?*, *supra* note 120.

<sup>129</sup> Memorandum of Understanding between the United States Department of Agriculture and the Office of The United States Trade Representative, and the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food and the Secretariat of Economy of the United Mexican States Regarding Areas of Food and Agricultural Trade (2002), *available at* <http://www.usda.gov/news/releases/2002/04/moumexico.htm>.

**Mexican Agency:** National Commission for Aquaculture and Fisheries (Comisión Nacional de Acuacultura y Pesca ) [CONAPESCA] (within SAGARPA)

**Role:** Manages fishery resources.

**U.S. Federal Equivalent:** National Marine Fisheries Service (NMFS)

**Relevant Agreements & Partnerships:** U.S.-Mexico Fisheries Cooperation Program<sup>130</sup> which creates three MOUs to formalize the fisheries relationship between the United States and Mexico: (1) MEXUS-Gulf research program, (2) MEXUS-Pacífico research program, and (3) information exchange.

**Mexican Agency:** Secretariat of Communications and Transportation (Secretaría de Comunicaciones y Transportes) [SCT]

**Role:** Ports and navigation

**U.S. Federal Equivalent:** U.S. Coast Guard, Department of Transportation

**Relevant Agreements & Partnerships:** U.S./Mexico Joint Working Committee on Transportation Planning. Mexican members include SCT, Secretariat of Foreign Relations, Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora, and Tamaulipas. United States members include the U.S. Federal Highway Administration, Department of State, the Mexican Secretariat, Texas, New Mexico, California, and Arizona. Its mission is cooperation on *land* transportation between United States and Mexico (it does not address shipping).

**Mexican Agency:** Navy Secretariat (Secretaría de Marina) [SEMAR]

**Role:** Defends nation's waters and monitors ocean pollution.

**U.S. Federal Equivalent:** Department of Defense (defending water), U.S. Coast Guard (enforcing pollution requirements on the water), and EPA

**Relevant Agreements & Partnerships:** Informal efforts between SEMAR, USCG, and DOD related to maritime security.<sup>131</sup>

**Mexican Agency:** Health Secretariat (Secretaría de Salud) [SSA]

**Role:** Addresses contamination that may affect public health.

**U.S. Federal Equivalent:** EPA, Food and Drug Administration (FDA)

**Relevant Agreements & Partnerships:** Memorandum of Cooperation: Cooperation in the Scientific and Regulatory Fields of Health, which is an EPA and SSA agreement focused on food and product safety.

**Mexican Agency:** Secretariat of Tourism (Secretaría de Turismo) [SECTUR]

**Role:** Promotes and regulates tourism-related activities

**U.S. Federal Equivalent:** International Trade Administration, Office of Travel and Tourism Industries

**Relevant Agreements & Partnerships:** None identified.

<sup>130</sup> Summary available at <http://www.nmfs.noaa.gov/ia/bilateral/docs/US-Mexico2008-1.pdf>.

<sup>131</sup> See, e.g., U.S. Coast Guard, Subcommittee Testimony (March 2011), available at [http://www.cbp.gov/linkhandler/cgov/newsroom/congressional\\_test/southwest.ctt/southwest.pdf](http://www.cbp.gov/linkhandler/cgov/newsroom/congressional_test/southwest.ctt/southwest.pdf).



<p><b>Mexican Agency:</b> Secretariat of Agrarian Reform (Secretaría de la Reforma Agraria) [SRA]</p> <p><b>Role:</b> Addresses communal land tenure</p> <p><b>U.S. Federal Equivalent:</b> None identified</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified</p>
<p><b>Mexican Agency:</b> Secretariat of Energy (Secretaría de Energía) [SENER]</p> <p><b>Role:</b> Driving the country's energy policy within the constitutional framework, to ensure the competitive supply of sufficient, high quality, economically viable and environmentally sustainable energy.</p> <p><b>U.S. Federal Equivalent:</b> Department of Energy, DOI's Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified.</p>
<p><b>Mexican Agency:</b> National Petroleum Company (Petróleos Mexicanos) [Pemex]</p> <p><b>Role:</b> To carry out the exploration and exploitation of oil and other strategic activities of the national oil industry. In order to carry out these activities, subsidiary bodies were established with legal personality and patrimony: Pemex Refining, Pemex Exploration and Production, Pemex Gas and Basic Petrochemicals, and Pemex Petrochemicals.</p> <p><b>U.S. Federal Equivalent:</b> None identified</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified</p>
<p><b>Mexican Agency:</b> Secretariat of Governance (Secretaría de Gobernación) [SEGOB]</p> <p><b>Role:</b> Jurisdiction over national islands and cays.</p> <p><b>U.S. Federal Equivalent:</b> None identified</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified</p>

Mexico and the United States are parties to numerous international treaties related to the marine environment (Table 8), and have several bilateral treaties in place that relate to the Gulf of Mexico and natural resources more broadly (Table 9). Along with Cuba, they are both parties to the Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region, which provides an umbrella agreement for protection and development of the Caribbean marine environment, including the Gulf of Mexico.<sup>132</sup> Since the Convention entered into force in 1986, there have been protocols developed on combating oil spills (1986), specially protected areas and wildlife (2000), and pollution from land-based sources and activities (2010).<sup>133</sup>

<sup>132</sup> Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region, 1506 UNTS 157 (1983), arts. 4, 10, 12.

<sup>133</sup> UN Environment Programme, The Caribbean Environment Programme, *About the Cartagena Convention*, [www.cep.unep.org/cartagena-convention](http://www.cep.unep.org/cartagena-convention).

There is no regional agreement specific to just the Gulf of Mexico that directly addresses restoration and conservation of Gulf resources.

**Table 8. International Environmental and Ocean Treaties Ratified by the United States and Mexico**

	FAO	UNESCO	WTO	UNFCCC	UNCLOS	IAEA	OECD	IMO	
Mexico	X	X	X	X	X	X	X	X	
US	X	X	X	X		X	X	X	
	UCH	WHC	CITES	CBD	Cartagena (Biosafety)	Basel	Kyoto	Ramsar	Bonn
Mexico	X	X	X	X	X	X	X	X	
US		X	X					X	*
	IWC	SSA	HSC	SC	Cartagena (Caribbean)	LC	LC 1996	MARPOL	SOLAS
Mexico	X		X	X	X	X	X	X	X
US	X	X	X		X	X		X	X

KEY TO TABLE ABBREVIATIONS			
<u>FAO</u>	Food & Agriculture Organization	<u>Kyoto</u>	Kyoto Protocol to the UNFCCC
<u>UNESCO</u>	United Nations Educational, Scientific & Cultural Organization	<u>Ramsar</u>	Ramsar Agreement (Convention on Wetlands of International Importance)
<u>WTO</u>	World Trade Organization	<u>Bonn</u>	Bonn Agreement (Convention on the Conservation of Migratory Species)
<u>UNFCCC</u>	United Nations Framework Convention on Climate Change	<u>IWC</u>	International Whaling Commission
<u>UNCLOS</u>	United Nations Convention on the Law of the Sea	<u>SSA</u>	Straddling Stocks Agreement
<u>IAEA</u>	International Atomic Energy Agency	<u>HSC</u>	High Seas Compliance Agreement
<u>IMO</u>	International Maritime Organization	<u>SC</u>	Stockholm Convention on Persistent Organic Pollutants
<u>OECD</u>	Organization for Economic Cooperation and Development	<u>Cartagena (Caribbean)</u>	Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region
<u>UCH</u>	UNESCO Convention on Underwater Cultural Heritage	<u>LC</u>	London Dumping Convention
<u>WHC</u>	UNESCO World Heritage Convention	<u>LC 1996</u>	1996 Protocol to the London Dumping Convention
<u>CITES</u>	Convention on the International Trade of Endangered Species	<u>MARPOL</u>	International Convention for the Prevention of Pollution From Ships 1973/1978, Annex I & II only
<u>CBD</u>	Convention on Biological Diversity	<u>Basel</u>	Basel Treaty on the Control of Transboundary Waste
<u>Cartagena (Biosafety)</u>	Cartagena Protocol on Biosafety to the CBD	<u>SOLAS</u>	Safety of Life at Sea (1974) – does not include following protocols
<u>Basel</u>	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal		
* The United States is a signatory to the MOUs for sea turtles and sharks (but not a party to the convention)			

**Table 9. US-Mexico Bilateral Treaties**

Treaty	Signed	Entered into force
Treaty for the sending of vessels for purposes of assistance and salvage. <i>49 Stat. 3359; TS 905; 9 Bevans 1015; 168 LNTS 135</i>	June 13, 1935 <i>Mexico</i>	Mar. 7, 1936
Mexican Waters Treaty (addressing Rio Grande River among others), 59 STAT. 1219	February 3, 1944	November 8, 1945
Convention for the Protection of Migratory Birds and Game Mammals <i>and</i> Agreement Supplementing the Convention of February 7, 1936, for the Protection of Migratory Birds and Game Animals <sup>134</sup>	Feb. 7, 1936; Mar. 10, 1972	Mar. 10, 1972
Agreement of cooperation regarding pollution of the marine environment by discharges of hydrocarbons and other hazardous substances, with annexes. <i>32 UST 5899; TIAS 10021; 1241 UNTS 225</i>	July 24, 1980 <i>Mexico</i>	Provisionally July 24, 1980; definitively Mar. 30, 1981
La Paz Agreement with Annexes (focuses on environment and human health in the boundary region (100 km on either side of the border) and includes maritime boundaries (Art. 4). Annex III addresses transboundary shipment of hazardous waste.)	La Paz August 14, 1983	February 16, 1984
Agreement on maritime search and rescue. <i>TIAS 11700; 1580 UNTS 385</i>	Aug. 7, 1989 <i>Mexico</i>	June 25, 1990
Treaty on maritime boundaries. <i>TIAS; 2143 UNTS 405</i>	May 4, 1978 <i>Mexico City</i>	Nov. 13, 1997
Treaty on the delimitation of the continental shelf in the western Gulf of Mexico beyond 200 nautical miles, with annexes. <i>TIAS; 2143 UNTS 417.</i>	June 9, 2000 <i>Washington, D.C.</i>	Jan. 17, 2001

In addition to bilateral treaties, the United States, Mexico and Canada are party to the North American Agreement on Environmental Cooperation.<sup>135</sup> The agreement creates the Commission for Environmental Cooperation to address regional environmental issues, prevent trade and environmental conflicts, and promote effective enforcement.<sup>136</sup> It is a companion treaty to the North American Free Trade Agreement (NAFTA). Since its creation, the Commission has undertaken a series of projects to advance its objectives. The most relevant project from the 2011-2012 operational plan is, “Engaging Communities to Conserve Marine Biodiversity through NAMPAN.”<sup>137</sup> It also has a project to conserve marine species and spaces

<sup>134</sup> Convention for the Protection of Migratory Birds and Game Mammals (1936), *available at* [http://www.fws.gov/le/pdf/mexico\\_mig\\_bird\\_treaty.pdf](http://www.fws.gov/le/pdf/mexico_mig_bird_treaty.pdf).

<sup>135</sup> North American Agreement on Environmental Cooperation with annexes (signed Sept. 8, 1993 and entered into force Jan. 1, 1994).

<sup>136</sup> Commission on Environmental Cooperation, <http://www.cec.org>.

<sup>137</sup> Commission on Environmental Cooperation, *Projects 2011–2012*, [http://www.cec.org/Page.asp?PageID=1324&SiteNodeID=1005&BL\\_ExpandID=155](http://www.cec.org/Page.asp?PageID=1324&SiteNodeID=1005&BL_ExpandID=155).

of common concern and protect priority conservation areas from alien invaders under its biodiversity conservation program.<sup>138</sup>

To achieve Gulf habitat conservation and restoration, Mexico and the United States may wish to (i) use existing mechanisms, authorities, and entities from established agreements to increase coordination and collaboration on relevant efforts; or (ii) develop a new agreement and/or a new entity to increase coordination and collaboration on relevant efforts.

### ***1. Using existing mechanisms and authorities***

If Mexico and the United States wish to collaborate using existing legal mechanisms beyond the general marine protections provided in international law, there are several provisions contained in regional or bilateral agreements that support bilateral cooperation. First, the Cartagena Convention states that all parties shall work “to prevent, reduce and control pollution of the Convention area and to ensure sound environmental management,” and that they “shall assist each other in fulfilling their obligations.” Article 10 requires parties to “individually or jointly, take all appropriate measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species, in the Convention area,” including designating protected areas and exchanging information about their administration and management.

Second, the Convention for the Protection of Migratory Birds and Game Mammals and the supplementing agreement require the United States and Mexico to develop laws, regulations and provisions to establish closed seasons. This Convention also establishes refuge zones that prohibit taking listed species at all times and the killing of insectivorous birds with few exceptions, in addition to other provisions. Listed seabirds and other coastal birds include, for example, herons, egrets, bitterns, cormorants, oyster catchers, sea gulls, terns, pelicans, spoonbills, ibises, and flamingos, among others.

Third, soft-law agreements, such as the DOI-SEMARNAT MOU between United States and Mexican agencies (Table 7), provide platforms upon which to cooperate to protect and conserve the Gulf of Mexico. The DOI-SEMARNAT MOU, for example, calls for coordinated management in contiguous natural protected areas; protection of wild flora and fauna; and protection and management of natural protected areas.

Fourth, there are domestic mechanisms that promote bilateral cooperation discussed in the previous sections, and in Appendix III.

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<sup>138</sup> *Id.*

If Mexico and the United States want to use existing entities to coordinate joint efforts related to Gulf habitat conservation and restoration, they must determine the most appropriate level for coordination. One of the primary distinctions between the Mexican and United States structures for marine management is the lack of Mexican state jurisdiction over a coastal zone and the resources within it, in contrast to the United States. The Mexican federal and state governments may enter into agreements for joint planning and implementation of the Federation's ocean laws, but there is no explicit or inherent state authority in most areas of marine management (Table 10).

**Table 10. Mexico and United States State and Federal Authorities**

Sector / Jurisdiction	Bilateral & Multilateral & International (parties)	Mexico-Federal	Mexico-State	US-Federal	US-State
<b>Cross-cutting Regulation</b>					
<b>Ocean jurisdiction</b>	Bilateral boundary treaties in place between United States & Mexico	0–200 miles	No explicit authority in law	3/9-200 miles (some authority retained 0-3 /9 miles)	0-3/9 miles main authority (some influence in federal waters—e.g., consistency authority)
<b>Endangered &amp; threatened species</b>	Convention on Biological Diversity (Mexico) CITES (US, Mexico) Convention for the Protection of Migratory Birds and Game Mammals (US, Mexico) Inter-American Convention for the Protection and Conservation of Sea Turtles (US, Mexico)	Sole authority (includes wetlands, sea turtles, etc.)		Main authority	Potential delegated authority and ability to create additional protection under state law
<b>Marine mammals</b>	IWC (US & Mexico) CITES	General wildlife law BUT only protects endangered species (no MMPA); sole authority if endangered	Authority for species not under special protection	Main authority	Potential delegated authority (rare in practice)
<b>Marine protected areas</b>		Sole authority in marine environment		Authority in federal waters (possible state waters)	Authority in state waters
<b>Onshore protected areas (e.g. wetlands &amp; estuaries)</b>	RAMSAR (Everglades)			Federal can protect under CWA and specific federal sites (e.g., NEP & NERR)	States can protect under CWA and state laws
<b>Water quality</b>		Authority in federal waters	Authority in state waters	Joint authority with states	Federal government delegates
<b>Environmental assessment</b>	MOU (DOI-SEMARNAP) <i>Proposed agreement under NAAEC (trilateral-US, Canada, Mexico)</i>	General Law of Ecological Balance and Environmental Protection – concurrent environmental	General Law of Ecological Balance and Environmental Protection – concurrent	Authority under NEPA	No “little NEPAs” in Gulf of Mexico states

Sector / Jurisdiction	Bilateral & Multilateral & International (parties)	Mexico-Federal	Mexico-State	US-Federal	US-State
		assessment authority (with states), except sole federal authority in instances listed in Article 28	environmental assessment authority (with federal) in all instances except those listed in Article 28		
<b>Sector-Specific</b>					
<b>Fisheries</b>	International Convention for the Conservation of Atlantic Tunas – tuna and billfish (Mexico, US)	Authority for regulation at sea in terms of closed fisheries, determinations of protected fisheries, total catch and seasons to fish	Authority for land-based activities (landings, processing, etc)	Federal fisheries authority	State fisheries authority; potential joint enforcement of federal fisheries; participate on regional councils
<b>Coastal management</b>	None	Main authority	No explicit authority in law	CZMA provides federal mechanism to influence state regulation (grant-based program)	Largely a product of state law and regulation (e.g., land use law)
<b>Tourism</b>	-NAFTA—CEC -Bilateral treaty on tourism—no environmental provisions	Concurrent	Concurrent	Little to no direct regulation of tourism (potential regulation of its impacts).	Nearshore tourism largely a product of state and local land use law
<b>Shipping</b>	IMO	Sole authority		Main authority: EPA = discharge from ships & emissions; CG enforcement, customs	States can influence with specific laws (e.g. discharge & emissions requirements)
<b>Ports</b>		Sole authority – ports administration can be granted to private parties		Authority over customs, enforcement, discharges (EPA)	Authority over land use, discharges, development
<b>Oil and gas</b>	Treaty in place now <i>Efforts to develop trilateral treaty (Cuba, Mexico, US)</i>	Sole authority		Federal waters	State waters

Key: CITES—Convention on International Trade in Endangered Species of Wild Fauna and Flora; IWC—International Whaling Commission; RAMSAR—Convention on Wetlands of International Importance, especially as Waterfowl Habitat; NAFTA—North American Free Trade Agreement; CEC—Commission for Environmental Cooperation; IMO—International Maritime Organization; CZMA—Coastal Zone Management Act.

This structural difference in marine management jurisdiction raises questions about the appropriate way to link federal and state partnerships in Mexico and the United States. One of the primary candidates for leading regional cooperation from the United States side is the Gulf of Mexico Alliance. However, GOMA is a state-led body, established by an agreement between the five Gulf state governors and largely comprising state agency personnel with cooperating federal agencies. If a corresponding body were to be created in Mexico, appropriate Mexican entities for regional collaboration include the six Mexican Gulf states, the Mexican federal government, and other governmental or nongovernmental bodies.

A bilateral program already in place in the Gulf of Mexico is the Gulf of Mexico Large Marine Ecosystem Project (Gulf LME Project), which could provide a platform for further cooperation and collaboration. Participating institutions include the Global Environment Facility, United Nations Industrial Development Organization, NOAA, and SEMARNAT. The project is focused on increasing ecosystem-based management of the Gulf of Mexico, and is designed to be part of a broader network of similar efforts targeting different components of an effective system.

## ***2. Developing a new agreement and/or regional body***

One way to encourage and enable coordination and cooperation is to develop a bilateral treaty or MOU that targets habitat restoration and conservation, either through existing institutions or by establishing a new regional body. The parties have tremendous flexibility if they choose to establish a new agreement focused on Gulf habitat conservation and restoration. However, this will likely require extensive political capital.

If a new agreement is pursued, regardless of the type of instrument (e.g., bilateral agreement or MOU), there are two key areas where increased collaboration between the two countries would be beneficial in both the short and long term.

- **Understanding the Ecosystem and the Region.** The first step towards effective regional management is understanding the ecosystem and the socioeconomics of the region in sufficient detail to enable informed and appropriate decision-making. This includes understanding the current state of the resources, how they are changing, and what is causing those changes.

Such knowledge requires consistent ecosystem information gathered over time in addition to sector- or issue-specific information, so that causes and effects can be identified and assessed. Increasingly, academic and agency scientists and managers are working toward ecosystem-based research and management.



In addition, legal mandates and funding constraints often limit what and how research is conducted by governmental, nongovernmental, and private-sector entities. The United States Council on Environmental Quality recognizes the “critical” importance of monitoring and accurate predictions of human activity impacts to our ability to protect the environment.<sup>139</sup>

To further their shared interest in protecting the Gulf of Mexico, Mexico and the United States could increase collaborative efforts to monitor regional resources, habitats, and ecosystems. This need is recognized by efforts such as the Gulf LME Project.

- **Sharing Information.** In addition to coordinated research and monitoring efforts, Mexico and the United States may also wish to consider tools and mechanisms for sharing ecosystem information and data. This could include establishing formal procedures for gathering and sharing information, such as through transboundary environmental impact assessments; enacting informal procedures for sharing, such as through voluntary reporting systems; and/or developing technical information management systems.

An example of this approach is the developing CEC Knowledge Network. While under construction, this site and other similar sites could serve as platforms for information sharing in the Gulf of Mexico.<sup>140</sup>

If a new entity is created, lessons learned from other regional efforts to protect marine environments should be carefully considered. Analysis of the regional management for four international water bodies, described in Appendix III, yielded the lessons identified in Table 11.

**Table 11. Characteristics of Selected Other Regional Approaches**

Marine Body	Primary Marine Issue(s)	States Involved	Instruments & Bodies
Baltic Sea	Marine pollution	Denmark, European Union, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and	Convention on the Protection of the Marine Environment of the Baltic Sea Area; Baltic Sea Joint Comprehensive Environmental Programme; Helsinki Commission;

<sup>139</sup> Council on Environmental Quality, *Considering Cumulative Effects Under the National Environmental Policy Act* (1997), available at <http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm>.

<sup>140</sup> CEC Knowledge Network, <http://www.knowledgenetworkcms.com>.

Marine Body	Primary Marine Issue(s)	States Involved	Instruments & Bodies
		Sweden	Baltic Sea Action Plan; Strategy for the Baltic Sea Region
Great Lakes	Marine pollution; invasive species	United States and Canada	Boundary Waters Treaty of 1909; Great Lakes Water Quality Agreement; International Joint Commission; Great Lakes Basin Compact; Great Lakes Commission
Gulf of Maine	Marine pollution; invasive species; loss of biodiversity; aquaculture and commercial fishing; habitat degradation from extraction activities; coastal development	United States (Maine, Massachusetts, and New Hampshire) and Canada (New Brunswick and Nova Scotia)	Gulf of Maine Council on the Marine Environment
Benguela Current	Overharvesting; industrial development; water quality	Angola, Namibia, and South Africa	Benguela Current Commission

Lessons learned include the following:

1. *It is important to consider the advantages and disadvantages of having multiple multilateral bodies working in a single region. Distributing authority among multiple regional bodies can decrease momentum and efficacy. If it is determined that different issues may most effectively be addressed by different bodies, it is critical to establish coordination mechanisms so that the bodies can cooperate meaningfully.*

In the Gulf of Mexico, current active institutions include (i) those created by the Cartagena Convention, which covers the wider Caribbean; (ii) the Gulf of Mexico Large Marine Ecosystem Project, which is specific to the Gulf of Mexico; and (iii) the United States Gulf of Mexico Alliance, which covers the United States portion of the Gulf of Mexico. There is no Mexican equivalent of the United States Gulf of Mexico Alliance for Mexican waters.

2. *Progress may be greatly aided by the development of clear objectives, implementation measures, and accountability mechanisms. This can be accomplished by developing actions*

*programs, work plans, and/or other documents or strategies that delegate implementation responsibility for particular actions to specific parties.*

In addition to the Cartagena Convention and its protocols, Mexico has a National Policy for the Seas and Coasts; the United States has a National Ocean Policy and framework for Coastal and Marine Spatial Planning; the Gulf of Mexico Large Marine Ecosystem Project has specified project components and objectives; and the United States Gulf of Mexico Alliance has its Governor's Action Plan II. In light of the numerous work plans and objectives that already exist for the region, the regional entity could focus on coordinating those efforts and facilitating communication between the various entities.

3. *A significant factor is whether a regional entity has authority to issue binding decisions. Working with state-level leaders, the Great Lakes Basin Compact is binding on member parties because it was congressionally approved; conversely, the Gulf of Maine Council operates by consensus and does not have binding rule-making authority. At the national level, the nations that are party to the Helsinki Convention are expected to take domestic action to implement their decisions; the nations who are party to the Benguela Current Commission are working to develop a binding multilateral instrument.*

The ability to issue binding decisions would require formal delegation of authority, such as is seen in the Great Lakes Basin Compact—a bilateral treaty between Canada and the United States. Such an approach may enable better implementation of a joint plan or program. In contrast, programs and projects without legal authority, such as the Gulf of Mexico LME project, lack the ability to directly issue legally binding decisions but are able to be more flexible and adaptive and potentially facilitate the development of agreements between their parties.

4. *Successful collaborations often involve actors from various levels of government as well as nongovernmental entities. However, increasing the number of parties can also increase the difficulty of the process; inclusivity should be emphasized but also balanced with process manageability. In the alternative, without the right members, certain types of regional challenges may be insurmountable.*

#### *Levels of Government*

Between the United States and Mexico, this issue centers on the question of what the most appropriate levels of government are for cooperation and collaboration. Existing United States-Mexico collaboration on marine matters has often occurred at the federal level. On the Mexican side, marine authority is generally concentrated in federal bodies. In the United States, however, authorities are often distributed amongst federal and state entities. As mentioned

previously, there is no Mexican counterpart to the United States Gulf of Mexico Alliance. The Alliance itself faces its own challenges associated with membership, as all states in the Mississippi River watershed contribute to the growing hypoxia and eutrophication problems in the Gulf of Mexico.

#### *Other Participants*

Participation from nongovernmental entities, including stakeholders and other interested parties, can increase public support and perceptions of fairness. This is an important consideration when reflecting on management of the marine environment, where enforcement and monitoring capacity is often less than in terrestrial areas, making self-motivated compliance incrementally more important.

#### *Countries*

An important challenge that is not explored in-depth in this report is the necessity of including Cuba to comprehensively address Gulf of Mexico habitat issues. In recent years the Trinational Initiative for Marine Science and Conservation in the Gulf of Mexico and Western Caribbean has led meetings between the three nations to discuss opportunities to develop a framework for increasing collaboration on research and preservation of the marine region.<sup>141</sup>

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<sup>141</sup> See Trinational Initiative for Marine Science and Conservation in the Gulf of Mexico and Western Caribbean, *About*, <http://trinationalinitiative.org/en/about>. During a September 2010 meeting, participants developed an outline for a formal plan of action. See *id.*, *Trinational Initiative Leads to New Plan of Action* (Sept. 30, 2010), <http://trinationalinitiative.org/en/trinational-initiative-leads-to-new-plan-of-action>.

## D. Conclusion

This report is intended to provide a comparison of the Mexican and United States frameworks for habitat conservation and restoration, focusing on the federal level to best enable identification of opportunities to enhance coordination and collaboration.

Numerous parallels exist between the Mexican and United States frameworks. There are also many differences, such as the discrepancies in balance between federal and state authorities in the two countries. The issues affecting coastal and marine habitats in the two countries similarly both overlap and diverge. For example, wetlands are a key ecosystem in both countries, but mangrove systems in particular are more common and critical in Mexico than in the United States. Both countries are significantly affected environmentally and economically by oil and gas development in the Gulf of Mexico, an activity whose impacts do not abide by jurisdictional boundaries, as demonstrated by the BP *Deepwater Horizon* disaster.

To identify key challenges, the authors reviewed the two countries' legal and institutional frameworks, assessed their regional development goals, identified current bilateral and multilateral agreements, and drew upon lessons learned from other regional frameworks. What emerged was a better understanding of the mechanisms available for coordination and collaboration in the Gulf of Mexico.

Finding solutions to specific environmental issues would be benefitted by increased coordination and collaboration between Mexico and the United States. They include management of shared resources like fisheries and protected species, early detection of and response to introductions of invasive species, preparedness for responding to oil and gas and other hazardous substance accidents, and climate change mitigation. Within these specific environmental issues, the two countries may wish to consider specific institutional arrangements, through either an existing or new entity or agreement, to standardize collaborative efforts.

In other areas of habitat conservation and restoration, direct collaboration may not be essential to successful management except when the issue is a border issue. For example, effective beach and dune restoration in a local area does not require transboundary cooperation (although long-term maintenance of beach and dune habitat Gulf-wide would likely require cooperation and collaboration). In these instances of local impact and conservation or restoration, highly formalized mechanisms for bilateral (or multilateral) collaboration may not be needed. However, this is not to say that increased *coordination* would not be mutually desirable – both countries may greatly benefit from increased sharing of information,

methodologies, and lessons learned. This is especially true in the face of climate change, which will likely result in rapidly changing marine conditions and coastlines.

It is the authors' hope that the information contained in this Report will help facilitate productive dialogue on what the next steps should be to effectuate productive communication, coordination, and collaboration between Mexico and the United States on habitat conservation and restoration efforts. Whether existing or new, it may be that using a less formal and binding entity or agreement to increase information-sharing between the countries will be a pilot effort and foundation for long-term collaboration. Conversely, it may be easier to focus on a specific transboundary issue and then replicate the model to address other challenges.

## APPENDIX I.

### MEXICAN AND U.S. LEGAL FRAMEWORKS FOR HABITAT CONSERVATION AND RESTORATION

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## **A. Introduction to the Mexican and U.S. Governance Frameworks**

### **1. Mexican Ocean and Coastal Jurisdictional Boundaries**

As a preliminary matter, Article 49 of the Constitution of the United Mexican States provides one of the essential principles of any State constitutional law: the separation of powers. It establishes the division of the "Supreme Power of the Federation," to be exercised in the Legislative, Executive, and Judicial bodies.<sup>1</sup> The legislature is composed of two chambers: a chamber of 500 deputies and a chamber of 128 senators.<sup>2</sup> The executive power is vested in a single individual, named president of the United Mexican States.<sup>3</sup> The judicial power is vested in one Supreme Court, an Electoral Court, Circuit courts (collegiate and unitary), and District courts.<sup>4</sup>

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<sup>1</sup> Constitución Política de los Estados Unidos Mexicanos, Diario Oficial de la Federación (5 Feb. 1917), art. 49, available at <http://www.ordenjuridico.gob.mx/Constitucion/cn16.pdf>.

<sup>2</sup> *Id.* art. 50.

<sup>3</sup> *Id.* art. 80.

<sup>4</sup> *Id.* art. 94.



The remainder of this section discusses the boundary and ownership issues relevant to the current analysis. First, the Mexican Federation is a party to the United Nations Convention on the Law of the Sea (UNCLOS). In accordance with UNCLOS, Mexico has a 12-mile territorial sea and has jurisdiction over renewable and non-renewable resources out to 200 nautical miles from shore in most instances (the limit of the Exclusive Economic Zone (EEZ)).<sup>5</sup>

Mexico's recently developed National Policy for Seas and Coasts defines the coastal zone as:

[T]he geographic area of mutual interaction between the marine environment, terrestrial environment and atmosphere, comprised of: a) a continental portion defined by 261 coastal municipalities, 150 beachfront and 111 municipalities adjacent to those with internal upper and middle coastal influence, b) a marine portion defined from the continental shelf limited by the isobath of 200 m, and c) an insular portion represented by the island nations.<sup>6</sup>

The property of the nation includes a set of assets that serve the state to achieve its goals.<sup>7</sup> The **National Assets Law** divided these assets in *Real Public Domain* and *Property of the Nation*. The Real Public Domain includes, among others:

- Commonly used goods listed in Article 27 of the Constitution;
- The seabed of the territorial sea and inland marine waters;
- Real estate of the Federation used for a public service;
- The archaeological, historical, and artistic movable or immovable property of the federation;
- Vacant land and other immovable property declared by law as inalienable and indefeasible;
- The natural or artificial land reclaimed from the sea;
- Easements when the dominant estate is one of the above; and

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<sup>5</sup> See Federal Law of the Sea (Diario Oficial, 8 Jan. 1986), tit. II, ch. 1, available at <http://www.ordenjuridico.gob.mx/Federal/Combo/L-129.pdf>. Where more than one countries' EEZ intersects, as occurs in some areas of the Gulf of Mexico, the boundary is negotiated and guided by UNCLOS provisions. Mexico's territorial sea extends to 12 nautical miles. UNCLOS, arts. 24–25.

<sup>6</sup> Interministerial Commission for Sustainable Management of Seas and Coasts (Comisión Intersecretarial para el Manejo Sustentable de Mares y Costas, CIMARES), National Policy for Seas and Coasts (Política Nacional de Mares y Costas de México) (2010), at 8, available at [http://www.semarnat.gob.mx/participacion/consultaspublicas/marescostasy manglares/Documents/dcto\\_trab\\_22oct10\\_conspub.pdf](http://www.semarnat.gob.mx/participacion/consultaspublicas/marescostasy manglares/Documents/dcto_trab_22oct10_conspub.pdf).

<sup>7</sup> National Assets Law (Ley General de Bienes Nacionales), Diario Oficial 20 May 2004 (last amended 31 Aug. 2007), available at <http://www.ordenjuridico.gob.mx/Federal/Combo/L-141.pdf>; GABINO FRAGA, DERECHO ADMINISTRATIVO 361.

- The murals, sculptures, and any artistic work incorporated in or permanently attached to the buildings of the Federation or of the heritage of decentralized agencies, whose preservation is of national interest.

**Article 27 of the Mexican Constitution**<sup>8</sup> states that the nation is the original owner of the Mexican territory, and therefore is the only one who can impose limitations and conditions on private property. The fourth paragraph of the article states that the nation owns the waters of the surrounding seas in accordance with the rules of international law; the waters of the estuaries, lagoons, and rivers that permanently or intermittently have direct connection to the sea; and the maritime areas, beds, basins, or shores of lakes, lagoons, estuaries, rivers, and inland lakes.

The **National Assets Law** establishes that ocean and coastal resources are generally within the exclusive federal jurisdiction, and that such property is inalienable and inalienable. Therefore it is impossible for the Federation to transfer ownership, and if it attempts to do so, the transaction will be null and void. This also means that states and municipalities may not, under any circumstances, encumber, sell, rent, or otherwise transfer ocean and coastal resources. Likewise, any state or municipal legislative action related to the Federation’s public property, including ocean and coastal resources, is null and void and has no effect.

According to the **Planning Law**,<sup>9</sup> the Federation can sign agreements with the Mexican states to coordinate the administration and regulations of some activities. For example, the administration and monitoring of federal protected areas can be transmitted to the States with the participation of municipalities.<sup>10</sup>

Common maritime assets are regulated by the National Assets Law and the Federal Law of the Sea. The marine area can be subdivided into:

- **Territorial sea**—The territorial sea is the property of the nation and comprises the area from the lowest tide line out to 12 nautical miles from shore.
- **Internal marine waters**—Inland marine waters are those that are located shoreward of the baseline of the territorial sea, including closed bays, and as with all common maritime assets, are the property of the Federation.

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<sup>8</sup> Constitución Política de los Estados Unidos Mexicanos, *supra* note 1.

<sup>9</sup> Planning Law (Ley de Planeación), Diario Oficial de la Federación 5 Jan. 1983, available at <http://www.ordenjuridico.gob.mx/Documentos/Federal/wo13201.doc>.

<sup>10</sup> General Law of Ecological Equilibrium and Environmental Protection (Ley General del Equilibrio Ecológico y la Protección al Ambiente, LGEEPA), Diario Oficial 28 Jan. 1988, art. 11, available at <http://www.ordenjuridico.gob.mx/Documentos/Federal/wo5442.doc>.

- **Exclusive Economic Zone**—The Mexican Exclusive Economic Zone (EEZ extends out to 200 nautical miles from shore and is governed by Federation law.
- **Beaches**—Marine beaches are tidally affected lands, between the low and high water marks, and are governed by Federation law.
- **Federal Maritime Terrestrial Zone**—The Federal Maritime Terrestrial Zone (ZOFEMAT or Zona Federal Maritimo Terrestre) is a terrestrial strip of shoreline that is considered a national asset. It consists of a band 20 meters wide that extends inland from the mean high tide line. The ZOFEMAT also includes the first 100 meters of each riverbank, starting from the estuary upstream. The National Assets Law states that use of the ZOFEMAT and other national assets requires a SEMARNAT license or assignment, as applicable.
- **Port infrastructure**—Port infrastructure, including dikes, jetties, breakwaters, and other port works, is considered federal property when it has a public use.

## ***2. U.S. Ocean and Coastal Jurisdictional Boundaries***

In the U.S., management of ocean and coastal resources occurs under federal, state, and local law. This report focuses mainly on federal laws with some explanation and discussion of state laws. Both federal and state governments play active roles in Gulf of Mexico conservation and restoration. This section provides a very brief overview of the U.S. system of ocean government and jurisdictional boundaries relevant to ocean and coastal restoration and protection.

In a series of cases starting in the 1950s, the Supreme Court ruled that the federal government has paramount interests in the oceans and that the states do not have a fundamental right to the area or its resources.

In response to the paramouncy decisions, Congress passed the Submerged Lands Act, codifying state rights to manage and use the resources in nearshore waters. Therefore, in accordance with the Submerged Lands Act, jurisdiction over marine waters and submerged lands is split between the state and federal governments. Most states, including Louisiana, Mississippi, and Alabama, have jurisdiction over most resources and activities in the waters and submerged lands within their borders out to three nautical miles offshore. Texas and the Gulf Coast of Florida have state jurisdictional boundaries that extend to nine nautical miles offshore.<sup>11</sup> The

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<sup>11</sup> NOAA, State Coastal Zone Boundaries (Apr. 2004), available at <http://coastalmanagement.noaa.gov/mystate/docs/StateCZBoundaries.pdf>.

federal government has exclusive economic jurisdiction from the state boundary out to the limit of the EEZ.<sup>12</sup>

While clear demarcations exist between federal and state waters, jurisdiction is complicated by several factors, including, for example, federal permitting and environmental analysis requirements for certain activities in state and federal waters; federal environmental laws that are implemented by state agencies onshore and in state waters; federal authority to manage activities that affect endangered species and marine mammals in federal and state waters; state authority review of federal actions that affect state waters through the Coastal Zone Management federal consistency review process; and state participation in environmental impact reviews conducted pursuant to the National Environmental Policy Act, among other jurisdictional intersections.<sup>13</sup>

**Figure 1. U.S. State, Federal, and International Jurisdiction Boundaries in the Gulf of Mexico.** The solid black line closest to shore demarcates the state water boundary; the notched black line in the middle of the Gulf of Mexico demarcates the extent of federal jurisdiction.<sup>14</sup>



<sup>12</sup> The U.S. is not a party to UNCLOS but does conform to the aspects of the treaty that codify customary international law, including the territorial sea and EEZ boundaries. Therefore the U.S., like Mexico, has a 200-mile EEZ except in instances where the distance between two countries is less than 400 nautical miles.

<sup>13</sup> 42 USC § 4321 *et seq.* (NEPA); 16 USC § 1456(c) (CZMA).

<sup>14</sup> Screen capture from the Multipurpose Marine Cadastre developed by the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and DOI Bureau of Ocean Energy Management, Regulation, and Enforcement, [www.marinecadastre.gov](http://www.marinecadastre.gov).

### **3. Ocean and Coastal Jurisdictional Boundaries between Mexico and the United States in the Gulf of Mexico**

Mexico established its 200-nautical mile EEZ in 1976, which created overlap between the Mexican and U.S. EEZs in areas where there was less than 400 nautical miles between them. After a provisional boundary agreement, the two nations formally delimited their maritime boundaries in 1978 on the basis of equidistance between the 12-nautical mile territorial sea limits of the two countries.<sup>15</sup> Mexico signed and ratified the treaty the following year; although the United States signed it in 1979, it did not ratify the agreement until 1997.

While the treaty settled many issues, two areas commonly referred to as the “western gap” and the “eastern gap” were not encompassed by the EEZs of the United States, Mexico, or Cuba.<sup>16</sup> Due to interest in the potential underlying oil and gas reservoirs, in 2000 Mexico and the United States entered into a second agreement delineating the continental shelf boundaries of the two countries within the western gap.<sup>17</sup> Approximately 62% of the roughly 5,100 square nautical miles were apportioned to Mexico, and 38% to the United States; a surrounding 1.4-nautical mile buffer zone was also established to accommodate oil and gas reservoirs that might cross the boundaries.<sup>18</sup> A 10-year moratorium on oil and gas exploration and development was established within the buffer zone, and the end date was recently extended from January 17, 2011 to January 17, 2014.<sup>19</sup> After the moratorium expires, each country is allowed to engage in oil and gas exploitation activities in the area if the one notifies the other. No such treaty has been established for the eastern gap. In the United States, portions of the Central Planning Area and Eastern Planning Area in the Gulf are withheld from oil and gas development until 2022. This ban was implemented by the Gulf of Mexico Energy Security Act of 2006.<sup>20</sup>

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<sup>15</sup> Treaty on Maritime Boundaries between the United Mexican States and the United States of America (Caribbean Sea and Pacific Ocean), 4 May 1978, 2143 UNTS 405.

<sup>16</sup> See U.S. Department of the Interior, Minerals Management Service, News Release: MMS Lauds U.S. and Mexico Continental Shelf Boundary Treaty Agreement, June 13, 2000, available at <http://www.boemre.gov/ooc/press/2000/061300.htm>.

<sup>17</sup> John A. Duff, US Ratifies Maritime Boundary Treaty with Mexico, 17 WATER LOG 1 (1997), available at <http://masglp.olemiss.edu/Water%20Log%20PDF/17.4.pdf>; For additional discussion about cooperation in transboundary oil resources, see Richard McLaughlin, *Establishing Transboundary Marine Energy Security & Environmental Cooperation Areas as a Method of Resolving Longstanding Political Disagreements & Improving Transboundary Resource Management in the Gulf of Mexico*, 8 ISSUES IN LEGAL SCHOLARSHIP 1 (2008).

<sup>18</sup> Treaty between the Government of the United States of America and the Government of the United Mexican States on the Delimitation of the Continental Shelf in the Western Gulf of Mexico beyond 200 Nautical Miles, 9 June 2000, 2143 UNTS 417; U.S. Department of Energy, Energy Information Administration, Overview of U.S. Legislation and Regulations Affecting Offshore Natural Gas and Oil Activity (Sept. 2005), at 7, available at [http://www.eia.doe.gov/pub/oil\\_gas/natural\\_gas/feature\\_articles/2005/offshore/offshore.pdf](http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2005/offshore/offshore.pdf).

<sup>19</sup> See Embassy of the United States, Diplomatic Note No. 1655 (June 22, 2010), and corresponding reply from the Mexican Ministry of Foreign Affairs (June 22, 2010), available at <http://www.state.gov/documents/organization/147388.pdf>.

<sup>20</sup> 43 U.S.C. § 1331; Pub. L. 109-432 (Dec. 20, 2006).

## B. Mexican and U.S. Laws and Policies Related to Gulf of Mexico Coastal Habitat Conservation and Restoration

The report includes summaries and analyses of laws and policies relevant to four different habitat categories, one sector-specific issue, and four cross-cutting issues. These categories do not necessarily correlate with how laws and policies are currently organized in Mexico and the United States, as existing laws are largely organized by individual sectors, activities, or needs. Instead, they emphasize the need to look comprehensively at the diverse components of and impacts to a particular habitat or ecosystem and develop a management structure for it as a whole (see Figure 2).

The four habitat types are:

- **Wetlands and estuaries**—wetlands, estuaries, and associated coastal habitats.
- **Harvested species habitat**—habitat that supports commercially or recreationally harvested species (primarily fish and shellfish).
- **Coral reefs**—nearshore and offshore coral reef habitats.
- **Beaches and dunes**—beach, dune, onshore, and coastal barrier habitats.

The sector-specific issue covered is:

- **Offshore oil and gas development and accident response** —because of its economic importance, the recent disaster, and the enormous focus on this sector, this issue is treated as a separate topic and includes laws that trigger response and restoration in the wake of an accidental discharge or impact to protected areas.

The four cross-cutting issues are:

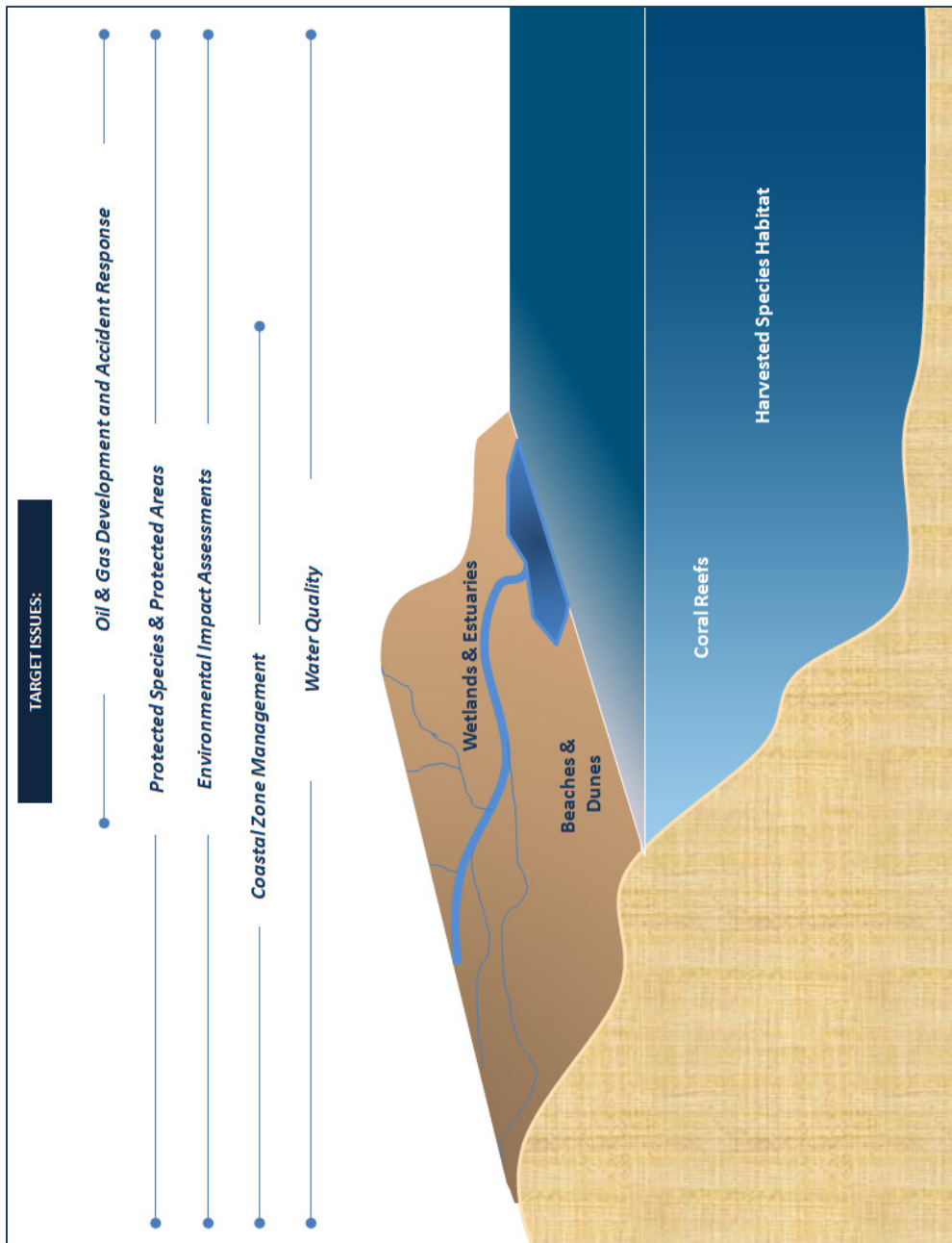
- **Cross-cutting issue: Protected species and protected places**—habitat that is specially conserved, restored, or managed due to the presence or dependence of a particular protected species.
- **Cross-cutting issue: Environmental impact assessments**—laws and policies requiring and guiding the conduct of environmental impact assessments and related decision-making.
- **Cross-cutting issue: Coastal management**—laws and policies related to managing the coastal areas and relevant watersheds.
- **Cross-cutting issue: Water quality and quantity**—laws that address point source and nonpoint sources of pollution in the coastal and ocean environment.

Within each category, the report focuses on restoration and conservation activities.

“Restoration” refers to actions intended to restore a resource or an area to a prior healthy or

natural condition. “Conservation” refers to actions aimed at protecting a resource, such as designating an area for heightened protection or for a set-aside, requiring management plans, or limiting or regulating human uses. While the report also discusses research activities, this coverage is necessarily limited to major statutory provisions that specifically target habitat, despite the fact that many statutes require research to support mandatory and discretionary processes and that much of the data gathered could be relevant to habitat preservation.

**Figure 2. Depiction of the nine target issues discussed in the report.**



## 1. Wetlands and Estuaries

Table 1 lists the federation/federal laws in Mexico and the U.S. relevant to wetlands and estuaries that are summarized in this section. It focuses on laws that specifically target wetlands and estuaries management or are frequently used to manage these areas but does not include *all* laws that are important to the management of these habitats.<sup>21</sup>

**Table 1. Wetlands and Estuaries Laws and Policies**

Mexico	United States
<ul style="list-style-type: none"> <li>• Mexican Constitution, Article 27</li> <li>• National Assets Law</li> <li>• General Law of Ecological Balance and Environment Protection</li> <li>• General Law of Wildlife</li> <li>• Official Mexican Standard NOM-059-SEMARNAT-2010</li> <li>• Official Mexican Standard NOM-022-SEMARNAT-2003</li> </ul>	<ul style="list-style-type: none"> <li>• Clean Water Act (including National Estuary Program)</li> <li>• Rivers and Harbors Act</li> <li>• Ocean Dumping Act</li> <li>• Estuary Protection Act</li> <li>• Estuary Restoration Act</li> <li>• North American Wetlands Conservation Act</li> <li>• Federal Aid to Wildlife Restoration Fund</li> <li>• Emergency Wetlands Resources Act</li> <li>• Coastal Wetlands Planning, Protection, and Restoration Act</li> <li>• Coastal Impact Assistance Program</li> <li>• National Wildlife Refuge System</li> <li>• National Park Service</li> <li>• Water Resources Development Acts</li> <li>• Nonindigenous Aquatic Nuisance Prevention and Control Act</li> <li>• National Estuarine Research Reserves</li> </ul>

### *i. Mexican Laws and Policies*

#### *Federal Conservation*

Mexico has more than 14,000 km of coastal lagoon and estuarine ecosystems, including more than 125 coastal lagoons, which cover 33% of the coastal surface area in Mexico (12,600 km<sup>2</sup>), and mangroves are a key part of many of these ecosystems.

<sup>21</sup> Many laws are relevant for management of wetlands and estuaries, including, for example, the U.S. Endangered Species Act and the National Environmental Policy Act. These and other broader laws are described in subsequent sections.



Mexico does not have specific laws designed to restore and protect wetlands and estuaries. Instead, protection and restoration of wetlands and estuaries occurs in accordance with general environmental and land use laws—some with specific provisions and related regulations and policies that target restoration and conservation of wetlands, estuaries, and key species such as mangroves. Laws that are important to wetland and estuarine conservation and restoration include:

- Pollution limitations under the General Law of Ecological Balance and Environment Protection (LGEEPA), Article 28;
- Environmental impact assessments under LGEEPA, Article 15;
- Mangroves protected under Official Mexican Standard NOM-059-SEMARNAT-2010 focused on environmental protection of native species; and
- Coastal wetlands in mangrove areas protected, conserved, and restored under Official Mexican Standard NOM-022-SEMARNAT-2003.

Of particular importance to wetlands protection in Mexico is mangroves. Mangroves are found along a majority of Mexico's Gulf Coast. Because of their ecological importance and location, they are managed by the federal government. SEMARNAT is the primary protection authority. In accordance with the National Assets Law, mangrove habitat is national property and therefore private ownership or use of a mangrove area is illegal without a permit or concession from SEMARNAT. Such concessions prohibit logging or clearing mangroves, and only the concession holder has the right to use it.

The **General Law of Ecological Balance and Environment Protection (LGEEPA)**<sup>22</sup> is the primary law that establishes principles of environmental policy in Mexico. LGEEPA Article 28 governs works and activities that may cause ecological imbalances or exceed maximum pollution limits.

It is important to note that LGEEPA does not contain any explicit provisions regarding mangroves. However, it contains the procedure for conducting environmental impact assessments (EIAs; for further discussion see the section on *Environmental Impact Assessments*) and mentions the Official Mexican Standards that are pertinent to the protection of mangroves and coastal wetlands. Through the EIA procedure, SEMARNAT sets conditions for activities to ensure they avoid or minimize environmental impacts.

Real estate development projects located in coastal ecosystems—as well as those that include works or activities in coastal wetlands, mangroves, lagoons, rivers, lakes and streams connected

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<sup>22</sup> LGEEPA, *supra* note 10.

to the sea and its coastal or federal areas—must receive EIA authorization prior to commencement.<sup>23</sup>

The National Commission of Water (CONAGUA) administers the lands of the channels and vessels of lakes, lagoons, or estuaries discovered by natural or artificial works.<sup>24</sup> The law states that the Water Authority will punish those who discharge any pollutant, in violation of the laws, in estuaries, marine waters, and other tanks or streams, or who discharge infiltrating materials and substances that pollute the ground water.<sup>25</sup>

The purpose of the **General Law of Wildlife (LGVS)** is to establish the concurrence of the federal government, state governments, and municipalities, within their respective powers, on the conservation and sustainable use of wildlife and their habitat in the territory of Mexico and in areas of national jurisdiction. As described in the second paragraph of Article 1, the sustainable use of forest resources and non-timber species and aquatic species is governed by the laws of forestry and fishing, respectively, *except* in the case of species or populations at risk.

Mangroves are a species subject to risk of extinction, per **Official Mexican Standard NOM-059-SEMARNAT-2010**, which focuses on environmental protection of native species.<sup>26</sup> It provides special protection to species in danger of extinction as a consequence of human activities. Because mangrove forests are a resource subject to a special protection regime, the LGVS establishes the applicable regulations instead of the General Law on Sustainable Forest Management.

### *Coastal Wetlands*

In addition, **Official Mexican Standard NOM-022-SEMARNAT-2003** establishes specifications for the preservation, conservation, sustainable use, and restoration of coastal wetlands in mangrove areas. NOM-022-SEMARNAT-2003 defines coastal wetlands as:

Coastal transition between continental and marine waters, which is characterized by vegetation hydrophytic or halophytic, seasonal or permanent, and that depends on

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<sup>23</sup> LGEEPA, art. 28, Sections IX–X.

<sup>24</sup> National Waters Law (Ley de Aguas Nacionales), Diario Oficial de la Federación 1 Dec. 1992, art. 113, available at <http://www.ordenjuridico.gob.mx/Federal/Combo/L-5.pdf>

<sup>25</sup> National Waters Law, art. 119.

<sup>26</sup> Official Mexican Standard NOM-059-SEMARNAT-2010, Environmental protection, Native species of Mexican flora and fauna, Risk categories and specifications for inclusion, exclusion or change, List of species at risk (Protección ambiental, Especies nativas de México de flora y fauna silvestres, Categorías de riesgo y especificaciones para su inclusión, exclusión, o cambio, Lista de especies en riesgo), Diario Oficial (Segunda Sección) 30 Dec. 2010, available at <http://200.77.231.100/work/normas/noms/2010/059semarnat2010a.pdf>.

continuous circulation of brackish or marine water. It also includes the marine regions that are no more than 6 m depth in relation to the average low tide.<sup>27</sup>

Coastal wetlands include areas where there are two indispensable elements: mangrove cover and vegetation that is dependent on the continuous flow of brackish and sea water. Therefore, in accordance with the National Assets Law and as mentioned above, mangrove habitat is national property and private ownership or use of a mangrove area is illegal without a permit or concession from SEMARNAT. The definition of a mangrove contained in the official standard is:

Tree and shrub community in tropical and subtropical coastal regions, consisting of halophytic species that have distinctive ecophysiological features such as aerial roots, viviparity, filtration and determination of some toxins, mechanisms for exclusion or excretion of salts; can grow in different salinities ranging from 0 to 90 ppm, reaching maximum development in brackish conditions (approx. 15 ppm).<sup>28</sup>

The definition mentions the four species of mangroves found nationally: *Rhizophora mangle*, *Conocarpus erecta*, *Avicennia germinans*, and *Laguncularia racemosa*. These correspond to the four mangrove species listed as at-risk and thus protected by NOM-059-SEMARNAT-2010.

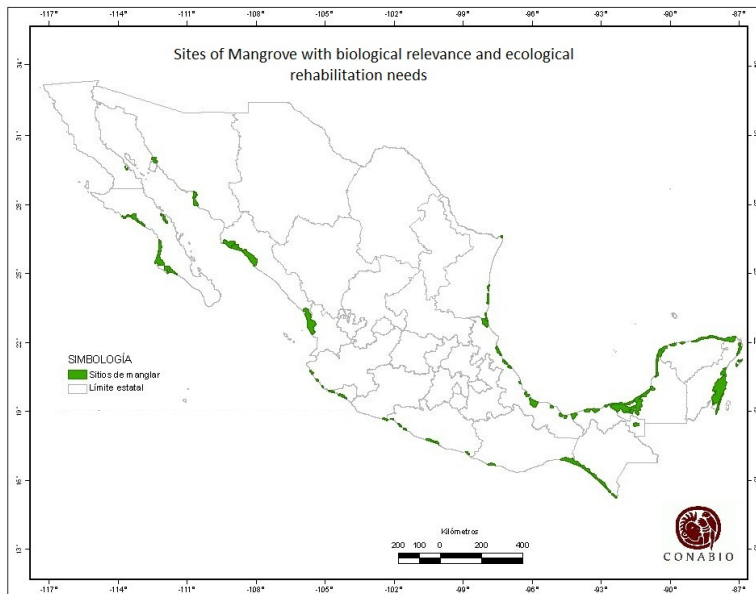
Figure 3 shows the coverage of mangroves according to the national inventory of mangroves published by National Commission for the Knowledge and Use of Biodiversity (CONABIO).

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<sup>27</sup> Official Mexican Standard NOM-022-SEMARNAT-2003, That establishes the specifications for the preservation, conservation, sustainable use and restoration of coastal wetlands in mangrove areas (Que establece las especificaciones para la preservación, conservación, aprovechamiento sustentable y restauración de los humedales costeros en zonas de manglar), Diario Oficial (Primera Sección) 10 Apr. 2003, para. 3.36, available at <http://200.77.231.100/work/normas/noms/2003/022semarnat.pdf>.

<sup>28</sup> NOM-022-SEMARNAT-2003, para. 3.40.

**Figure 3. Mangrove coverage in Mexico.<sup>29</sup>**



According to NOM-022-SEMARNAT-2003, the basic guidelines for developments that may impact mangrove areas state that the project should include an integrated vision that addresses:<sup>30</sup>

- Preserving mangrove vegetation as a community;
- The integrity of the coastal wetland hydrologic flow;
- The integrity of the ecosystem and its zone of influence on the continental shelf;
- Its natural productivity;
- The natural carrying capacity of the ecosystem for tourists;
- The integrity of nesting areas, breeding, shelter, food and spawning grounds;
- The integrity of functional interactions between coastal wetlands, rivers (surface and underground), dunes, adjacent marine areas, and corals;
- Change in ecological characteristics;
- Environmental services; and
- Ecological and ecophysiological (ecosystem structures such as the depletion of primary processes, ecophysiological stresses, toxicity, high rates of migration and mortality, as well as reductions in the populations of listed species).

<sup>29</sup> National Commission for the Knowledge and Use of Biodiversity (CONABIO), Sites of mangroves with biological relevance and ecological rehabilitation needs (2009).

<sup>30</sup> NOM-022-SEMARNAT-2003, *supra* note 27, para. 4.0.

Mexico is a Contracting Party to the Convention on Wetlands of International Importance, especially as Waterfowl Habitat (commonly referred to as the Ramsar Convention). The country is committed to fulfilling its international commitments under the Convention, and does so by applying three pillars of action:

- Rational use of all wetlands in the country;
- Designation of sites to the Ramsar List and for sustainable management; and
- Taking actions to increase international cooperation.

In 2003 the National Commission of Protected Natural Areas (CONANP) was designated the Ramsar Administrative Authority in Mexico. It oversees 130 Ramsar sites, which cover about nine million hectares of wetland (4.5% of the country) in collaboration with state and local governments, research institutions and civil society organizations.

There is a penalty of 2–10 years in prison and the equivalent of a 300–3,000 day fine for those who illegally damage, desiccate, or fill wetlands, mangroves, lagoons, marshes, and swamps. An additional penalty of up to two years' imprisonment and an additional fine of up to 1,000 days may be applied when the conduct described takes place in or affects a protected natural area, or the perpetrator does so for a profit.<sup>31</sup>

#### *Federal Restoration*

Since 2004 the National Forestry Commission (CONAFOR) has managed three mangrove reforestation projects, in collaboration with the National Aquaculture and Fisheries Commission (CONAPESCA).<sup>32</sup> The goal is to replant 397 ha with different mangrove species. In 2005 contracts were issued for 16 reforestation projects, covering 710 ha. In the Gulf of Mexico, projects were located in Veracruz, Tabasco, Campeche, Yucatan, and Quintana Roo. Project numbers increased in 2006. The projects use a variety of management structures and funds. Among other sources, CONAFOR receives support through aid funds established after Hurricanes Stan and Wilma, which it uses to support mangrove restoration projects along the coasts of Oaxaca and Chiapas. In 2007, CONAFOR announced 57 projects for mangrove preservation and restoration, which are located in 14 of the 17 coastal states and cover a target area of 3,373 ha.

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<sup>31</sup> Mexican Federal Penal Code (Codigo Penal Federal), art. 420 bis (2011).

<sup>32</sup> CONAFOR, La CONAFOR y los manglares, [http://www.cnf.gob.mx:8080/webHumedales/index.php?option=com\\_content&task=view&id=128&Itemid=1](http://www.cnf.gob.mx:8080/webHumedales/index.php?option=com_content&task=view&id=128&Itemid=1).

Recently, the Autonomous University del Carmen (UNACAR) signed a collaboration agreement with CONAFOR, SEMARNAT, and the United Nations Industrial Development Organization (UNIDO) to work on mangrove restoration along the Gulf of Mexico.<sup>33</sup> The agreement specifically governs the restoration of 125 ha of short-term mangroves, which have suffered varying degrees of degradation.

### *Research*

Because there are no reliable estimates of the rate at which the mangroves in the country are changing, and what factors are causing these changes have not been evaluated nationally, for several years the National Commission for the Knowledge and Use of Biodiversity (CONABIO) monitored mangroves in Mexico, in order to generate the knowledge required to impact on public policies for better planning and management of this ecosystem.

From May 2006 to September 2008, CONABIO (with the participation of other institutions) implemented the first phase of a program to establish the baseline of mangrove forests in Mexico.<sup>34</sup> Among the most important results of the first stage was the mapping of mangrove distribution in Mexico (scale 1:50,000). A map was created from high-resolution photographs obtained via low-flying Navy helicopters. The result was an estimate that mangroves cover an area of 770,057 ha, with over half occurring in the Yucatan Peninsula region.<sup>35</sup>

States have also engaged in research efforts. For example, in the Yucatan Peninsula, the Laboratory of Primary Production and Laboratory of Remote Sensing and GIS at the Center for Research and Advanced Studies of the National Polytechnic Institute (CINVESTAV) works with several other participating institutions to study mangrove ecology and management in the region. The participating institutions include the Ministry of the Navy's (SEMAR) Oceanographic Research Station of the Gulf and Caribbean Ocean (Estacion de Investigacion Oceanografica de Progreso), the South Florida Water Management District, Louisiana State University's Biogeochemistry Institute, Ducks Unlimited of Mexico, and the Yucatan offices of CONAFOR and CONANP. The main objective is to generate information to advance the understanding of the factors and variables that affect mangrove ecosystem services, as well as providing scientific support to conservation actions and strategies to achieve sustainable use and rehabilitation of mangrove ecosystems in the Yucatan Peninsula.<sup>36</sup>

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<sup>33</sup> *Id.*

<sup>34</sup> CONABIO, Ecosystems, Knowledge and Use, Mangroves, Monitoring Program, <http://www.biodiversidad.gob.mx/ecosistemas/manglares/progMonitoreo.html>.

<sup>35</sup> *Id.*

<sup>36</sup> See presentation by M. en C. Arturo Zaldivar-Jimenez, CINVESTAV-PIN, *El programa de ecología y manejo de los manglares en la región Peninsula de Yucatan*, available at [http://www.biodiversidad.gob.mx/ecosistemas/manglares/pdf/t1/A\\_Zaldivar\\_CINVESTAV-IPN.pdf](http://www.biodiversidad.gob.mx/ecosistemas/manglares/pdf/t1/A_Zaldivar_CINVESTAV-IPN.pdf).

## *State Conservation and Restoration*

The Federal Government may coordinate with the state governments and the Federal District that are engaged in certain administrative actions related to the prevention and control of water pollution and liability for environmental damage. The National Water Law and other applicable legal instruments permit such decentralization of the management of water resources. Pursuant to the national law, persons or entities (including agencies and entities of the three branches of government) that operate, use, or exploit national water for any use or activity are responsible for:<sup>37</sup>

- a. Establishing measures necessary to prevent contamination and, if necessary, to restore waters to appropriate conditions to enable their operation, use, or subsequent use; and
- b. Maintaining the balance of vital ecosystems.

The National Commission of Water (CONAGUA) can establish agreements with State governments, the Federal District, or municipalities regarding the custody, care, and maintenance of federal areas, such as those that include estuaries and mangroves.<sup>38</sup>

### *ii. U.S. Laws and Policies*

A patchwork of federal laws supports wetlands and estuary habitat. Wetland and estuaries are protected, in part, through the **Clean Water Act** (CWA) and the **Rivers and Harbors Act**, which regulate dredging or filling in a wetland or estuary, among other things.<sup>39</sup>

The **Rivers and Harbors Act** regulates excavation or deposition of materials in or over navigable waters, or in any other way modifying their “course, location, condition, or capacity,” unless recommended and authorized by the Army Corps of Engineers (Army Corps).<sup>40</sup> The Army Corps’ authority applies within state waters and extends to artificial islands, installations, and other devices located on the Outer Continental Shelf.<sup>41</sup>

Section 404 of the **Clean Water Act** requires both private and public actors to obtain an Army Corps permit before discharging fill or dredge material into any “waters of the United States.”<sup>42</sup>

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<sup>37</sup> National Waters Law, *supra* note 24, art. 85.

<sup>38</sup> National Waters Law, *supra* note 24, art. 117.

<sup>39</sup> 33 USC § 1344; 40 CFR Part 232.3.

<sup>40</sup> 33 USC § 403.

<sup>41</sup> See 43 U.S.C. § 1333(e); 33 CFR § 322.3(b); *Alliance to Protect Nantucket Sound, Inc. v. US Dep’t of the Army*, 288 F. Supp. 2d 64, 72–73 (D. Mass. 2003), *aff’d*, 398 F.3d 105 (1st Cir. 2005).

<sup>42</sup> 33 U.S.C. § 1344; 40 CFR Part 232.3.

The Army Corps may issue permits out to the boundary of the “territorial sea” defined as those waters “extending seaward a distance of three miles” from shore.<sup>43</sup> Certain activities are excluded from the permit requirement, including sedimentation that occurs during normal farming, silviculture, and ranching activities; structural maintenance including of dams and levees; and construction or maintenance of farm or stock ponds or irrigation ditches. The Army Corps also issues “general” or “nationwide” permits for activities that only cause minimal adverse environmental impacts individually and cumulatively. Finally, the Army Corps may delegate permitting authority to states when they develop an adequate permitting system of their own, but that has only happened in two states (Michigan and New Jersey). Whether the Army Corps or the state, the permitting entity must allow the Environmental Protection Agency (EPA) and the Fish and Wildlife Service (FWS) the opportunity to comment before they issue a permit.

In addition to dredge and fill laws and regulations, the **Ocean Dumping Act** prohibits dumping of materials in ocean waters out to 200 nautical miles that would unreasonably degrade human health or the environment. If it is dredged material, the Army Corps may issue a permit for dumping, in sites designated in a site management plan. EPA administers permits for all other materials (see below, in the Offshore section).<sup>44</sup> Under both programs, a permit may only be issued if the activity “will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.”<sup>45</sup>

The CWA authorized the creation of the **National Estuary Program** (NEP), which works to preserve and restore “estuaries of national significance”—28 such estuaries exist. Federal, state, local, regional, and/or international governments with jurisdiction over a designated estuary, as well as members of the public, develop Comprehensive Conservation and Management Plans for designated estuaries. Once the EPA Administrator approves an estuary management plan, federal grants can support up to 50% of the costs of implementing the plan.<sup>46</sup> In order to help protect and restore watershed and aquatic ecosystems by 2015, EPA is working to “restore an additional (i.e., measuring from 2009 forward) 600,000 acres of habitat within the study areas for the 28 estuaries that are part of the National Estuary Program.”<sup>47</sup> Designated estuaries in the Gulf of Mexico include: Coastal Bend Bays and Galveston Bay in Texas; Barataria-Terrebonne Estuary in Louisiana; Mobile Bay in Alabama; and Tampa Bay, Sarasota Bay, and Charlotte Harbor in Florida. Within these seven NEP sites, habitat protection

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<sup>43</sup> 33 USC § 1344(b)(1), 1362(7), 1362(8).

<sup>44</sup> 33 USC §§ 1412(a), 1412(c), 1413(a). The Ocean Dumping Act is Titles I and II of the Marine Protection, Research, and Sanctuaries Act.

<sup>45</sup> 33 USC § 1412(a), 1413(a).

<sup>46</sup> 33 USC § 1330.

<sup>47</sup> US EPA, FY 2011-2015 EPA Strategic Plan: Achieving Our Vision (Sept. 2010), at 47, available at <http://www.epa.gov/planandbudget/strategicplan.html>.



and restoration efforts totaled 33,750 acres in 2009, including wetland, riparian, upland, estuarine, barrier island, mangrove, beach and dune, and other habitats.<sup>48</sup>

The **Estuary Protection Act** requires federal agencies to consider potential impacts on estuaries and the estuaries' importance for commercial and industrial development before they move forward with a proposed action. The Secretary of the Interior must recommend ways to reduce project impacts.<sup>49</sup>

The goal of the **North American Wetlands Conservation Act** is to conserve and restore wetlands in the United States, Mexico, and Canada and to sustain migratory bird species protected by international agreement.<sup>50</sup> U.S. federal agencies that acquire, manage, or dispose of federal lands and waters must cooperate with FWS to restore and protect wetlands and other migratory bird habitats in their jurisdiction.<sup>51</sup> The Act establishes the North American Wetlands Conservation Council and authorizes it to recommend projects for funding by the Federal Aid to Wildlife Restoration Fund. Unless the projects are located on federal lands, non-federal matching funds are required for such projects. In addition, 30–60% of the total funding for the program is required to support projects in Canada or Mexico.<sup>52</sup>

The program is funded, in part, through fines from violations of the Migratory Bird Treaty Act;<sup>53</sup> it may also receive funding through the Coastal Wetlands Planning, Protection, and Restoration Act (see below), which originates in the Sport Fish Restoration Account.<sup>54</sup> The **Federal Aid to Wildlife Restoration Fund** also provides direct funding to state agencies for wildlife conservation, including improvement and management of habitat.<sup>55</sup>

The **Emergency Wetlands Resources Act** was established “to promote, in concert with other Federal and State statutes and programs, the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations

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<sup>48</sup> EPA, Gulf of Mexico GPRR Report Summary by Habitat Category, [http://www.epa.gov/owow\\_keep/estuaries/pivot/mapping/gulf\\_sum.htm](http://www.epa.gov/owow_keep/estuaries/pivot/mapping/gulf_sum.htm) (last visited May 6, 2011). In 2008 the total was 28,603 acres; in 2007 it was 19,149 acres; in 2006 it was 85,740 acres; and in 2005 it was 37,516 acres. Additional historical data is available at the website.

<sup>49</sup> 16 USC § 1221-1225. Specifically, the Act states that “[i]n planning for the use or development of water and land resources, all Federal agencies shall give consideration to estuaries and their natural resources, and their importance for commercial and industrial developments” 16 USC § 1221.

<sup>50</sup> 16 USC § 4407(a)-(b).

<sup>51</sup> 16 USC § 4408.

<sup>52</sup> 16 USC § 4401(b), 4404; 16 USC § 669b.

<sup>53</sup> 16 USC § 4406(b).

<sup>54</sup> 16 USC § 3955(c).

<sup>55</sup> 16 USC § 669a-669b. The Fund was created by the Federal Aid to Wildlife Restoration Act, commonly known as the Pittman-Robertson Act, and is supported by a tax on arms and ammunition. Interest and earnings on the Fund support the North America Wetlands Conservation Act. *Id.*; see also Louis Alan Talley, *Wildlife Restoration Projects Fund* (1997), CRS No. 97-506.

contained in various migratory bird treaties and conventions.” It strives to accomplish this by “[i]ntensifying cooperative efforts” among public and private parties to conserve and manage wetlands and to acquire wetlands through fee, easement, or other interest.<sup>56</sup> Acquisitions are made with funds from the Land and Water Conservation Fund (this fund is discussed in more detail in the *Protected Species and Protected Places* section); such use had previously been prohibited.<sup>57</sup> The Act requires the Department of the Interior (through the FWS) to consult with several other federal departments and agencies and to keep a National Wetlands Priority Conservation Plan that identifies and regionally prioritizes areas for state and federal acquisition.<sup>58</sup> The Act also added language to the Land and Water Conservation Fund Act requiring state Comprehensive Outdoor Recreation Plans to specifically include wetlands.<sup>59</sup> The Act also required that an amount equal to “all import duties collected on arms and ammunition” be transferred quarterly into the Migratory Bird Conservation Fund.<sup>60</sup>

The **Coastal Wetlands Planning, Protection, and Restoration Act** (CWPPRA) establishes a funding source for coastal wetlands restoration and conservation projects.<sup>61</sup> The statute creates the National Coastal Wetlands Conservation Grant Program, which enables FWS to provide matching grants to states for coastal wetlands acquisition, restoration, and management. The program is funded by an excise tax on fishing equipment and motorboat and small engine fuels,<sup>62</sup> and states must provide 50% match funds. State matching funds may be reduced to 25% if the state has its own fund for coastal wetlands acquisitions.

Each individual grant is capped at \$1 million.<sup>63</sup> By statute, 70% of program funding is dedicated to Louisiana projects and planning, 15% is dedicated to grants to other coastal states, and 15% is made available for North American Wetlands Conservation Act projects.<sup>64</sup> In Louisiana, the Army Corps leads the Louisiana Coastal Wetlands Conservation and Restoration Task Force in its prioritization of projects that promote long-term, cost-effective conservation of Louisiana

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<sup>56</sup> 16 U.S.C. § 3901 *et seq.*; Pub. L. 99-645 (Nov. 10, 1986); *see also* Dep’t of the Interior, Fish & Wildlife Service, Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service, Emergency Wetlands Resources Act of 1986, <http://www.fws.gov/laws/lawsdigest/EMWET.HTML>.

<sup>57</sup> Pub. L. 99-645 (Nov. 10, 1986), § 302.

<sup>58</sup> 16 U.S.C. § 3921-22.

<sup>59</sup> Pub. L. 99-645 (Nov. 10, 1986), § 303.

<sup>60</sup> 16 U.S.C. § 3912.

<sup>61</sup> 16 U.S.C. § 3951 *et seq.*

<sup>62</sup> FWS, National Coastal Wetlands Grant Program (Dec. 2009), available at [http://www.fws.gov/coastal/coastalgrants/docs/factsheets/2009/coastal\\_grant.pdf](http://www.fws.gov/coastal/coastalgrants/docs/factsheets/2009/coastal_grant.pdf). The funds are collected in the Sport Fish Restoration Account.

<sup>63</sup> 16 USC § 3954; FWS, *Interior Secretary Ken Salazar Announces More Than \$19 Million in Grants to Protect Coastal Wetlands Across the Nation*, <http://www.fws.gov/coastal/coastalgrants/> (last updated Jan. 18, 2011).

<sup>64</sup> 16 USC § 3955.

wetlands,<sup>65</sup> as well as the preparation of a coastal wetlands conservation plan that will achieve no net loss of coastal wetlands.<sup>66</sup>

The **Coastal Impact Assistance Program (CIAP)** funds projects in states affected by offshore energy extraction that have approved coastal impact assistance plans.<sup>67</sup> Funds disbursed to a state or a coastal political subdivision must be used for projects that target conservation, protection, or restoration of coastal areas and wetlands; mitigation of harm to fish, wildlife, or natural resources; planning assistance; federally-approved marine, coastal, or comprehensive conservation management plan implementation; or onshore infrastructure projects and public service needs that mitigate the impact of offshore activities.<sup>68</sup> From 2007 through 2010, \$250 million annually was made available to coastal states that participate in offshore oil and gas extraction – i.e., Alabama, Alaska, California, Louisiana, Mississippi, and Texas. Funding is apportioned by the amount of qualified revenues generated on the Outer Continental Shelf (OCS) offshore the state, relative to the total amount of revenues generated offshore all producing states.<sup>69</sup>

Finally, federal laws also provide place-based wetland protection. Most importantly, thousands of acres of habitat are conserved in the Gulf region through the **National Wildlife Refuge System**. The **National Parks System** manages several areas along the Gulf coast, including the wetlands and estuaries of the Everglades.

In addition, as discussed in greater depth in the *Water Quality* section, the 2008 Farm Bill incorporates various conservation and restoration measures in federal agriculture policy. The Farm Bill protects wetlands by making farmers who grow crops on converted wetlands ineligible for several major agricultural subsidies.<sup>70</sup> There are several exemptions to this general rule; most importantly, farmers whose former wetlands were converted to agriculture before 1985 are grandfathered into the subsidy programs.<sup>71</sup> The Farm Bill also authorizes programs that target wetlands protection and restoration. First, the Farm Bill creates the Wetlands Reserve Program, which allows the Department of Agriculture to share the cost of restoring wetlands on farmed lands and buy 30-year or permanent easements on these

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<sup>65</sup> 16 USC § 3951–52. The Task Force is comprised of representatives from the Departments of the Army (Army Corps), Interior (FWS), Agriculture (Natural Resources Conservation Service), and Commerce (NMFS); the EPA; and the Governor of Louisiana. For a current list of members, see CWPPRA, Organizational Chart, <http://lacoast.gov/new/About/OrgChart.aspx> (last visited Apr. 22, 2011).

<sup>66</sup> 16 USC § 3953.

<sup>67</sup> 43 U.S.C. § 1356a(c).

<sup>68</sup> 43 U.S.C. § 1356a(d).

<sup>69</sup> 43 U.S.C. § 1356a(b)(3)(A).

<sup>70</sup> 16 USC § 3821. The term “converted wetlands” is defined at 16 USC § 3801. Note that the definition of wetlands in this section is broader than the definition of wetlands under the Clean Water Act.

<sup>71</sup> 16 USC § 3822.

restored lands.<sup>72</sup> Second, the Farm Bill authorizes the Department of Agriculture to share the cost of restoring wetlands and other types of habitat on private and tribal lands through the Wildlife Habitat Incentive Program.<sup>73</sup> The program is statutorily allotted \$85 million annually through FY 2012 for cost-share payments to private landowners, and 25% of the funds can be used for cost-shares for long-term (minimum 15 years) contracts and agreements to protect and restore flora and fauna habitat.<sup>74</sup> Finally, the Conservation Reserve Program (and Conservation Reserve Enhancement Program) can enable conservation easements for areas that include wetlands.<sup>75</sup>

### *Federal Restoration*

Several of the programs mentioned, such as the National Estuary Program, CWPPRA, CIAP, and the Farm Bill programs address not only wetland and estuary conservation but also restoration. In addition to these, in 2000 the **Estuary Restoration Act** created an Estuary Habitat Restoration Council. The Council is tasked with increasing federal coordination on estuary restoration and monitoring, and it is given the goal of restoring one million acres of estuarine habitat by 2010. The Council solicits estuary restoration project proposals and makes recommendations to the Secretary of the Army. As required by the Act, the National Oceanic and Atmospheric Administration (NOAA) released a National Estuaries Restoration Inventory in 2004.<sup>76</sup>

One of the key issues for the Gulf of Mexico is the potential “beneficial use” of dredged materials for the purpose of restoring the Mississippi Delta. According to the Army Corps, potential beneficial uses include wetland restoration, fishery enhancement, park development, agricultural uses, shoreline construction, and beach nourishment, among others.<sup>77</sup> However, federal regulation (known as the Federal Standard) requires the least costly dredged material disposal option that is consistent with sound engineering and complies with environmental standards. When beneficial use is also the least costly option, federal and non-federal partners split the cost of disposal according to existing regulations. However, it is not always the least costly option.

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<sup>72</sup> 16 USCS §§ 3837 et seq.

<sup>73</sup> 16 USCS § 3839bb-1.

<sup>74</sup> 16 USC § 3841(a)(7); 16 USC § 3839bb-1(b)(2).

<sup>75</sup> 16 U.S.C. § 3831(b). For more information, see the additional discussion of Farm Bill programs in the *Water Quality* section, *infra*.

<sup>76</sup> 33 USC § 2901-2906. The National Estuaries Restoration Inventory is available at <https://neri.noaa.gov/neri/> (last visited Apr. 22, 2011). The Council submits biennial reports to Congress, which can be accessed at [http://www.usace.army.mil/CECW/ERA/Pages/reps\\_congress.aspx](http://www.usace.army.mil/CECW/ERA/Pages/reps_congress.aspx) (last visited Apr. 22, 2011).

<sup>77</sup> EPA & Army Corps of Engineers, *The Role of the Federal Standard in the Beneficial Use of Dredged Material from U.S. Army Corps of Engineers New and Maintenance Navigation Projects* [hereinafter EPA & Army Corp Beneficial Use Guidance], Doc No. EPA842-B-07-002 (2007).

If a beneficial use project is pursued when it is not the least costly option, the question becomes “who bears the incremental costs of a beneficial use project?”<sup>78</sup> If the beneficial use is for something *other* than navigation, ecosystem restoration or flood and storm damage protection, the non-federal partner bears the full cost. However, if the beneficial use falls into one of these categories, the **Water Resources Development Acts** (WRDAs) provide federal support for up to 75% of the project costs.<sup>79</sup> One limitation of WRDA funds is that the laws have only a limited amount of annual funding for all projects nationwide. The annual appropriations limit for beneficial use funding is \$15 million.<sup>80</sup>

### *Federal Research*

NOAA partners with coastal states to conduct research at 28 **National Estuarine Research Reserves** (NERRs) pursuant to the Coastal Zone Management Act. If a state Governor nominates an estuary, the Secretary of Commerce may designate it as a research reserve if it meets several eligibility criteria. Then the Secretary may grant funds to the state for acquiring, managing, and conducting research and monitoring activities in it.<sup>81</sup> The five NERRs in the Gulf are Guana Tolomato Matanzas, Rookery Bay, and Apalachicola in Florida; Weeks Bay in Alabama; Grand Bay in Mississippi; and Mission-Aransas in Texas.<sup>82</sup>

Research is also conducted by Sea Grant programs in the Gulf. Administered by NOAA, Sea Grant is a network of university-based programs that, among other things, engage in scientific research and education efforts to improve coastal resource management and science-based coastal and marine decision-making.<sup>83</sup> In the Gulf there are Texas, Louisiana, Mississippi-Alabama, and Florida Sea Grant programs and the National Sea Grant Law Center housed at the University of Mississippi.<sup>84</sup>

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<sup>78</sup> *Id.* at 4.

<sup>79</sup> *Id.*

<sup>80</sup> WRDA 1986 funds mainly flood control and navigation projects and provides up to \$25 million annually. WRDA 1992 funds protection and restoration of aquatic habitats with an annual appropriation of \$15 million. WRDA 1976 supports beach nourishment projects with a variable annual appropriation. Finally, WRDA 1996 is for environmental benefits and typically supports beneficial use in larger projects. *Id.*

<sup>81</sup> 16 USC § 1461(b).

<sup>82</sup> See National Estuarine Research Reserve System, <http://www.nerrs.noaa.gov/> (last visited Apr. 23, 2011).

<sup>83</sup> National Sea Grant, [www.seagrants.noaa.gov/aboutsg/index.html](http://www.seagrants.noaa.gov/aboutsg/index.html) (last visited July 27, 2011).

<sup>84</sup> Texas Sea Grant College Program, <http://texas-sea-grant.tamu.edu/>; Florida Sea Grant, <http://www.flseagrants.org/>; Mississippi-Alabama Sea Grant Consortium, <http://www.masgc.org/>; Louisiana Sea Grant College Program, <http://www.laseagrants.org/>; and National Sea Grant Law Center, <http://nsglc.olemiss.edu/>.

## *State Conservation and Restoration*

The states have taken diverse approaches to wetland and estuary conservation and restoration. In addition to general land use regulations, most states have provisions that specifically address wetlands and estuaries. **Louisiana** has several major programs for protecting and restoring this type of habitat, including its Hurricane Protection, Flood Control and Coastal Restoration Act, which addresses wetland loss in order to prevent storm and flood damage,<sup>85</sup> as well as the state's process for developing plans for protecting and enhancing waterways designated "scenic rivers."<sup>86</sup> **Texas** aims to achieve no net loss of state-owned coastal wetlands and has adopted a non-regulatory plan to support that goal.<sup>87</sup> In **Alabama**, waterfowl hunting fees finance wetlands conservation and restoration efforts.<sup>88</sup> Alabama is unique for allowing spending on projects outside of the United States.<sup>89</sup> **Florida** has a system of aquatic preserves that are primarily intended for restoration, although they are also sometimes the site of restoration projects.<sup>90</sup> In **Mississippi**, the Coastal Wetlands Protection Act creates a permitting regime for state-owned wetlands and mandates research on coastal wetlands.<sup>91</sup> The Mississippi Department of Marine Resources has used authority under the Act to create a system of conservation lands through the Coastal Preserves Program, funded in part by the leasing of public trust tidelands.

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<sup>85</sup> LA. REV. STAT. §§ 49:214.5.1-4.

<sup>86</sup> LA. R.S. 56:1840 *et seq.*

<sup>87</sup> TEX. PARKS & WILD. CODE § 14.002. See also TEX. NAT. RES. CODE § 33.231–237 (acquisition and conservation of essential coastal wetlands).

<sup>88</sup> ALA. CODE §§ 9-11-431 *et seq.*

<sup>89</sup> See ALA. CODE § 9-11-435.

<sup>90</sup> FLA. STAT. ch. 258.35 *et seq.*

<sup>91</sup> MISS. CODE ANN. §§ 49-27-5; 49-27-65.

## 2. Harvested Species Habitat

The following discussion focuses on areas protected by virtue of their importance to commercially or recreationally harvested species, primarily finfish and shellfish. Protected species (such as endangered species and marine mammals) habitat is addressed in detail in the section on *Protected Species and Protected Species*.

**Table 2. Harvested Species Habitat Laws and Policies**

Mexico	United States
<ul style="list-style-type: none"><li>• General Law on Fisheries and Sustainable Aquaculture</li></ul>	<ul style="list-style-type: none"><li>• Magnuson-Stevens Fishery Conservation and Management Act</li><li>• Pelly Amendment</li><li>• Federal Aid in Sport Fish Restoration Act</li><li>• National Fishery Enhancement Act</li></ul>

### *i. Mexican Laws and Policies*

Mexican regulation of harvested species habitat is established mainly by the General Law on Fisheries and Sustainable Aquaculture. Published in July 2007, the objective of the law is to promote and manage the exploitation of fisheries resources and aquaculture in the national territory and in areas in which the nation exerts sovereignty and jurisdiction.<sup>92</sup>

The main powers of the Federation in regard to fisheries and aquaculture are exercised through the National Commission on Aquaculture and Fisheries (CONAPESCA), a decentralized organ of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA). The most prominent legal provisions are those related to establishing allowable catch; issuing decrees to establish, modify, or delete ages and areas of closing; and determining capture allowances in beachfront areas. The agency also sets the methods and measures for the conservation of fishery resources and the restoration of fisheries areas, in coordination with the competent authorities, and it regulates refuge areas necessary to protect vulnerable aquatic species.<sup>93</sup> Any commercial fishing or commercial aquaculture activities require a concession granted by CONAPESCA. The concession may be revoked if the user adversely affects the ecosystem or puts it in imminent danger.<sup>94</sup>

<sup>92</sup> General Law on Fisheries and Sustainable Aquaculture (Ley General de Pesca y Acuacultura Sustentable), Diario Oficial (Primera Seccion) 24 Jul. 2007, art. 1, available at <http://www.ordenjuridico.gob.mx/Federal/PL/CU/Leyes/24072007.pdf>.

<sup>93</sup> *Id.* art. 8.

<sup>94</sup> *Id.* art. 55.

The General Law on Fisheries and Sustainable Aquaculture emphasizes the joint performance of CONAPESCA and SEMARNAT with regard to the preservation and restoration of ecological balance and protection of the environment in several aspects. They include: the inspection and surveillance of fishing activities and aquaculture; the enhancement of areas for protection, restoration, rehabilitation, and conservation of coastal ecosystems; and the adoption of measures aimed at protecting turtles, marine mammals, and aquatic species subject to special protection status.<sup>95</sup>

A very important policy instrument derived from this law is the National Program for Sustainable Fisheries and Aquaculture,<sup>96</sup> which aims to establish some bases for carrying out sustainable fishing and aquaculture activities in the various regions of the country. Another fisheries policy instrument is the National Letter for Fisheries<sup>97</sup> and the National Letter for Aquaculture.<sup>98</sup> Both are documents which include written and cartographic presentations that summarize the information necessary to enable the diagnosis and comprehensive assessment of fishing and aquaculture. They also contain indicators of the availability and conservation of fisheries resources and aquaculture in federal waters. CONAPESCA grants concessions based on the information in the National Letters.

In addition, the Law creates the obligation to establish fisheries management plans that create a structure for fishing activities and induce the sustainable exploitation of fisheries resources and aquaculture. The plans are based on the availability of fisheries resources, historical information on levels of extraction, uses and potential for development of activities, fishing capacity or aquaculture, and reference points for fisheries management, and they must be consistent with the ecological zoning of the territory.<sup>99</sup>

As mentioned above, the General Law on Fisheries and Sustainable Aquaculture provides for the possibility of establishing refuge areas. Refuge areas are areas in federal waters where the primary objective is conservation and either natural or artificial development of fishery resources. The surrounding environment must also be preserved and protected.<sup>100</sup>

In addition to refuge areas, protected natural areas can be established in federal waters as part of the national system of natural protected areas. Activities and uses of natural resources within protected natural areas are prescribed by the relevant management programs.

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<sup>95</sup> *Id.* art. 9.

<sup>96</sup> CONAPESCA, National Program for Sustainable Fisheries and Aquaculture, [http://www.conapesca.sagarpa.gob.mx/wb/cona/programa\\_rector\\_nacional\\_de\\_pesca\\_y\\_acuicultura\\_su](http://www.conapesca.sagarpa.gob.mx/wb/cona/programa_rector_nacional_de_pesca_y_acuicultura_su).

<sup>97</sup> General Law on Fisheries and Sustainable Aquaculture, *supra* note 92, art. 32.

<sup>98</sup> *Id.* art. 83.

<sup>99</sup> *Id.* art. 8 § XXV.

<sup>100</sup> *Id.* art. 4 § LI.



However, regulations relevant to natural protected areas (issued under the General Law of Ecological Balance and the Protection of the Environment) provide that fishing activities in such areas require not only a permit or concession granted by CONAPESCA, but also permission from SEMARNAT.<sup>101</sup>

### *State Conservation and Restoration*

The powers of the states in terms of regulating fishing, and that are related to the conservation and restoration of the Gulf of Mexico, include:<sup>102</sup>

- a. Develop and exercise the local policies for inspecting and monitoring fisheries and aquaculture, in the context of the specific agreement reached with SAGARPA in these matters.
- b. Conclude agreements or arrangements for coordination and collaboration with the federal government in the field of fisheries and aquaculture.
- b. Integrate the State Board of fisheries and aquaculture to promote the active participation of communities and producers in the administration and management of fisheries.
- c. Establish, operate, and maintain up-to-date state systems of information on fisheries and aquaculture as well as the state register for fishing and aquaculture.
- d. Participate in the formulation and implementation of fisheries management programs.
- e. Promote mechanisms of public participation of members of the fishing industry in the management and conservation of resources and fishing vessels.
- f. Promote and support the construction, improvement, and equipment of vessels and methods of fishing.

All States have these powers. This highlights the opportunity to establish mechanisms for public participation of members of the fishing industry in the management and conservation of fishery resources. Of equal importance is the faculty for effective inspection and monitoring.

### *ii. U.S. Laws and Policies*

The **Magnuson-Stevens Fishery Conservation and Management Act** (MSA) established eight Regional Fishery Management Councils to assist in the stewardship of federal fishery resources largely occurring beyond state waters.<sup>103</sup> Each Council must prepare and implement fishery

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<sup>101</sup> *Id.* art. 88.

<sup>102</sup> *Id.* art. 13.

<sup>103</sup> 16 USC § 1801 *et seq.*

management plans (FMPs) for harvested stocks, which must be reviewed and approved by the National Marine Fisheries Service (NMFS).<sup>104</sup> Enforcement of fishery management plans is done by the NOAA Office of Law Enforcement (NOAA OLE) through ship-board observers and dock-side enforcement, the U.S. Coast Guard through at-sea patrols, and the states through joint enforcement agreements with NOAA OLE.<sup>105</sup>

Among other things, the FMPs must identify “essential fish habitat” (EFH), ways to minimize adverse effects to EFH caused by fishing, and actions to conserve and enhance EFH.<sup>106</sup> Further prioritization of EFH may be accomplished through the designation of “habitat areas of particular concern.”<sup>107</sup> All federal agencies must consult with NMFS to determine if federal activities will adversely impact EFH. Based on its assessment, NMFS provides recommendations to conserve EFH (including actions to mitigate or avoid impacts), and it is then up to the federal agency engaging in the action to determine if it will follow NMFS’ recommendations. If the agency chooses not to follow the NMFS recommendations, it must provide an explanation.

The Gulf of Mexico Fishery Management Council engages in the management of fishery resources within the Gulf of Mexico EEZ. Over the past thirty years the Gulf Council has promulgated FMPs for reef fish, shrimp, spiny lobster, stone crab, corals, migratory pelagic, and red drum, and it has enacted amendments related to EFH that apply to all seven FMPs. The Gulf Council also developed an FMP for aquaculture activities in the Gulf.<sup>108</sup>

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<sup>104</sup> *Id.* § 1852.

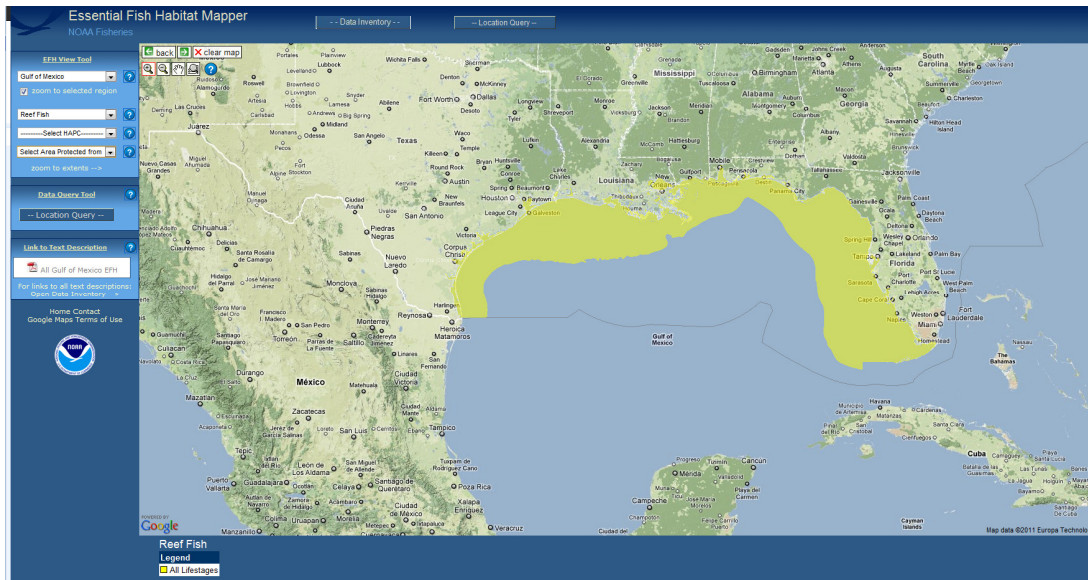
<sup>105</sup> *Id.* § 1881b, 1858–1861b.

<sup>106</sup> *Id.* § 1855(b); 50 CFR § 600.815(a)(5).

<sup>107</sup> 50 CFR § 600.815(a)(8).

<sup>108</sup> See generally Gulf of Mexico Fishery Management Council, [www.gulfcouncil.org](http://www.gulfcouncil.org).

Figure 4. Designated reef fish EFH in the Gulf of Mexico.<sup>109</sup>



The **Pelly Amendment** established a procedure for banning imports from countries that “are conducting fishing operations in a manner or under circumstances which diminish the effectiveness” of an international fishery conservation program or any international program for endangered or threatened species. The Secretary of Commerce must alert the President whenever he or she determines that citizens of another country are diminishing the effectiveness of international fishery management programs, and the President chooses whether to impose appropriate trade sanctions. The Secretary of the Treasury enforces the sanctions and punishes violations through civil fines and contraband forfeiture.<sup>110</sup>

#### *Federal Restoration*

The **Federal Aid in Sport Fish Restoration Act (Dingell-Johnson Act)** gives states a financial incentive to engage in management and planning of freshwater and marine fish that are important for sport or recreation. In order to be eligible for funding, states must pass fish conservation laws and only use fishing license fees for fisheries management.<sup>111</sup> Eligible states apply for funding by submitting fish restoration and management plans or projects to the Fish and Wildlife Service that further “insure the perpetuation of these resources for the economic, scientific, and recreational enrichment of the people.” The FWS then evaluates the 5–15 year plan, or individual project, and may fund up to 75% of implementation costs and/or initial costs

<sup>109</sup> Screen shot of the NOAA Essential Fish Habitat Mapper, [http://sharpfin.nmfs.noaa.gov/website/EFH\\_Mapper/map.aspx](http://sharpfin.nmfs.noaa.gov/website/EFH_Mapper/map.aspx) (from July 7, 2011).

<sup>110</sup> 22 USC § 1978.

<sup>111</sup> 16 USC §§ 777.

of land acquisition.<sup>112</sup> The funding comes from an excise tax on select sport fishing items, which provides monies to the Sport Fish Restoration Account.<sup>113</sup> There is a separate Multistate Conservation Grant Program to support sport fish restoration projects that benefit several states.<sup>114</sup>

The **National Fishery Enhancement Act** provides a framework for building artificial reefs in U.S. waters.<sup>115</sup> It imposes standards on reef construction – for instance, reefs must be designed to maximize benefits to fisheries and minimize environmental risks.<sup>116</sup> NOAA established a National Artificial Reef Plan, amended in 2007, based on these standards and in consultation with federal, regional, state, local, and private parties.<sup>117</sup> The plan includes guidelines for siting, designing, and managing artificial reefs, and notes other relevant legislation.<sup>118</sup> The Army Corps of Engineers is responsible for issuing permits for reef construction as part of its duties under the Rivers and Harbors Act and the Clean Water Act.<sup>119</sup>

### *State Conservation and Restoration*

In each of the Gulf states, comprehensive regulatory regimes create opportunities to conserve harvested species. The most common state approaches to restoration are creating artificial reefs<sup>120</sup> and enhancing thinning oyster beds.<sup>121</sup>

In addition to individual state management laws and regulations, the Gulf States have developed the Gulf States Marine Fisheries Commission (GSMFC) through an interstate compact approved by Congress in 1949.<sup>122</sup> As discussed in greater detail in the institutional section,<sup>123</sup> the GSMFC manages fishery resources primarily located in state waters, and is comprised of three representatives from each of the five U.S. Gulf states. The GSMFC has worked with the federal waters Gulf of Mexico Fisheries Management Council on habitat issues and impacts for over a decade.

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<sup>112</sup> *Id.* §§ 777e.

<sup>113</sup> *Id.* § 777b; 26 U.S.C. § 9504(a).

<sup>114</sup> *Id.* §§ 777m.

<sup>115</sup> 33 U.S.C. §§ 2101 (purposes), 2105 (defining "waters covered under this title").

<sup>116</sup> *Id.* § 2102.

<sup>117</sup> *Id.* § 2103.

<sup>118</sup> NOAA, National Artificial Reef Plan (as Amended): Guidelines for Siting, Construction, Development, and Assessment of Artificial Reefs (Feb. 2007), available at <http://www.nmfs.noaa.gov/sfa/PartnershipsCommunications/NARPwCover3.pdf>.

<sup>119</sup> 33 U.S.C. § 2104. The Army Corps must adhere to the standards of the National Fishery Enhancement Act, and take NOAA's long-term Plan into consideration.

<sup>120</sup> ALA. CODE §§ 9-12-42; 9-12-35; LA. R.S. 56:434; MISS. CODE ANN. §§ 49-15-36–49-15-40; TEX. PARKS & WILD. CODE § 76.020.

<sup>121</sup> ALA. CODE §§ 9-12-140–9-12-150; FLA. STA. ch. 379.2401 *et seq.*; LA. R.S. 56:639; TEX. PARKS & WILD. CODE §§ 89.001 *et seq.*

<sup>122</sup> Pub. L. 81-66, 63 Stat. 70 (approved May 19, 1949).

<sup>123</sup> *See infra* text surrounding notes 491–493.

### 3. Coral Reefs

**Table 3. Coral Reef Laws and Policies**

Mexico	United States
<ul style="list-style-type: none"> <li>• General Law of Ecological Balance and Environmental Protection</li> <li>• Federal Penal Code</li> <li>• NOM-059-SEMARNAT-2010</li> </ul>	<ul style="list-style-type: none"> <li>• Coral Reef Conservation Act</li> <li>• Executive Order 13,089</li> <li>• Magnuson-Stevens Fishery Conservation and Management Act</li> <li>• Outer Continental Shelf Lands Act</li> <li>• National Wildlife Refuge System Administration Act</li> <li>• National Marine Sanctuaries Act</li> <li>• Endangered Species Act</li> </ul>

#### *i. Mexico Laws and Policies*

In the Gulf of Mexico there are dozens of reef formations, including Blanquilla, Isla de Lobos, and Enmedio in the Tampico-Tuxpan area; Gallega, Gallardo, Anegada de Adentro, Verde, Isla de Sacrificios, and Pajaros in Veracruz; Poplar, Anegada de Afuera, Cabezo, and El Rizo in the Campeche platform; and Arcas, Obispo, Triangulo, Banco Nuevo, Banco Ingles, Arenas, and Escorpion, as well as Caribbean reefs.

#### *Federal Restoration and Conservation*

A strategy for the conservation of coral reefs in Mexico’s natural protected areas occurs through regulations and efforts at national and international levels by different organizations, including the International Coral Reef Initiative (ICRI), the National Scientific and Technical Advisory Council for Coral Reefs in Mexico (COCCYTAC), and the Mesoamerican Barrier Reef System (SAM), among others.

At the national level, there are laws governing the use of natural resources, including coral reefs.<sup>124</sup> Some reefs in the Mexican Gulf and the Caribbean are preserved by laws related to protected areas, including Marine National Parks and Biosphere Reserves.

There are 13 natural protected areas that include coral reef areas, nine of which are located in the Gulf of Mexico and the Caribbean Sea. The framework of the Convention on Wetlands of

<sup>124</sup> See, e.g., LGEEPA, Federal Sea Law, and NOM-059-SEMARNAT-2010, among others.

International Importance (Ramsar) also protects areas that have coral reefs. Of the 51 Mexican regions included under the Convention, 11 of these areas include coral reefs.

The **General Law for Ecological Balance and Environmental Protection (LGEEPA)** defines the natural protected areas as “the zones of the national territory and those where the Country exercises sovereignty and jurisdiction, in which the original environments have not been significantly altered by human activity or that require to be preserved and restored.” This definition makes no distinction between terrestrial and marine protected areas, as the General Act creates nine categories of protected areas, assigning each one according to the characteristics of the territory where they are declared, as well as the activities that can be developed within them.

The **LGEEPA** has a special provision for marine protected areas, which states that natural protected areas may be established to protect and preserve marine ecosystems and regulate the sustainable exploitation of aquatic flora and fauna in the Mexican marine zones, including the contiguous federal maritime-terrestrial zone. In these marine protected areas, activities or exploitation of natural resources may be allowed, restricted or prohibited, as stated by the General Law of Ecological Balance and Protection of the Environment, the General Law of Sustainable Fisheries and Aquaculture, the Federal Law of the Sea, the international conventions to which Mexico is party, and other regulations.

In protected areas, including protected coral reef areas, penalties for illegal activities are increased substantially.<sup>125</sup>

Other Mexican laws and regulations are not specifically aimed at protecting coral reefs, but act directly or indirectly as mechanisms to protect corals or the other reef species. They include the **LGEEPA, Regulation of the General Law of Ecological Balance and Environmental Protection in Protected Natural Areas, General Law of Sustainable Fisheries and Aquaculture, NOM-059-SEMARNAT-2010** (which lists the species of flora and fauna to be at risk), **NOM-022-SEMARNAT-2003** (which sets the specifications for the preservation, conservation and restoration of coastal wetlands), **NOM-006 -PESC-1993** (which establishes the regulation for the use of all species of lobster), **NOM-008-CFSP-1993** (which regulates the use of all species of octopus), **NOM-013-CFSP-1994** (which provides for the regulation for the use of snail species), and **NOM-029-CFSP-2000** (which regulates the responsible fishing of sharks and related species). In ecotourism, there is **NOM-05-TUR-1998**, which establishes minimum-security

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<sup>125</sup> Mexican Federal Penal Code (Codigo Penal Federal), art. 414 (2011).

requirements that must be attached dive operators to ensure service delivery and ensure that the activities are carried out without damaging the flora and aquatic wildlife.<sup>126</sup>

*Conservation Program for Species at Risk (PROCER)*<sup>127</sup>

In 2007, the **Conservation Program for Species at Risk (PROCER)** began, which has direct benefits in four areas: improving the state of species and ecosystems that contribute to the welfare of society; developing social and economic alternatives in regions of high poverty; conserving environmental goods and services to benefit all sectors of society; and conserving genetic diversity as the foundation of food security and the country's genetic heritage. The Program is part of the Federal Executive's 5 Conservation Commitments and the overall restoration strategy included in the National Program of Natural Protected Areas 2007–2012.<sup>128</sup>

While PROCER is closely linked to the daily work of the federal protected areas, the vision is not limited to the portion of territory covered by protected areas. It includes other means of conservation, such as Management Units for the Conservation of Wildlife and voluntary land designated for conservation. In order to integrate the efforts being made by various groups, the PROCER is organized operationally in the following segments: sea turtles, terrestrial and epicontinental species, and marine, coastal, and island species. The coral species selected for the application of this program are *Acropora cervicornis* and *A. Palmata*.

The goal of PROCER is to contribute to the recovery of several endangered species addressed through the Program of Action for the Conservation of Species (PACE), and if possible to remove them from the list, if they have achieved recovery and population viability. This process must be understood in terms of the species' reproductive cycles and biology, and it must define mid- and long-term conservation and management efforts for PACE.

In terms of conservation there are some actions to protect black coral: internationally, the *Antipathes* genus is included in Appendix II of Conventional on International Trade in Endangered Species (CITES).

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<sup>126</sup> SEMARNAT, Coral Reefs, [http://app1.semarnat.gob.mx/dgeia/informe\\_04/04\\_biodiversidad/recuadros/c\\_rec5\\_04.htm](http://app1.semarnat.gob.mx/dgeia/informe_04/04_biodiversidad/recuadros/c_rec5_04.htm).

<sup>127</sup> CONANP, Draft, Conservation Program for Endangered Species, PROCER, 2007-2012 (Programa de Conservacion de Especies en Riesgo, PROCER, 2007-2012), available at [http://www.conanp.gob.mx/pdf\\_especies/PROCERFinalpubmar2009.pdf](http://www.conanp.gob.mx/pdf_especies/PROCERFinalpubmar2009.pdf).

<sup>128</sup> *Id.* at 8.

## *ii. U.S. Laws and Policies*

The majority of the U.S. federal framework for conserving and restoring coral reefs was established through the **Coral Reef Conservation Act (CRCA)**.<sup>129</sup> The Act's purposes include promoting the preservation, restoration, and sustainable use of coral reef ecosystems, developing scientific knowledge about them, and supporting relevant projects that involve local governments and non-governmental organizations.<sup>130</sup> NOAA developed and periodically reviews a national coral reef action strategy;<sup>131</sup> it also provides matching grants through to state and local governments, non-governmental organizations, and educational institutions for coral reef conservation, restoration, research and compliance-enhancing projects.

This funding can be directed to projects outside of the United States, although the bulk of funding is reserved for projects within U.S. jurisdiction or control.<sup>132</sup> The Act also provides for cooperative management with "international programs and partners."<sup>133</sup> Finally, the CRCA authorizes the Secretary of Commerce to conduct conservation activities, including research, debris removal, and cooperative management.<sup>134</sup>

In addition to the CRCA, in 1998 President Clinton promulgated **Executive Order 13,089, Coral Reef Protection** to "preserve and protect the biodiversity, health, heritage, and social and economic value of U.S. coral reef ecosystems and the marine environment."<sup>135</sup> Subject to limited exceptions, the Order directs federal agencies to identify how their actions may affect coral reefs in U.S. jurisdiction, use their authorities to protect and enhance the reefs, and avoid degrading reefs.<sup>136</sup> It also established the U.S. Coral Reef Task Force to oversee implementation, coordinate research, and determine whether existing legislation is adequate to meet its objectives.<sup>137</sup> The Task Force also adopted a National Action Plan to Conserve Coral Reefs in 2000; while NOAA's Action Strategy, described previously, addresses short-term priorities and actions, the Task Force's Action Plan is meant to be a long-term plan and guide.<sup>138</sup>

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<sup>129</sup> Coral Reef Conservation Act of 2000, 16 U.S.C. §§ 6401 et seq.

<sup>130</sup> *Id.* § 6401.

<sup>131</sup> *Id.* § 6402; NOAA, A National Coral Reef Action Strategy (June 2002), available at [http://coris.noaa.gov/activities/actionstrategy/action\\_reef\\_final.pdf](http://coris.noaa.gov/activities/actionstrategy/action_reef_final.pdf).

<sup>132</sup> *Id.* § 6403. NOAA may also provide emergency grant assistance to state, local, and territorial governments, and partner with an NGO to create a coral reef conservation fund for public-private partnerships. *Id.* §§ 6404–6405.

<sup>133</sup> *Id.* § 6406.

<sup>134</sup> *Id.* §§ 6402; 6403.

<sup>135</sup> Ex. Order No. 13,089, 63 Fed. Reg. 32,701 (June 16, 1998), preamble.

<sup>136</sup> *Id.* § 2.

<sup>137</sup> *Id.* §§ 4–5. The Task Force is co-chaired by NOAA and the U.S. Department of the Interior, and is currently comprised of members of 12 federal agencies, 7 U.S. states, territories, and commonwealths, and 3 freely associated states. See U.S. Coral Reef Task Force, <http://www.coralreef.gov/> (last visited Jan. 26, 2011).

<sup>138</sup> U.S. Coral Reef Task Force, The National Action Plan to Conserve Coral Reefs (Mar. 2000), available at <http://www.coralreef.gov/about/CRTFAxnPlan9.pdf>; see also U.S. Coral Reef Task Force, <http://www.coralreef.gov/about/docs.html> (last visited Jan. 26, 2011).



Finally, several marine protected areas conserve and restore coral reefs. The **National Wildlife Refuge System Administration Act**, described in previous sections, governs the management of the Key West National Wildlife Refuge. It was originally designated to protect migratory birds, but contains substantial near-shore coral reefs available for recreational activity.<sup>139</sup> In addition, the Florida Keys and Flower Garden Banks Sanctuaries, designated and managed under the **National Marine Sanctuaries Act**, both contain coral reefs and are subject to management regulations related to reef conservation.<sup>140</sup> Pursuant to the **Magnuson-Stevens Fishery Conservation and Management Act**, fishery management plans can designate zones where fishing activities are restricted in order to protect deep sea coral.<sup>141</sup> In addition, staghorn and elkhorn corals are listed species under the **Endangered Species Act** and critical habitat has been designated for them in the Gulf of Mexico.<sup>142</sup> Within these areas, federal agencies must consult with NMFS to ensure that a proposed action is not likely to result in destruction or adverse modification.<sup>143</sup>

### *State Conservation and Restoration*

Florida has implemented a supplementary coral reef statute. The Florida Coral Reef Protection Act requires parties responsible for damaging reefs with vessels to pay for response, restoration, and mitigation costs.<sup>144</sup> Some coral reef programs or initiatives, such as the Southeast Florida Coral Reef Initiative, seek to enhance state or local action to protect the habitats. However, these programs and initiatives do not depend on state laws or regulations. For example, the Florida Initiative is a local action strategy comprising both government and non-governmental partners and is funded by the U.S. Department of Commerce.<sup>145</sup>

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<sup>139</sup> US Fish & Wildlife Service, National Wildlife Refuge System's Coral Reef Refuges, available at <http://www.fws.gov/Refuges/whm/pdfs/CoralReefRefuges.pdf>.

<sup>140</sup> 15 CFR 922.164 (restricting activities in Florida Keys NMS); 15 CFR 922.122 (restricting activities in Flower Garden Banks NMS).

<sup>141</sup> 16 U.S.C. § 1853(b)(2).

<sup>142</sup> See NMFS, Threatened Elkhorn and Staghorn Corals (*Acropora* sp.), <http://sero.nmfs.noaa.gov/pr/esa/acropora.htm>; NMFS, *Endangered and Threatened Species; Critical Habitat for Threatened Elkhorn and Staghorn Corals*, 73 Fed. Reg. 72210 (Nov. 26, 2008).

<sup>143</sup> See NOAA, *Endangered and Threatened Species; Critical Habitat for Threatened Elkhorn and Staghorn Coral; Final Rule*, 73 Fed. Reg. 72,210 (Nov. 26, 2008). See also *infra* the section on *Protected Species and Protected Places*; 16 USCS § 1536.

<sup>144</sup> FLA. STAT. § 403.93345.

<sup>145</sup> For more information on the Southeast Florida Coral Reef Initiative, see <http://www.southeastfloridareefs.net/about-us/what-is-sefcri>.

## 4. Beaches and Dunes

Table 4. Beaches and Dunes Laws and Policies

Mexico	United States
<ul style="list-style-type: none"><li>• Constitution of the United States of Mexico</li><li>• Federal Law of National Property</li><li>• Internal Rule of SEMARNAT</li><li>• General Law of Wildlife</li></ul>	<ul style="list-style-type: none"><li>• Coastal Barrier Resources Act</li><li>• Rivers and Harbors Act</li><li>• National Park System</li></ul>

### i. Mexico Laws and Policies

The federal maritime zone (ZOFEMAT) consists of the walkable band of land extending 20 meters above the high tide mark, adjacent to the seashore, and the first 100 meters of river bank upstream of an estuary or lagoon. The ZOFEMAT also encompasses the first hundred meters of the banks of each river, starting from the upstream estuary. Under the Federal Law of National Property, use of the ZOFEMAT and other national assets requires a license or assignment from SEMARNAT.<sup>146</sup>

There are three federal entities with important jurisdiction relevant to beaches and dunes. First, SEMARNAT is responsible for giving permission to engage in activities or construct buildings within the ZOFEMAT. This authority is concentrated in the General Directorate of Federal Maritime Terrestrial Zone and Coastal Environments of the Undersecretary for Management Environmental Protection.<sup>147</sup>

Second, another division of SEMARNAT, the Federal Agency for Environmental Protection (PROFEPA), is responsible for enforcing environmental protections throughout the country. Within PROFEPA, the Directorate General of Environmental Impact and Federal Maritime Zone works with delegations in the 17 coastal states to inspect, monitor, and verify compliance with the regulations governing the ZOFEMAT. In accordance with the rules of SEMARNAT, the General Directorate of Environmental Impact and Federal Maritime Zone must:<sup>148</sup>

- Formulate and implement a policy for the inspection, monitoring, and verification of compliance with legal and environmental management programs in federal territories; the use and exploitation of the federal maritime land, sea beaches, and land reclaimed

<sup>146</sup> SEMARNAT, General Directorate of Federal Maritime Terrestrial Zone and Coastal Environments, Federal Maritime Terrestrial Zone, Recuadro IV.6.1 (2002), available at [http://app1.semarnat.gob.mx/dgeia/estadisticas\\_2000/compendio\\_2000/04dim\\_institucional/04\\_06\\_Zofemat/data\\_zofemat/RecuadroIV.6.1.htm](http://app1.semarnat.gob.mx/dgeia/estadisticas_2000/compendio_2000/04dim_institucional/04_06_Zofemat/data_zofemat/RecuadroIV.6.1.htm).

<sup>147</sup> PROFEPA, Authorities, <http://www.profepa.gob.mx/innovaportal/v/1656/1/mx/atribuciones.html>.

<sup>148</sup> SEMARNAT, Internal Rules, art. 127.

from the sea or any other marine water body; and environmental impacts, when the works or activities may affect natural resources or affect the jurisdiction of the Secretariat;

- Inspect, monitor, and verify that the occupation, use, and exploitation of federal maritime land, beaches, and sea (including reclaimed land or any other marine water body, cays, and reefs) are authorized by concession permit, authorization, or agreement;
- Monitor and verify compliance of management, protection, and restoration actions related to federal maritime terrestrial, sea beaches, and land reclaimed from the sea or any other marine water bodies; and provide the information necessary to recover goods identified;
- Monitor compliance with applicable regulations regarding environmental impact and the Federal Maritime Zone; and to promote participation in the surveillance of federal, state and municipal governments, universities, research centers and other public sector organizations, social and private sectors.

The Directorate General of Environmental Impact and Federal Maritime Zone also has general powers that may be relevant to habitat conservation and restoration. It is responsible for scheduling, organizing, and conducting compliance inspections; investigating facts and determining violations of laws, official Mexican standards, and other policies; and to request, as necessary, revocation or suspension of authorizations from competent authorities. It also issues agreements and resolutions related to surveillance and inspection.<sup>149</sup>

Third, the administration of beaches within current water channels is the responsibility of the National Commission of Water (CONAGUA).<sup>150</sup>

Other legal instruments for the protection of dunes include:

- The ecological zoning programs, which contain criteria for the location and type of infrastructure;
- Concessions granted by SEMARNAT for the use of this area (Municipal Land Use);
- The General Law of Wildlife, which restricts activities at Turtle Camping zones;
- Management plans for natural protected areas;
- Every real estate development affecting coastal ecosystems requires authorization of environmental impact assessments;<sup>151</sup>

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<sup>149</sup> *Id.* art. 131.

<sup>150</sup> National Waters Law, *supra* note 24, art. 113.

<sup>151</sup> LGEEPA, *supra* note 10, art. 28, para. IX.

- Mexican Official Standard **NMX-AA-120-SCFI-2006**, which establishes the voluntary requirements and regulations for sustaining the quality of beaches;<sup>152</sup> and
- Natural protected areas—of the 174 current federally managed Natural Protected Areas, 57 contain coastal dunes.<sup>153</sup>

In 2003, upon recognition of the need for a program that integrates the vision, knowledge, and interests of various sectors to solve the problem of beach pollution, a national Clean Beaches Program was established. It has become an interagency working group involving SEMARNAT, the Secretariat of Health through the Federal Commission for Protection against Health Risks (COFEPRIS), the Secretariat of the Navy (SEMAR), the Secretariat of Tourism (SECTUR), the Federal Environmental Protection Agency (PROFEPA), and the National Commission of Water (CONAGUA), as well as state and municipal governments and various civil society organizations.

The main objective of the Clean Beaches Program is to promote the cleaning of beaches and associated watersheds, basins, canyons, groundwater, and receiving water bodies. It also seeks to prevent and correct pollution to protect and preserve Mexican beaches, respecting the native ecology and improving the quality and standard of living of local people, tourism, and the competitiveness of beaches.<sup>154</sup> To accomplish these goals, the program works on organization, sanitation, monitoring, Mexican Official Standards, research, joint resources, and assessment and exchange of experiences.

## *ii. U.S. Laws and Policies*

There are two major federal laws related to beach and dune conservation. First, the **Coastal Barrier Resources Act** blocks government support for construction on or near “undeveloped coastal barriers.” As it focuses on federal spending, the federal law does not protect beaches and dunes from private action. Second, the **Rivers and Harbors Act** governs federal efforts for erosion research and beach restoration, providing large grants for beach nourishment projects.

More specifically, the **Coastal Barrier Resources Act** aims to reduce wasteful federal spending, protect human life, and conserve natural resources by limiting the role of federal spending in

<sup>152</sup> The voluntary compliance NMX-AA-120-SCFI-2006 establishes that the maximum allowable area of solid waste on the beach is 5 units (which should not exceed 5 kg in weight or 0.5 m<sup>3</sup> in volume) per 100 m transect. NMX-AA-120-SCFI-2006, *Establishes the requirements and regulations of sustainability of quality for beaches (Que establece los requisitos y especificaciones de sustentabilidad de calidad de playas)*, para. 5.2.b, available at <http://www.semarnat.gob.mx/leyesynormas/normas/Normas%20Mexicanas%20Vigentes/nmx-aa-120-scfi-2006.pdf>.

<sup>153</sup> This information is derived from the contents of the decree creating the Natural Protected Areas and Program Management (PM) published in the Official Journal of the Federation, as well as information contained in the technical Sites RAMSAR located in natural protected areas. See generally CONANP, [www.conanp.gob.mx](http://www.conanp.gob.mx).

<sup>154</sup> See CONAGUA, Clean Beaches, <http://www.cna.gob.mx/Contenido.aspx?id=df2f9187-640d-4eb2-a0f7-67d7bcb42102|Playas%20Limpias|0|45|0|0|0>.

coastal development.<sup>155</sup> It generally bans federal funding for construction or erosion control projects in “undeveloped coastal barriers” and adjacent wetlands, estuaries, and near-shore waters. These protected areas are designated as the John H. Chafee Coastal Barrier Resource System.<sup>156</sup> Two agencies are also restricted beyond the bounds of the system: neither the U.S. Department of Housing and Urban Development nor the National Flood Insurance program may spend monies in ways that facilitate activity within the system that is inconsistent with the purposes of the Act.<sup>157</sup> While the Act strongly promotes conservation, it allows some potentially harmful activities – such as energy extraction – to occur within the system.<sup>158</sup>

The **Rivers and Harbors Act**, whose primary provisions are discussed in the section on *Coastal Management*, provides a mechanism for studying, funding, and undertaking shore protection and beach nourishment projects. The Act established the Army Corps’ Coastal Engineering Research Center and Board on Coastal Engineering Research, which recommend shore protection projects to Congress for matching grants based on both economic and ecological factors.<sup>159</sup> The Army Corps must carry out demonstration projects with both engineered and vegetative shoreline erosion control methods.<sup>160</sup> The Secretary of the Army was also required to establish a “national coastal data bank” with information on current and predicted shore positions, federally authorized shore protection projects, and impediments to sand movement.<sup>161</sup> He may also, if he chooses, assist in the development of state and regional plans to conserve coastal resources; study and implement prevention and mitigation measures for shore damage from federal navigation works; and cooperate with states to investigate shore erosion prevention and control methods.<sup>162</sup>

As discussed within the section on *Protected Species and Protected Places*, the **National Park System** includes two national seashores on the Gulf Coast: Padre Island, off of Texas, and the Gulf Islands, off of Florida and Mississippi. Certain activities are restricted or require permits within the seashores, although oil and gas extraction is still allowed within Padres Island.<sup>163</sup> The Park Service is charged with managing the seashores for recreational purposes, and although

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<sup>155</sup> 16 U.S.C. § 3501(b).

<sup>156</sup> *Id.* §§ 3504; 3502 (defining “undeveloped coastal barrier”). The initial boundaries of the system were based on a map that preceded the Act’s passage. The Secretary of the Interior is authorized to expand the boundaries of the system in certain circumstances.

<sup>157</sup> *Id.* § 3505(d).

<sup>158</sup> *Id.* § 3505.

<sup>159</sup> 33 U.S.C. § 426e. The Board’s recommendation satisfies certain permit requirements. *Id.* § 426i-1(d).

<sup>160</sup> *Id.* § 426g.

<sup>161</sup> *Id.* § 426i-2.

<sup>162</sup> *Id.* §§ 426-426d, 426g-1, 426i.

<sup>163</sup> 36 CFR §§ 7.12, 7.75.

recreation rather than conservation is the seashores' primary purpose, the Service is authorized to conserve wildlife and natural resources.<sup>164</sup>

### *State Conservation and Restoration*

Of the five Gulf States, Florida is the only one that generally prohibits construction near beaches and dunes.<sup>165</sup> Texas' dune conservation laws prohibit public and private parties from undertaking activities that may injure critical dune areas unless they have a permit.<sup>166</sup> Similarly, Louisiana requires people to obtain a permit to intentionally alter dunes and stabilize vegetation.<sup>167</sup> Florida, Texas, Louisiana, and Alabama all restrict the use of motor vehicles on dunes by statute.<sup>168</sup> Finally, Florida and Texas both have statutory programs for beach nourishment and erosion control that give state officials discretion over the role of conservation goals.<sup>169</sup>

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<sup>164</sup> 16 USCS §§ 459d (Padre Island); 459h (Gulf Islands).

<sup>165</sup> FLA. STAT. ch. 161.042. Waivers are available in certain circumstances.

<sup>166</sup> TEX. NAT. RES. CODE §§ 33.601 *et seq.*

<sup>167</sup> LA. R.S. 49:214.5.8.

<sup>168</sup> FLA. STAT. ch. 161.58; TEX. NAT. RES. CODE § 63.093; LA. R.S. 49:214.5.8; ALA. CODE § 32-1-7 (providing that property owners and their guests may park on private property)..

<sup>169</sup> FLA. STAT. ch. 161.161; TEX. NAT. RES. CODE §§ 33.601 *et seq.*

## 5. Offshore Oil and Gas Development and Accident Response

This section addresses uses and activities located beyond the nation’s coastal waters, out to the extent of their exclusive economic zones (EEZs). In Mexico this distinction is geographical; in the United States it is specifically equivalent to the area outside of state waters (i.e. 3-200 or 9-200 miles). There are also laws and regulations relevant to this section that are only briefly mentioned here, as they are discussed in greater detail in other section report – such as *Harvested Species* (e.g., essential fish habitat), *Protected Species and Protected Places* (e.g., sanctuaries and historic sites), *Water Quality* (e.g., potential protective standards for ocean waters), and *Accident Response* (e.g., oil spill liability and its preventative effect). Much of this section focuses on one of the primary activities affecting the offshore marine environment both in Mexico and in the United States: oil exploration and development.

**Table 5. Oil and Gas and Accident Response Laws and Policies**

Mexico	United States
<ul style="list-style-type: none"> <li>• Federal Law of the Sea</li> <li>• Official Mexican Standard NOM-149-SEMARNAT-2006 (establishing specifications for environmental protections to be observed during drilling, maintenance, and abandonment of oil wells in Mexican waters)</li> <li>• National Contingency Plan to Combat and Control Spills of Hydrocarbons and Other Harmful Substances at Sea</li> <li>• General Health Act</li> <li>• Federal Penal Code</li> <li>• General Law for the Prevention and Integral Management of Waste</li> </ul>	<ul style="list-style-type: none"> <li>• Outer Continental Shelf Lands Act</li> <li>• Act to Prevent Pollution from Ships</li> <li>• Ocean Dumping Act</li> <li>• Marine Debris Research, Prevention, and Reduction Act</li> <li>• National Marine Sanctuaries Act</li> <li>• Oceans and Human Health Act</li> <li>• Comprehensive Environmental Response, Compensation, and Liability Act</li> <li>• Oil Pollution Act</li> <li>• Clean Water Act</li> <li>• Park Systems Resources Protection Act</li> <li>• National Marine Sanctuaries Act</li> </ul>

### *i. Mexican Laws and Policies*

President Felipe Calderon Hinojosa’s administration promoted exploration projects and the production of hydrocarbons in unconventional fields (including those involving major challenges) as a strategy for the Secretariat of Energy in the territorial sea.<sup>170</sup> Between 2007 and 2010, efforts included exploration projects related to the development and production of hydrocarbons in deep waters of the Gulf of Mexico; research projects for the identification and

<sup>170</sup>Energy Sector Program 2007–2012, Strategy I.3.3.

evaluation of the potential of methane hydrates; and projects related to optimal exploitation of tertiary oil reserves in the Gulf.

Mexico's national energy strategy states that Mexico, like the rest of the world, is facing strong and important challenges in the energy field that it must resolve. In this context, the Ministry of Energy has implemented a strategy focused around three areas: energy security, economic and productive efficiency, and environmental sustainability.

Three of the key objectives of the national energy strategy that are directly associated with the guiding principle of energy security are: "Restor[ing] reserves, reversing the decline of oil production, and maintain[ing] production of natural gas." This impacts the exploratory goals of Petroleos Mexicanos (Pemex) and in particular the basin of the Gulf of Mexico. Pemex's Exploration and Production (PEP) division has established an exploratory strategy which will assess the nation's petroleum potential, which are estimated at 29,000,500 million barrels of oil, representing more than 50% of the total prospective resources of the country.<sup>171</sup>

In general, the federal agencies that regulate the conservation of deep sea and offshore waters through laws, rules, orders and other regulations are the Federal Agency of Environmental Protection (PROFEPA), SEMAR, SEMARNAT and CONAGUA.

For the protection of the marine environment, SEMARNAT decrees Office Mexican Standards that govern the exploitation, preservation, and management of living and abiotic natural resources of the seabed, subsoil, and superjacent waters. These rules must be observed in carrying out exploration and exploitation in the EEZ.<sup>172</sup>

The **General Law of Ecological Balance and the Protection of the Environment** and the **Federal Law of the Sea** require that marine ecological management programs establish guidelines and provisions that lead to the sustainable use of natural resources, maintenance of goods and environmental services, and conservation of ecosystems and biodiversity in marine areas and their zones.<sup>173</sup>

Official Mexican Standard **NOM-149-SEMARNAT-2006** establishes environmental prevention, mitigation, and protection specifications which must be followed during drilling activities, maintenance, and abandonment of oil in the Mexican maritime zones.

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<sup>171</sup> See Petroleos Mexicanos, Exploracion y Produccion, [www. Pep.pemex.com](http://www.Pep.pemex.com).

<sup>172</sup> LGEEPA, *supra* note 10, art. 131.

<sup>173</sup> *Id.* art. 51.



This Official Mexican Standard applies to drilling activities, maintenance, and abandonment of oil wells that occurs in marine areas over which the nation exercises sovereign rights and jurisdiction, except drilling carried out in protected natural areas, wetlands, or within the 12-mile territorial sea. The responsible conduct of marine oil drilling must be accompanied by an approved environmental impact assessment, under the terms of the General Law of Ecological Balance and Environmental Protection and under field application of this Official Mexican Standard. Managers must instruct their staff to inform waste management practices and to ensure that during drilling activities or well maintenance, commercial fishing and aquatic flora and fauna in the area are not affected.

According to the **Regulation of Maritime Safety Inspection**, oil tankers of 150 units of gross tonnage and non-oil vessels of 400 or more units of gross tonnage must comply with the International Convention for the Prevention of Pollution from Ships (MARPOL). The Secretary authorizes exemptions on a case by case basis.<sup>174</sup> The regulation also states that any ship captain, in the case of any oil spill or jettisoning of trash or any other substance considered to be harmful or disruptive, is obliged to report to the nearest maritime authority so that the details and reasons for the incident can be recorded and corrective action can be taken.<sup>175</sup>

There is a penalty of one to nine years in prison and 300 to 3,000 days of fines for those who illegally authorize, order, or actually discharge or deposit wastewater, chemical or biochemical fluids, waste, or pollutants that cause a risk of harm or damage to natural resources, flora, fauna, water quality, ecosystems or the environment, into soils, subsoils, marine waters, rivers, basins, or streams of federal jurisdiction. In the case of water flowing within or into a protected area, the prison sentence will increase by three years and the financial penalty will increase by up to 1,000 days' fine.<sup>176</sup>

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<sup>174</sup> Regulation of Maritime Safety Inspection, art. 162.

<sup>175</sup> *Id.* art. 164.

<sup>176</sup> Mexican Federal Penal Code, art. 416.

Regarding environmental accidents, regulation of response is scattered in Mexican legislation. Some regulations are contained in, *inter alia*, the **General Health Act**, the **Federal Penal Code**, and the **General Law for the Prevention and Integral Management of Waste**.

For conservation and restoration of the Gulf of Mexico, the most important instrument is the **National Contingency Plan to Combat and Control Spills of Hydrocarbons and Other Harmful Substances At Sea**, managed by the Secretariat of the Navy. The Plan was published in the Official Journal of the Federation on December 8, 1981. The Secretariat of the Navy coordinates and executes the Plan, assisted by the Secretary of State and State and municipal governments, whose main objectives are to:<sup>177</sup>

- Control and combat pollution incidents in the marine environment;
- Coordinate and assist in the implementation of national action plans and, where appropriate, international contingency actions for pollution at sea; and
- Define technical solutions to marine pollution problems, so that corresponding federal agencies can take actions in instances within their areas of competence.

#### *Federal Restoration and Conservation*

In February 2007, President Felipe Calderon presented the National Ecological Ordinance Strategy for Seas and Coast. In June 2008 the President issued a decree establishing the Interministerial Commission for Sustainable Management of Oceans and Coasts (CIMARES).<sup>178</sup> (For more detailed discussion of CIMARES, see the section on *Coastal Management*.)

Through its Science and Technology working group, CIMARES works with the Autonomous University of Baja California's Oceanological Research Institute (IIO) on an Assessment of Institutional Capacity for the integration of a National Oceanographic Monitoring System (SINAMO). The goal of the assessment is to improve the availability and distribution of oceanographic and meteorological data, and to make the system as efficient and effective as possible. IIO is also collaborating with the National Coordinating Committee for Oceanographic Research (CONACIO) to develop a National Center for Oceanographic Data (CNADO). The goal is for the Center to coordinate and systematize national oceanographic information and information-sharing.<sup>179</sup>

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<sup>177</sup> National Contingency Plan to Combat and Control Oil Spills and other Harmful Substances at Sea (Plan Nacional de Contingencia Contra Derrames de Hidrocarburos, Derivados y Sustancias Nocivas en Aguas Marinas, Fluviales y Lacustres) (PNC), Diario Oficial 8 Dec. 1981.

<sup>178</sup> SEMARNAT, CIMARES, Interministerial Commission for the Sustainable Management of Oceans and Coasts (Comision Intersecretarial para el Manejo Sustentable de Mares y Costas), <http://www.semarnat.gob.mx/temas/ordenamientoecologico/cimares/Paginas/cimares.aspx>.

<sup>179</sup> See SEMARNAT, Oceanographic Monitoring, [http://www.semarnat.gob.mx/temas/ordenamientoecologico/cimares/Paginas/monitoreo\\_oceanografico.aspx](http://www.semarnat.gob.mx/temas/ordenamientoecologico/cimares/Paginas/monitoreo_oceanografico.aspx).

## ii. **US Laws and Policies**

Federal laws related to the offshore environment are generally sector-specific and designed to regulate the environmental impacts of a particular marine industry.

Offshore energy is regulated by the **Outer Continental Shelf Lands Act (OCSLA)**. OCSLA governs the planning, leasing, permits, easements, and rights-of-way related to oil, gas, other mineral, and alternative energy exploration and development on the outer continental shelf (extending from the state water boundary to the limit of the EEZ or otherwise the agreed upon US-Mexico boundary).<sup>180</sup> The Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) develops five-year leasing plans to guide leasing of seabed tracts for energy exploration and development, which must consider the environmental sensitivity and marine productivity of the region.<sup>181</sup> The agency must also conduct an environmental study before it leases a particular tract and use the information to manage environmental harms and implement appropriate permit conditions.<sup>182</sup>

Although required elsewhere in the United States, oil and gas companies are not required to submit site-specific development and production plans for activities on leases in the Gulf of Mexico.<sup>183</sup> In most places in the U.S., before oil and gas production, lessees must submit development and production plans (DPP) within five years of the lease sale or the lease will be canceled.<sup>184</sup> DOI regulations specify that these DPPs must include descriptions of the planned work and the environmental and safety standards. They also require that a DPP conform to sound conservation practices, protect the rights of the lessor, not unreasonably interfere with other OCS uses, and not cause undue or serious harm or damage to the human, marine, or coastal environment.<sup>185</sup> If exceptional circumstances will “probably cause serious harm or damage to life (including fish and other aquatic life, to property, to any mineral deposits . . . or to the marine, coastal, or human environments,” the DPP will only be approved if the danger will decrease within a reasonable timeframe and disadvantages are outweighed by project benefits.<sup>186</sup> However, in the central and western planning areas of the Gulf of Mexico, no DPP is required. Instead, a development operations coordination document (DOCD) is submitted.

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<sup>180</sup> 43 USC § 1331 *et seq.*

<sup>181</sup> *Id.* § 1344.

<sup>182</sup> *Id.* §§ 1337, 1346.

<sup>183</sup> *Id.* § 1351.

<sup>184</sup> *Id.*; see also 30 CFR § 250.202, .204(d)(1); U.S. Dep’t of the Interior, Minerals Management Service (now BOEMRE), *Leasing Oil and Natural Gas Resources – Outer Continental Shelf*, at 29, available at <http://www.mms.gov/ld/PDFs/GreenBook-LeasingDocument.pdf>.

<sup>185</sup> 30 CFR § 250.202.

<sup>186</sup> 43 USC § 1351(a), (h)(1)-(2); 30 CFR § 150.204(d)(1); MMS, *Leasing Oil and Natural Gas Resources*, *supra* note 184, at 29.

(The Coastal Impact Assessment Program is described previously in the section on *Wetlands and Estuaries*.)

Accident response laws relate to accidental discharges of oil and hazardous waste, as well as injury to natural resources in protected areas including national marine sanctuaries and national parks (Table 6).

**Table 6. NRD Statutory Authority<sup>187</sup>**

	CERCLA	OPA	CWA	PSRPA	NMSA
Cause of Injury	Hazardous Substances	Oil	Oil and Hazardous Substances	Any Means of Injury	Any Means of injury
Location of Event	Any place where hazardous substances are released or have come to be located	Navigable waters (U.S. waters), adjoining shorelines, and Exclusive Economic Zone	Navigable waters of the U.S., adjoining shoreline, contiguous zones	Within a Park Unit	Within a Marine Sanctuary
Trustees	Federal agencies, states, and Indian tribes	Federal agencies, states, Indian tribes, and foreign governments	Federal agencies, states, and Indian tribes	Secretary of the Interior	Secretary of Commerce

The **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, also known as the **Superfund Law** holds responsible parties liable for hazardous substance releases, whether the release is accidental or intentional. CERCLA is triggered by any release of a hazardous substance within U.S. jurisdiction large enough to threaten human health or the environment.<sup>188</sup> CERCLA requires responsible parties to compensate the government for the clean-up of spills and for restoring injured natural resources. Federal, state, and potentially tribal governments act as trustees of the resources, and lead the efforts to restore, replace, or acquire replacements for the damaged resources.<sup>189</sup> If no responsible party is found to compensate for the cost of restoration, trustees can access funds from the Hazardous

<sup>187</sup> Adapted from VALERIE ANN LEE, PJ BRIGDEN, & ENVIROMENT INTERNATIONAL LTD, THE NATURAL RESOURCE DAMAGE ASSESSMENT DESKBOOK: A LEGAL AND TECHNICAL ANALYSIS §3.2. (2002).

<sup>188</sup> 42 U.S.C. §9601 *et seq.* Facility owners and operators are liable unless the contamination was caused by an act of war, an act of God, or the unforeseeable acts of a third party. *Id.* § 9607.

<sup>189</sup> *Id.* §9607.

Substance Superfund.<sup>190</sup> The trustees may reimburse local governments for the cost of undertaking emergency measures<sup>191</sup> and may provide funds to state programs for inventorying contamination, cleaning brownfields, and enforcing the law.<sup>192</sup> Finally, the National Institute for Environmental Health Sciences (NIEHS) must fund basic research on topics such as detecting hazardous waste and evaluating their effects on human health.<sup>193</sup>

Passed in response to the Exxon Valdez disaster, the **Oil Pollution Act of 1990 (OPA-90)** governs oil spill liability. As long as a spill is not caused by an act of God, war, or the unforeseeable acts of a third party, the owners and operators of a ship or onshore facility are deemed responsible for spills, regardless of whether they acted negligently.<sup>194</sup> Similarly, permit-holders and lease-holders are deemed responsible for spills at their offshore facilities. Subject to certain limits, responsible parties must compensate the government and other affected groups for clean-up efforts, individual economic and subsistence damages, natural resource damages, and lost public services and tax revenue.<sup>195</sup> Trustees for the NRDA process under OPA-90 include federal agencies, states, tribes, and foreign governments impacted by the spill.<sup>196</sup>

One aspect of hazardous and oil spill activity that is particularly relevant to this report is the process known as natural resource damage assessment (NRDA), which involves injury determination; restoration planning; and restoration implementation. Pursuant to OPA-90, NRDA actions are currently underway in the Gulf of Mexico in response to the BP Deepwater Horizon oil spill that occurred on April 20, 2010.<sup>197</sup> In April 2011, BP pledged \$1 billion for early restoration projects;<sup>198</sup> the total amount required for ecosystem restoration remains to be determined.

The **Clean Water Act** outlines federal preparation for and response to oil spills and other hazardous marine pollution. The President must publish plans for responding to spills in the National Contingency Plan. Consistent with these plans, the government can clean up any spill that happens within the jurisdiction of the United States or threatens U.S. natural resources.<sup>199</sup>

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<sup>190</sup> *Id.* §9611. The Hazardous Substance Superfund obtains monies from a tax on the oil and chemical industries.

<sup>191</sup> *Id.* § 9623.

<sup>192</sup> *Id.* § 9628.

<sup>193</sup> *Id.* § 9660–60a.

<sup>194</sup> 33 U.S.C. §§ 2701 (defining "responsible party"), 2702–03.

<sup>195</sup> *Id.* §§ 2702, 2704.

<sup>196</sup> *Id.* § 2706(b).

<sup>197</sup> For more information on the BP Deepwater Horizon NRDA, see <http://www.gulfspillrestoration.noaa.gov>.

<sup>198</sup> Gulf Coast Ecosystem Restoration Task Force, Press Release, NRDA Trustees Announce \$1 Billion Agreement to Fund Early Gulf Coast Restoration Projects, Apr. 21, 2011, <http://www.restorethegulf.gov/release/2011/04/21/nrda-trustees-announce-1-billion-agreement-fund-early-gulf-coast-restoration-proj>.

<sup>199</sup> 33 U.S.C. §1321. The plan must include several specific elements, including (i) planning for worst-case scenarios, (ii) coordinating various federal agencies, (iii) identifying threats early, (iv) using acceptable quantities of different dispersants in different waters, and (v) immediately rescuing and rehabilitating wildlife.

The Act also imposes duties and liabilities on the private parties responsible for the spill, and makes funding available for oil pollution research (see Water Quality section). In the case of oil spills, the Oil Pollution Act also contains relevant provisions related to response plans. For oil spills, Area Committees made up of federal, state, and local officials, must create area contingency plans.<sup>200</sup>

In response to the *Deepwater Horizon* oil disaster, the U.S. Coast Guard conducted a review of its preparedness for the BP spill.<sup>201</sup> The report makes note of several inadequacies within the current system and recommendations for improvement. Some key problems with the current system include the following:

- Inadequate area contingency plans;
- Lack of worst case scenario analyses;
- Lack of communication with state and local officials before and during the spill;
- Environmentally sensitive areas not identified in plans;
- Lack of understanding about the impacts of dispersants and in situ burning; and
- Need for financial incentives to allow local officials and NGOs to participate in area contingency planning.

The report recommends that the Coast Guard should ensure that critical area contingency planning components are incorporated in the plans, including worst case discharge scenarios and identification and prioritization of environmentally sensitive areas and economically important areas. Specific recommendations to address environmentally sensitive area deficiencies include the following:

1. The Coast Guard and each respective RRT [Regional Response Team] should conduct a comprehensive review of all Gulf region ACPs [Area Contingency Plans] to ensure that they include a fully developed Fish and Wildlife and Sensitive Environments Plan. This review should also include a process to ensure consistency among Gulf ACPs in the identification and protection of ESAs [environmentally sensitive areas].
2. The Coast Guard should develop a program to ensure that the equipment, trained personnel, and other response resources to implement protection strategies are available and contained in ACPs.
3. The Coast Guard should develop procedures to ensure stakeholder participation in the identification and prioritization of ESAs. This may include funding.

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<sup>200</sup> EPA, Oil Pollution Act Overview, at <http://www.epa.gov/oem/content/lawsregs/opaover.htm> (last visited May 31, 2011).

<sup>201</sup> U.S. Coast Guard, *BP Deepwater Horizon Oil Spill: Incident Specific Preparedness Review (ISPR)* (2011).

4. The Coast Guard should look to ACPs that adequately address the identification, prioritization, and protection strategies for ESAs, and adopt the best practices as a benchmark for other planning areas. ACPs in Texas or California may be appropriate models for this purpose. An enhanced version of the Consensus Ecological Risk Assessment may also help in developing minimum standards for all ACPs covering coastal areas.
5. Once ESA protection strategies are developed, the Coast Guard should ensure that these strategies are periodically exercised in full deployment exercises.<sup>202</sup>

Under **Park System Resources Protection Act (PSRPA)**, a responsible party is liable for injury to *any* park system resource including any “living or non-living resource that is located within the boundaries of a unit of the National Park System, except for resources owned by a non-Federal entity.”<sup>203</sup> This includes, for example, injuries to buildings or stop signs, as well as natural resources. The statute is not limited to addressing oil or chemical releases, as are OPA and CERCLA. The National Park Service (NPS), through delegation by the Secretary for the Department of Interior, acts as the federal trustee.<sup>204</sup>

Response actions include actions taken to minimize or prevent destruction, loss, or injury to the NPS resource, in addition to actions taken to minimize *imminent risk* of destruction, loss or injury. For example, if a tanker runs aground on an NPS reef, but does not cause an oil spill, the responsible party would be liable for response costs associated with actions taken to prevent imminent risk of a spill, in addition to minimize or prevent structural damage to the reef. Damages include the cost of replacing, restoring or acquiring the equivalent resource and the value related to loss of use; or if the resource cannot be replaced or restored, the value of the resource.

The **National Marine Sanctuaries Act (NMSA)** designates the Secretary of Commerce as the trustee for natural resource injuries to marine sanctuaries.<sup>205</sup> Under NMSA, “[a]ny person who destroys, causes the loss of, or injures *any* sanctuary resource is liable” for response cost, damages, and any accumulated interest on that amount.<sup>206</sup> NMSA compensation requirements include “the cost of replacing, restoring, or acquiring the equivalent;” lost use value; resource value if it cannot be replaced, restored or an equivalent acquired; damage assessments; monitoring costs; “cost of curation and conservation of archeological, historical, and cultural

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<sup>202</sup> *Id.* at 22.

<sup>203</sup> 16 U.S.C. §191j-1; *see also* National Park Service, Director’s Order #14: Resource Damage Assessment and Restoration (effective Sept. 28, 2004 to Sept. 30, 2008), at 2, available at <http://nature.nps.gov/protectingrestoring/damageassessmentandrestoration/Director's%20Order%2014.pdf>.

<sup>204</sup> National Park Service, Director’s Order #14, *supra* note 203, at 5.

<sup>205</sup> NMSA, 16 U.S.C. § 1443 *et seq.*

<sup>206</sup> *Id.* § 1443 (emphasis added).

sanctuary resources;” and enforcement actions taken in response to the injury.<sup>207</sup> Similar to the PSRPA, liability is not limited to certain types of injuries (e.g. chemical or oil discharges). A responsible party is liable for *any* injury to a national marine sanctuary resource. Damage to reefs from vessel groundings, anchors and propellers constitute injuries under the NMSA provisions. There are two national marine sanctuaries in Gulf offshore waters: the Flower Garden Banks and Florida Keys National Marine Sanctuaries.

In addition to direct oil and gas regulation and accident response provisions, offshore resources are also protected by several other general environmental and resource conservation laws. Some offshore waters receive protection via the **American Antiquities Act**, which provides the President with authority to designate national monuments<sup>208</sup> and that may include marine areas, as has been seen in waters off the shores of Hawai’i, the U.S. Virgin Islands, and Buck Island Reef. Others may be protected through the **National Wildlife Refuge System Administration Act**, through designation as a refuge.<sup>209</sup> The **Archaeological Resources Protection Act** (which applies within state marine waters) and the **National Historic Preservation Act** (which applies throughout the EEZ) require agencies to take into account the effects of their actions on archaeological resources and sites included (or eligible to be included) in the National Register.<sup>210</sup> Essential fish habitat can be established pursuant to the **Magnuson-Stevens Fishery Conservation and Management Act**, creating habitat protection areas in federal waters (discussed in greater detail previously under *Harvested Species Habitat*). Finally, the **Ocean Dumping Act**<sup>211</sup> places limits on vessels discharges and establishes several related research initiatives and the **Marine Debris Research, Prevention, and Reduction Act** calls for strategies to reduce marine debris.<sup>212</sup>

### *State Conservation and Restoration*

This section focuses on the Outer Continental Shelf, whose seabed and overlying waters are primarily governed by federal laws and policies. If a coastal state has a NOAA-approved coastal management program, however, it may review a federally proposed project that may affect its coastal resources to ensure the action complies with the state’s own enforceable coastal policies.<sup>213</sup> In addition, states can adopt their own accident response

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<sup>207</sup> *Id.* § 1432(6).

<sup>208</sup> *Id.* § 431.

<sup>209</sup> *Id.* § 668dd.

<sup>210</sup> 16 U.S.C. § 470aa *et seq.*; 16 U.S.C. § 470 *et seq.*; *see also* BOEMRE, Environmental Compliance, Branch of Environmental Assessment, National Historic Preservation Act, <http://www.boemre.gov/eppd/compliance/nhpa/index.htm> (last visited June 23, 2010).

<sup>211</sup> 33 U.S.C. §§ 1441, 1442.

<sup>212</sup> *Id.* § 1952.

<sup>213</sup> *See infra* the section on *Cross-cutting Issues: Coastal Management*.



## 6. Cross-cutting: Protected species and protected places

Table 7. Protected Species and Protected Places Laws

Mexico	United States
<ul style="list-style-type: none"> <li>• General Law of Ecological Equilibrium and Environmental Protection</li> <li>• General Law of Wildlife and associated regulations</li> <li>• Regulation of the General Law of Ecological Equilibrium and Environmental Protection in protected natural areas</li> <li>• Official Mexican Standard NOM-059-SEMARNAT-2010, Environmental protection, native species of Mexican flora and fauna, risk categories and specifications for inclusion, exclusion or change, list of species at risk</li> </ul>	<ul style="list-style-type: none"> <li>• Endangered Species Act</li> <li>• Marine Mammal Protection Act</li> <li>• Migratory Bird Treaty Act</li> <li>• Executive Order 13,186</li> <li>• National Marine Sanctuaries Act</li> <li>• American Antiquities Act</li> <li>• National Wildlife Refuge System Administration Act</li> <li>• National Park Service</li> <li>• Land and Water Conservation Fund Act</li> <li>• Fish and Wildlife Coordination Act</li> <li>• Partners for Fish and Wildlife Act</li> <li>• Executive Order 13,158</li> <li>• Executive Order 13,547</li> </ul>

### i. Mexico Laws and Policies

#### 1. Protected Species

In Mexico, the primary statutory mechanisms for protecting wildlife are the **General Law of Ecological Equilibrium and Environmental Protection (LGEEPA)** and the **General Law of Wildlife (LGVS)** and associated regulations. Both regulate various aspects of species protection and conservation. The first provides a general framework, with guidelines and policies for the protection and restoration of biodiversity and ecosystems, while the second establishes criteria for managing wildlife protection and utilization. The general laws distribute powers of the Federation, states, and municipalities in terms of conservation, development, and restoration of wildlife.

The provisions of the **LGVS**<sup>214</sup> regulate the federal government's identification of species and populations at risk and designation of priority species and populations for conservation.<sup>215</sup> This is done through SEMARNAT, specifically the General Directorate of Wildlife. Populations at risk

<sup>214</sup> General Law of Wildlife (Ley General de Vida Silvestre, LGVS), Diario Oficial 3 July 2000 (last amended 7 June 2011), available at <http://www.ordenjuridico.gob.mx/Documentos/Federal/wo11716.doc>.

<sup>215</sup> *Id.* art. 9.

are those identified as probably extinct in the wild, endangered, threatened, or subject to special protection.<sup>216</sup> *Species in danger of extinction* are species whose ranges or the sizes of their populations in the country have declined dramatically, jeopardizing their biological viability throughout their natural habitat, due to factors such as the drastic destruction of habitat, unsustainable harvesting, disease or predation. *Endangered species* are those species (or populations of them) that could potentially be in danger of disappearing in the short or medium term, if factors continue that adversely affect their viability, result in habitat modification, or decrease directly the size of their populations. Finally, ***species subject to special protection*** are those species or populations that could potentially be threatened by factors that adversely affect their viability, which is determined by the need to promote recovery and preservation or restoration and conservation of populations of related species.

The species classified under these categories are listed on the Official Mexican Standard **NOM-059-SEMARNAT-2010**, which relates to the protection of native Mexican species at risk.<sup>217</sup> The importance of listing a species is the resulting protection and care that the species then receives both legally and financially. For example, uses of threatened or endangered species are prohibited unless the action is intended to help control species reproduction and development.

Another example of the usefulness of this Official Mexican Standard is to provide strategic decision-making direction to the Directorate of Environmental Impact and Risk's environmental impact assessment (EIA) procedures. By this standard, the Directorate is obliged to deny authorization if the work or activity in question may negatively affect one or more species that are declared as threatened or endangered.<sup>218</sup>

In addition, preserving species that are in danger of extinction, threatened, endemic, rare, and/or subject to special protection is one of the most important goals of the system of national protected natural areas (NPAs).

As for the species themselves, the list of species includes numerous that are characteristic of Gulf of Mexico biodiversity, such as mangroves, manatees, coral reefs, birds, and sea turtles. It is worth mentioning that in addition to this Official Mexican Standard, the General Law of Wildlife also includes articles devoted exclusively to the protection and conservation of marine mammals, sea turtles, and mangroves, among others.

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<sup>216</sup> *Id.* art. 9.

<sup>217</sup> NORM-059-SEMARNAT-2010, *supra* note 26.

<sup>218</sup> LGEEPA, *supra* note 10, art. 35.

- No marine mammal may be subjected to extractive use, whether subsistence or commercial, unless for purposes of scientific research and higher education (by accredited institutions).<sup>219</sup>
- Because mangroves are a protected species, actors are prohibited from removing, filling, transplanting, pruning, or engaging in any other work or activity that will affect the integrity of the hydrologic flow of mangrove ecosystems and their zones of influence. Works or activities aimed at protecting, restoring, researching, and preserving mangrove areas may be allowed.<sup>220</sup> (See the previous section on *Wetlands and Estuaries* for more discussion of mangrove protections.)
- Similarly, no sea turtle (regardless of species and including derivative products) may be subject to extractive use, whether subsistence or commercial.<sup>221</sup>

### *Restoration*

The restoration of wildlife habitats is also covered in the **General Law of Wildlife** and the **General Law of Ecological Equilibrium and Environmental Protection**. The General Law of Wildlife states that when there are problems of destruction, pollution, land degradation, desertification, or imbalance of wildlife habitat, SEMARNAT will develop and implement as soon as possible prevention programs, emergency care restoration and recovery, and restoration of conditions conducive to the evolution and continuity of natural wildlife processes.<sup>222</sup>

Restoration is conducted following preliminary studies justifying the actions. The preliminary studies result in a declaration, published in the Official Journal of the Federation, that describes the delimitation of the area subject to ecological restoration; actions necessary to regenerate, recover, or restore natural conditions in the area; guidelines for the development and implementation of relevant ecological restoration, as well as public participation in such activities by owners, holders, the general public, indigenous peoples, local governments, and other interested persons; and deadlines for implementation of the respective ecological restoration.<sup>223</sup>

#### 1. Protected Areas

There are several Mexican laws aimed at establishing protected natural areas. Strictly speaking, the **General Law of Ecological Equilibrium and Environmental Protection** and its associated

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<sup>219</sup> LGVS, *supra* note 214, art. 60 BIS.

<sup>220</sup> *Id.* art. 61 TER.

<sup>221</sup> *Id.* art. 61 BIS 1.

<sup>222</sup> *Id.* art. 70.

<sup>223</sup> LGEEPA, *supra* note 10, art. 78.

regulations establish the regulatory framework for the creation of protected natural areas. According to this law, the objectives of protected natural areas are to:<sup>224</sup>

- Preserve natural environments representing different bio-geographic regions and fragile ecosystems to ensure the balance and continuity of evolutionary and ecological processes;
- Safeguard the genetic diversity of wild species that depend on evolutionary continuity as well as ensuring the conservation and sustainable use of biodiversity in the country, in particular to preserve species that are in danger of extinction, that are threatened, endemic, rare and/or subject to special protection;
- Ensure the sustainable use of ecosystems and their elements; AND
- Provide a fertile ground for scientific research and the study of ecosystems and their balance.

The law recognizes eight different types of protected areas: biosphere reserves, national parks, natural monuments, protected areas for flora and fauna, areas of natural resource protection, sanctuaries, parks and state and municipal environmental conservation areas, and areas for voluntary conservation.<sup>225</sup>

Protected areas are created by declarations issued by the Ministry of Environment and Natural Resources and published in the Official Journal of the Federation. Once a declaration is published, the Secretary has one year to develop a program for managing the protected area. Management programs include:<sup>226</sup>

- A description of the physical, biological, social and cultural aspects of the protected area;
- Short, medium, and long term actions. These actions include, inter alia: environmental research and education; protection and sustainable use of natural resources, flora, and fauna for the development of recreation, tourism, infrastructure and other productive activities; funding for park administration, prevention and contingency measures, and surveillance; and other activities required by the characteristics of the protected area;
- The organization of the area's administration and the mechanisms of participation of individuals and communities living in the same area, as well as the participation of all persons, institutions, social groups and organizations interested in the area's protection and sustainable use;
- The specific objectives of the protected area;

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<sup>224</sup> *Id.* art. 45.

<sup>225</sup> *Id.* art. 46.

<sup>226</sup> *Id.* art. 66.

- The reference to the official Mexican standards applicable to each and every one of the activities subject area;
- Biological inventories existing and envisaged; and
- Administrative rules that will govern the activities taking place in the protected area in question.

It follows that to effectively meet the objectives for a natural protected area, the management plan must be followed, as it defines what activities are allowed and how natural resources in the area may be used. The National Commission of Natural Protected Areas (CONANP) oversees the areas and their management.<sup>227</sup>

Table 8 shows the protected natural areas under federal jurisdiction in states with a coast along the Gulf of Mexico.

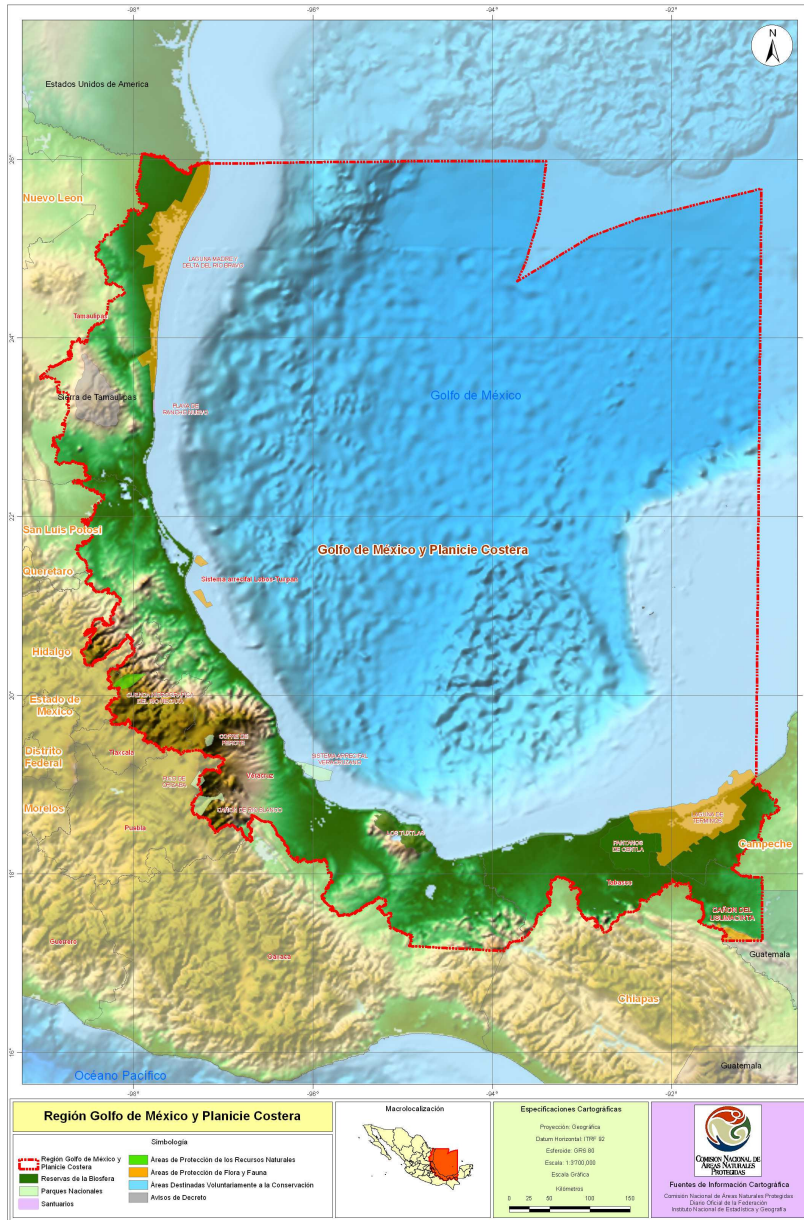
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<sup>227</sup> National Commission of Protected Natural Areas (CONANP), [http://www.conanp.gob.mx/quienes\\_somos/](http://www.conanp.gob.mx/quienes_somos/).

**Table 8. Mexican protected natural areas along the Gulf of Mexico.**

Name of the Natural Protected Area	State	Management Program
Calakmul	Campeche	✓
Laguna de Términos	Campeche	✓
Los Petenes	Campeche	✓
Arrecife de Puerto Morelos	Quintana Roo	✓
Arrecifes de Cozumel	Quintana Roo	✓
Arrecifes de Xcalak	Quintana Roo	✓
Bala'an K'aax	Quintana Roo	✓
Banco Chinchorro	Quintana Roo	✓
Costa Occidental de Isla Mujeres, Punta Cancún y Punta Nizuc	Quintana Roo	✓
Isla Contoy	Quintana Roo	✓
Sian Ka'an	Quintana Roo	✓
Arrecifes de Sian Ka'an	Quintana Roo	Not Available
Tulum	Quintana Roo	Not Available
Uaymil	Quintana Roo	Not Available
Yum-Balam	Quintana Roo	Not Available
Manglares de Nichupté	Quintana Roo	Not Available
Playa de la Isla Contoy	Quintana Roo	Not Available
Tiburón Ballena	Quintana Roo	Not Available
Pantanos de Centla	Tabasco	✓
Cañón de Usumacinta	Tabasco	Not Available
Laguna Madre y Delta del Río Bravo	Tamaulipas	Not Available
Playa de Rancho Nuevo	Tamaulipas	Not Available
Los Tuxtlas	Veracruz	✓
Cañón de Río Blanco	Veracruz	Not Available
Cofre de Perote	Veracruz	Not Available
Sistema Arrecifal Lobos-Tuxpan	Veracruz	Not available
Sistema Arrecifal Veracruzano	Veracruz	Not Available
Arrecife Alacranes	Yucatán	✓
Dzibilchantun	Yucatán	Not Available
Playa Río Lagartos	Yucatán	Not Available
Ría Celestún	Yucatán & Campeche	✓
Otoch Ma'ax Yetel Kooh	Yucatán & Quintana Roo	✓
Ría Lagartos	Yucatán & Quintana Roo	✓

Figure 5. Map of federal natural protected areas in the Gulf of Mexico and coastal plains.<sup>228</sup>



It is noteworthy that state and municipal bodies can also create protected natural areas and then oversee their administration and management. It is also possible to create private protected natural areas, but that option has not yet been explored.

<sup>228</sup> CONANP, Mapas Regiones, Golfo de México y Planicie Costera (Sept. 2009), available at [http://www.conanp.gob.mx/sig/imgmapoteca/map\\_regiones/region\\_golfo.jpg](http://www.conanp.gob.mx/sig/imgmapoteca/map_regiones/region_golfo.jpg).

### *Critical habitat*

Under the General Law of Wildlife, the Ministry of Environment and Natural Resources may, by Secretarial order, establish critical habitats for wildlife conservation. The following areas may be designated as critical habitat:<sup>229</sup>

- Specific areas that, at the time of the species' listing, are necessary for the species' essential biological processes;
- Specific areas that, due to degradation, have been drastically reduced in size but still harbor a significant concentration of biodiversity;
- Specific areas in which an ecosystem is in danger of disappearing, if contributing impacts continue; and
- Specific areas that are used for fundamental biological processes, and which are susceptible to risks from, e.g., certain types of pollution (physical, chemical, or acoustic), or collisions with ground vehicles or watercraft.

The Ministry of Environment and Natural Resources can also establish *refuge areas to protect aquatic species*. These may be established for the protection of:<sup>230</sup>

- All native species of wildlife from the aquatic environment on the site;
- Those native species of wildlife from the aquatic environment mentioned in the relevant instrument;
- Those native species of wildlife from the aquatic environment that are not specifically excluded by this instrument; or
- Issues with specific characteristics, populations, species, or native species of wildlife developed in a water body that are affected negatively by certain means of use, physical, chemical, or acoustic, or by ship strikes.

### *Priority Marine Regions*

In 1998, the National Commission for Knowledge and Use of Biodiversity (CONABIO) organized a workshop to define and delineate priority marine regions (RMP) for the purpose of implementing a strategy to nationally and internationally promote knowledge and conservation of biodiversity in the country. As a result of this project, there is a map of the country with 70 priority marine areas for conservation of coastal and ocean biodiversity in Mexico, spread on both coasts of the country: 43 in the Pacific and 27 in the Gulf of Mexico and Caribbean Sea, classified in different groups defined by the pattern of resource use, knowledge about

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<sup>229</sup> LGVS, *supra* note 214, art. 63.

<sup>230</sup> LGVS, *supra* note 214, art. 67.



biodiversity and the threats they face, considering the information generated during the workshop.

**Figure 6. Priority marine areas for conservation of marine biodiversity in Mexico<sup>231</sup>**



Table 9 notes the regions located in the Gulf of Mexico and their corresponding classifications.

**Table 9. Classifications of priority marine areas in the Gulf of Mexico**

Region	Classifications		
44. Laguna Madre	AB	AA	AU
45. La Pesca-Rancho Nuevo	AB	AA	AU
46. Laguna San Andrés			AB
47. Pueblo Viejo-Tamiahua	AB	AA	AU
48. Tecolutla			AB
49. Laguna Verde-Antón Lizardo	AB	AA	AU
50. Sist. Lagunar de Alvarado		AB	AA
51. Los Tuxtlas			
52. Delta del Río Coatzacoalcos		AA	AU
53. Pantanos de Centla-Lag de Términos	AB	AA	AU
54. Giro Tamaulipeco		AU	AFI
55. Fosa Sigsbee	AB	AU	AFI
56. Cayos Campeche		AB	AA

<sup>231</sup> L. Arriaga Cabrera *et al.*, *Regiones Marinas Prioritarias de Mexico* (CONABIO 1998).

57. Escarpe Campeche			
58. Arrecife Alacranes	AB	AA	AU
59. Sonda de Campeche	AB	AA	AU
60. Champotón-El Palmar	AB	AA	AU
61. Sisal-Dzilam			AB
62. Dzilam-Contoy			AB

AB: Areas of high biodiversity; AA: Areas that present a threat to biodiversity; AU: Areas of use by sector; AF: Areas with a lack of biodiversity information

It is noteworthy that this regionalization and classification is simply a framework to assist in the planning, conservation, and sustainable management of marine environments in Mexico, including ocean areas, islands, lakes, coasts, reefs, mangroves, marshes, bays, creeks, dunes, and beaches; and to consider the areas of highest biodiversity, current use, and potential in the country.

There is no decree or environmental policy instrument that gives the character of "official" or a status of special protection to these areas; however, it is important to take into account as a reference to prioritize areas for conservation and restoration, as there is a previous work that supports this project.

## *ii. U.S. Laws and Policies*

### 1. Protected Species

There are three major laws for protecting species, the Endangered Species Act, the Marine Mammal Protection Act, and the Migratory Bird Treaty Act. Several laws protect a variety of habitat types through acquisition, designation, and/or management of places of national or state significance.<sup>232</sup>

The **Endangered Species Act (ESA)** enables habitat conservation under several provisions. First, habitat is protected through the designation and management of "critical habitat" for endangered or threatened species.<sup>233</sup> Critical habitats include the physical or biological features that are essential to the conservation of the listed species and that may require special protections.<sup>234</sup> Once a habitat is designated as critical, federal agencies are not allowed to undertake any action (including issuing a permit) that would result in destruction or adverse modification unless, under rare circumstances, an interagency committee determines that the

<sup>232</sup> Many other laws relate to protecting specific habitat or species and are discussed in previous sections of the document.

<sup>233</sup> 16 U.S.C. § 1533. Lists of endangered and threatened species in the Gulf are available at <http://www.fws.gov/endangered/> and <http://sero.nmfs.noaa.gov/pr/endangered%20species/specieslist/PDF2010/Gulf%20of%20Mexico.pdf>.

<sup>234</sup> 16 U.S.C. § 1532.

action is one of regional or national significance, that there are no reasonable and prudent alternatives, that the benefits of the action outweigh the benefits of other actions, and that an irretrievable or irreversible commitment of resources had not already occurred.<sup>235</sup> Second, the ESA orders the U.S. Fish and Wildlife Service (FWS) to use its existing land-acquisition powers to conserve habitats for endangered species.<sup>236</sup> Third, the ESA allows states to develop conservation programs for endangered species, which may include habitat acquisition, and to apply for federal funding to implement the program.<sup>237</sup> Fourth, the ESA authorizes the President to provide financial assistance for land acquisition and other projects in other countries, while FWS and NMFS may provide technical assistance to foreign counterparts.<sup>238</sup>

The ESA also prohibits the “take” of endangered and threatened species without a permit.<sup>239</sup> The FWS has clarified that “taking” includes habitat modification that results in actual injury to or death of an endangered or threatened species.<sup>240</sup> An incidental take permit (ITP) can be issued to exempt a private party from liability during project development if the applicant minimizes and mitigates any takings and they will not appreciably reduce the species’ chance of survival.<sup>241</sup> An ITP application must be accompanied by a habitat conservation plan (HCP) that describes the likely impacts of the taking, monitoring and mitigation measures, and alternatives considered and why the proposed action was selected.<sup>242</sup> HCPs are required to meet the statutory standards for incidental takings, and must be completed for both listed and nonlisted (proposed or candidate) species.

The **Marine Mammal Protection Act** (MMPA) prohibits the killing, harming, or harassing of marine mammals,<sup>243</sup> and allows the FWS or the National Marine Fisheries Service (NMFS) to issue ITPs. When the relevant Service does so, it must dictate the acceptable means of conducting the activity, including practical precautions to reduce impacts on habitat (especially rookeries, mating grounds, and other significant areas).

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<sup>235</sup> *Id.* § 1536(a), (b), (h).

<sup>236</sup> *Id.* § 15334 (citing the Fish and Wildlife Act of 1956, the Fish and Wildlife Coordination Act, the Migratory Bird Conservation Act, and the Land and Water Conservation Fund Act).

<sup>237</sup> *Id.* § 1535.

<sup>238</sup> *Id.* § 1537.

<sup>239</sup> 16 U.S.C. § 1538.

<sup>240</sup> *Id.* § 1532; *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 U.S. 687 (1995).

<sup>241</sup> *Id.* § 1539.

<sup>242</sup> *Id.* § 1539(a)(2) (referred to in the statute as simply a “conservation plan”); see also FWS, Habitat Conservation Plans Under the Endangered Species Act (April 2011), available at [http://www.fws.gov/endangered/esa-library/pdf/HCP\\_Incidental\\_Take.pdf](http://www.fws.gov/endangered/esa-library/pdf/HCP_Incidental_Take.pdf); NMFS, Conservation Plans (CPs), <http://www.nmfs.noaa.gov/pr/permits/cp.htm> (last visited May 4, 2011).

<sup>243</sup> *Id.* § 1371.

The MMPA encourages, but does not require, the relevant Service (FWS or NMFS) to designate “essential habitat” for each species of marine mammal.<sup>244</sup> In addition, conservation plans may be established for marine mammal stocks under the MMPA. Two such plans have been established thus far: one for the Cook Inlet Beluga Whale in 2008, which identified the protection of habitat valuable to the species as one of its primary objectives; and one for the Eastern Pacific Stock of Northern Fur Seal, which similarly stated as a priority the assessment and avoidance or mitigation of adverse human impacts on essential species habitat.<sup>245</sup>

The **Migratory Bird Treaty Act**, as amended, implements binational agreements focused on protecting migratory birds entered into the United States with Great Britain (for Canada, 1916), Mexico (1936), Japan (1972), and Russia (1976).<sup>246</sup> The Act makes it unlawful to attempt to, cause to, or actually pursue, hunt, take, capture, kill, possess, sell, barter, purchase, ship, export, import, transport, or carry any listed migratory bird or “any part, nest, or eggs of any such bird.”<sup>247</sup> The Act is supplemented by the Bald and Golden Eagle Protection Act, which similarly prohibits the taking of any bald eagle or golden eagle, or any part, nest, or egg thereof.<sup>248</sup> In addition, the Migratory Bird Conservation Act created the Migratory Bird Conservation Commission to review lands and waters recommended by the Secretary of the Interior for acquisition or rental due to their necessity for migratory bird conservation and after state and local government consultation. If approved, the Secretary is authorized to acquire or rent those areas.<sup>249</sup>

**Executive Order 13,186** specifies actions federal agencies must take to protect migratory birds under these and other relevant statutes.<sup>250</sup> It requires federal agencies taking actions that are likely to have adverse effects on migratory bird populations to sign a Memorandum of Understanding with FWS that promotes migratory bird population conservation. Among other things and within its existing legal authority, the agency must avoid or minimize agency action impacts on migratory bird resources (defined as the birds and the habitats they depend upon), “restore and enhance the habitat of migratory birds, as practicable,” and promote research and information exchange on migratory bird resources conservation.<sup>251</sup>

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<sup>244</sup> 16 U.S.C. § 1361(2).

<sup>245</sup> Conservation Plan for the Cook Inlet Beluga Whale (Oct. 2008), available at <http://www.fakr.noaa.gov/protectedresources/whales/beluga/mmpa/final/cp2008.pdf>; Conservation Plan for the Eastern Pacific Stock of Northern Fur Seal (*Callorhinus ursinus*) (Dec. 2007), available at <http://www.fakr.noaa.gov/protectedresources/seals/fur/cplan/final1207.pdf>.

<sup>246</sup> 16 USC §§ 703 *et seq.*

<sup>247</sup> *Id.* § 703(a).

<sup>248</sup> *Id.* § 668.

<sup>249</sup> *Id.* §§ 715a, 715c, 715d.

<sup>250</sup> Exec. Order 13,186, 66 Fed. Reg. 3,853 (Jan. 17, 2001).

<sup>251</sup> *Id.* §§ 2(e), 3(e)(1), (3)(e)(2), (3)(e)(11).

The **Marine Turtle Conservation Act**, passed in 2004, authorizes the Fish and Wildlife Service to provide funding for projects in foreign countries that target conservation of marine turtles.<sup>252</sup> The funds can be provided to any wildlife management authority or any other person or entity with demonstrated expertise. Projects may be approved if they “will help recover and sustain viable populations of marine turtles in the wild by assisting efforts in foreign countries to implement marine turtle conservation programs.” Preference is given to projects that “ensure effective, long-term conservation of marine turtles and their nesting habitats.”<sup>253</sup> Funding comes from the Marine Turtle Conservation Fund, an account within the Multinational Species Conservation Fund, which receives monies from two sources: direct appropriations, which were authorized at \$5 million annually for fiscal years 2005 to 2009, and donations.<sup>254</sup>

Of the seven species of marine turtles, six are found in U.S. waters and listed under the **ESA**. NMFS and FWS have long had a Memorandum of Understanding (MOU) in place regarding shared ESA authorities regarding marine turtles: NMFS leads conservation and recovery in the marine environment, while FWS leads such efforts on nesting beaches.<sup>255</sup>

## 2. Protected Places

The primary function of the **National Marine Sanctuaries Act** (NMSA) is the establishment of a management framework for protecting and managing areas of national significance.<sup>256</sup> There are two sanctuaries located within and adjacent to the Gulf of Mexico. Flower Garden Banks National Marine Sanctuary off the shore of Texas and Louisiana provides habitat for many different types of coral, including protected elkhorn and staghorn coral.<sup>257</sup> Florida Keys National Marine Sanctuary is located off southern Florida and is home to thousands of species as well as coral, seagrass, and mangrove habitats.<sup>258</sup> NMSA provides a framework for maintaining, restoring, and studying sanctuary ecosystems.<sup>259</sup> The Act makes it illegal to destroy, harm, possess, or sell sanctuary resources,<sup>260</sup> and if a violation injures sanctuary

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<sup>252</sup> Marine Turtle Conservation Act, Pub. L. 108-266 (July 2, 2004), 16 U.S.C. §§ 6601 – 6607. At the time of this report, an act before Congress proposed reauthorizing the law, including authorizing annual appropriations at the same level for 2012–2017 and requiring 20% of the annual funding to be spent on projects located in the United States and its territories. See Marine Turtle Conservation Reauthorization Act of 2011, H.R. 1761, §§ 3–4 (2011).

<sup>253</sup> 16 U.S.C. § 6603(b), (d), (e).

<sup>254</sup> *Id.* § 6604, 6606.

<sup>255</sup> Memorandum of Understanding Defining the Roles of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service in Joint Administration of the Endangered Species Act of 1973 as to Marine Turtles (July 18, 1977); NMFS, Office of Protected Resources, Marine Turtles, <http://www.nmfs.noaa.gov/pr/species/turtles/#conservation>.

<sup>256</sup> 16 USC §§ 1431, 1433(a)(2).

<sup>257</sup> For more information, see Flower Garden Banks National Marine Sanctuary, <http://flowergarden.noaa.gov/>.

<sup>258</sup> For more information, see Florida Keys National Marine Sanctuary, <http://floridakeys.noaa.gov/>. An evolving list of species found in the sanctuary is available at [http://floridakeys.noaa.gov/sanctuary\\_resources/specieslist.pdf](http://floridakeys.noaa.gov/sanctuary_resources/specieslist.pdf).

<sup>259</sup> 16 USC § 1431 *et seq.*

<sup>260</sup> *Id.* § 1436.

resources, recovered civil penalties can cover the cost of response and restoration.<sup>261</sup> NMSA has not been reauthorized in recent years, however, and contains language that in practice restricts the designation of new sanctuaries.<sup>262</sup>

Under the **American Antiquities Act**, the President also has the authority to proclaim as national monuments “historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States.”<sup>263</sup> Although marine areas have been designated since 1961 (see Buck Island Reef, U.S. Virgin Islands), the first specifically named “marine national monument” was established in 2006 (Papahānaumokuākea Marine National Monument, Hawai‘i). There are currently no national marine monuments in the Gulf of Mexico.

The **National Wildlife Refuge System** and **National Park Service** provide frameworks for setting aside and managing designated areas. National Wildlife Refuges are areas devoted to fish and wildlife conservation, and each refuge (or set of refuges) is managed according to a comprehensive plan. The plans must describe the distribution and migration patterns of fish and wildlife in different habitats, the problems that threaten populations and habitats, and the actions that are necessary to correct or mitigate those problems.<sup>264</sup>

National Parks “conserve the scenery and the natural and historical objects and wild life therein” of their territory so that future generations can enjoy them.<sup>265</sup> Park managers may face an inherent tension between the dual roles of the parks – conservation and restoration. Both roles must be addressed in park and seashore management plans, which must detail measures to preserve resources and commitments for visitor carrying capacities.<sup>266</sup> Each park is created by Congress, which also sets the management priorities for the area. For instance, when the Park Service manages the Dry Tortugas, it must protect and interpret an intact coral reef community, protect populations of local fish and wildlife, and provide opportunities for scientific research.<sup>267</sup>

As mentioned previously, two other place-based protection mechanisms focus on archaeological and historic resources. The **Archaeological Resources Protection Act** applies to

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<sup>261</sup> *Id.* § 1443.

<sup>262</sup> An amendment to NMSA created an obstacle to new sanctuary designations by requiring that any designation be preceded by a finding that the system has sufficient resources to implement management plans for each sanctuary in the system, as well as to develop complete site characterization studies and inventories of known resources for each within 10 years. *See id.* § 1434(f).

<sup>263</sup> *Id.* § 431.

<sup>264</sup> 16 U.S.C. § 668dd. For more information on refuges located within the Gulf of Mexico, see <http://www.fws.gov/refuges/>.

<sup>265</sup> *Id.* § 1.

<sup>266</sup> *Id.* § 1a-7.

<sup>267</sup> *Id.* § 410xx-1.

archaeological resources found on public lands out to the boundary of state waters, and requires any permit or entity to obtain a permit before excavating or removing any such resource.<sup>268</sup> The **National Historic Preservation Act**, on the other hand, applies to historic sites throughout the EEZ. It requires federal agencies to consider the effects of their actions (including permit or license approvals) on historic sites either already included or eligible to be included in the National Register of Historic Places. The federal program is complemented by approved State Historic Preservation Programs.<sup>269</sup>

Enacted in 1964, the **Land and Water Conservation Fund Act** establishes a fund for a broad range of federal, state, and local initiatives to preserve, develop, and assure access to outdoor recreation resources.<sup>270</sup> Supported by both appropriations and specific taxes and sales revenues, the Fund can be used for federal and state acquisition of lands, waters, or interest in such.<sup>271</sup> Federal acquisitions may be for the National Park System, National Forest System, or National Wildlife Refuge System. States are required to provide a 50% match for the total disbursed amount and have three years to use the funds for acquisitions of land or waters or for outdoor recreation planning or development.<sup>272</sup> Between its establishment and 2010, a total of \$32.6 billion accrued to the Fund; \$15.5 billion of that amount was appropriated by Congress, approximately 63% of which went to federal land acquisition, 26% to the state grant program, and 11% to other programs.<sup>273</sup> The Act provides appropriations for the Fund through 2015. The FY2010 enacted budget was \$86.34 million.<sup>274</sup>

The purpose of the **Fish and Wildlife Coordination Act** (FWCA) is to assure that fish and wildlife receive equal attention as the other features of a proposed project.<sup>275</sup> It requires an impact analysis of water projects and their potential impacts on fish, wildlife, and habitat. Federal agencies must consult with FWS and/or NMFS (depending on potentially affected species) before building or licensing a project to impound, divert, or control water, although it is not required to adopt the Service recommendations.<sup>276</sup>

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<sup>268</sup> *Id.* § 470aa *et seq.* The Outer Continental Shelf is specifically exempted from statutory jurisdiction. *Id.* 470bb(3)(B).

<sup>269</sup> 16 U.S.C. §§ 470, 470a *et seq.*; *see also* BOEMRE, Environmental Compliance, Branch of Environmental Assessment, National Historic Preservation Act, <http://www.boemre.gov/eppd/compliance/nhpa/index.htm> (last visited June 23, 2010).

<sup>270</sup> *Id.* § 460I-4.

<sup>271</sup> *Id.* § 460I-5.

<sup>272</sup> *Id.* § 460I-7–9.

<sup>273</sup> Congressional Research Service, Land and Water Conservation Fund: Overview, Funding History, and Issues (Aug. 2010), No. RL33531, available at <http://ncseonline.org/NLE/CRSreports/10Sep/RL33531.pdf>. The LWCF is not a revolving fund, wherein the balance is kept in a separate account that accumulates interest; rather, the non-appropriated monies are kept in the US Treasury and can be used for other federal actions. *Id.* at 1–2.

<sup>274</sup> FWS Greenbook, FY 2010 Enacted Budget (2011), at GS-11–GS-17, available at <http://www.fws.gov/budget/2011/FWS%20-%20FY11%20Greenbook%20Final%202-4-10.pdf>.

<sup>275</sup> 16 U.S.C. § 661.

<sup>276</sup> *Id.* § 662. *See* FWS guidance at <http://www.fws.gov/habitatconservation/fwca.pdf>.

Essential fish habitat can be established pursuant to the **Magnuson-Stevens Fishery Conservation and Management Act**, creating habitat protection areas in federal waters (discussed previously under *Harvested Species Habitat*).

President Clinton and President Obama both issued Executive Orders that may influence area-based conservation and management strategies in the Gulf region.<sup>277</sup> First, in **Executive Order 13,158**, President Clinton ordered federal agencies to use their existing authorities to create and strengthen marine protected areas (MPAs), which protect various ocean resources by managing multiple uses and human activities.<sup>278</sup> Some MPAs are specifically designed to conserve protected species habitat (e.g., ESA critical habitats), which others provide broader protection opportunities (e.g., NMSA, national wildlife refuges, national parks). Second, in **Executive Order 13,547** President Obama directed federal agencies to develop and adhere to nine national priority objectives, including a restoration and protection objective and a coastal and marine spatial planning (CMSP) objective.<sup>279</sup> CMSP is a comprehensive planning process designed to allocate ocean uses and activities across time and space. These two and the other priority objectives provide additional support for habitat protection.

As cited and discussed in greater detail in the *Wetlands and Estuaries* and *Water Quality* sections, several **U.S. Department of Agriculture (USDA) programs** conserve or enhance wildlife habitat. The USDA houses several programs through which it purchases permanent and long-term leases on private agricultural lands. The Conservation Reserve Program purchases 10-15 year easements on highly erodible or marginal agricultural lands and ranks eligible lands partly according to their wildlife habitat benefits. The Wetlands Reserve Program allows the Department to share the cost of restoring wetlands on farmed lands and buy 30-year or permanent easements on these lands.

Other programs fund the adoption of farming practices that benefit habitat on agricultural lands. The Conservation Stewardship Program (CSP) offsets part of the cost of implementing conservation systems that protect wildlife and several other environmental interests. The CSP is charged with enrolling over 12 million new acres each year through 2012 in 5-year contracts. Similarly, the Environmental Quality Incentives Program allows the Department to share the cost of implementing conservation plans on agricultural lands, but requires farms to participate in conservation planning for the duration of a 30-year or permanent easement. Through the Wildlife Habitat Incentive Program, the Department pays up to 90% of the cost of installing

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<sup>277</sup> Both orders are discussed more extensively in the Deep Sea and Offshore Habitat section.

<sup>278</sup> *Marine Protected Areas*, Exec. Order No. 13,158, 65 Fed. Reg. 34,909 (May 26, 2000).

<sup>279</sup> *Stewardship of the Ocean, Our Coasts, and the Great Lakes*, Exec. Order 13,547, 75 Fed. Reg. 43,023 (July 22, 2010).



conservation practices on agricultural lands, which continue to provide habitat under a long-term easement of at least 15 years.

### *Federal Restoration*

Several federal laws have provisions that target species and habitat restoration. First, the **ESA** requires FWS and NMFS to develop “recovery plans” for each endangered and threatened species, which must include “site-specific management actions.”<sup>280</sup> Similarly, if a marine mammal stock assessment conducted pursuant to the **MMPA** shows that a stock is depleted, NMFS must adopt a conservation plan.<sup>281</sup>

In 1994 Congress amended the MMPA to require the organization of “regional scientific review groups.” The Gulf of Mexico was included as part of the study area for the Atlantic Coast group. The group must study, among many other issues, the impact of marine pollution and other forms of habitat destruction on marine mammal stocks. Where appropriate, regional scientific review groups must also review measures to address such impacts.<sup>282</sup>

The mission of the **National Wildlife Refuge System Administration Act** is to serve as a national network of lands and waters not only for conservation and management, but also for, “where appropriate, restoration of the fish, wildlife, and plant resources and their habitats.” Thus restoration measures can be included in the comprehensive plans that FWS develops for each refuge or set of refuges, such as actions necessary to correct or mitigate threats to fish and wildlife populations and habitats.<sup>283</sup>

Several laws require restoration when a party accidentally injures a resource. Private parties are liable for any damages they cause to **National Park** resources. By law, the National Park Service is allowed to recover enough money to cover responding to an incident, evaluating its consequences, and restoring or replacing the resources.<sup>284</sup> This provision has been used to restore coral reefs in Biscayne National Park after a boat grounding. Responsible parties are also liable for the restoration of natural resources damaged by hazardous discharges in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and oil in accordance with the Oil Pollution Act of 1990 (OPA).<sup>285</sup> (These provisions are discussed in the *Offshore Oil and Gas Development and Accident Response* section.)

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<sup>280</sup> 16 USCS § 1533(f).

<sup>281</sup> *Id.* § 1383b.

<sup>282</sup> *Id.* § 1386.

<sup>283</sup> *Id.* § 668dd(a), (e).

<sup>284</sup> *Id.* §§ 19jj-19jj3.

<sup>285</sup> 42 U.S.C. §§ 9601 *et seq.*; 33 U.S.C. §§ 2701 *et seq.* See the section on *Accident Response, laws, infra.*

Through the Partners for Fish and Wildlife Program, the Fish and Wildlife Service provides technical and financial assistance to private landowners to facilitate voluntary habitat restoration, as well as technical assistance to other private and public entities.<sup>286</sup> The Program was established in 1987, and codified by the Partners for Fish and Wildlife Act in 2006. The statute authorizes appropriations of up to \$75 million through 2011.<sup>287</sup>

### *State Conservation and Restoration*

Many states have endangered species laws authorizing non-regulatory habitat protection and research components. These laws protect species that are listed under the federal ESA and any additional species listed by the state. In Louisiana and Mississippi, the state may acquire land or conduct other management programs to conserve species.<sup>288</sup> In contrast, Texas gives local governments, rather than state agencies, the power to implement habitat conservation plans.<sup>289</sup> Florida's Endangered and Threatened Species Act gives the Florida Fish and Wildlife Conservation Commission authority to manage protected species, although the Act does not authorize regulation of private land.<sup>290</sup> A separate provision establishes a special permitting procedure for activities in sea turtle nesting grounds.<sup>291</sup> In addition, two species protection laws (the Alabama Marine Mammal Protection Act and Florida Manatee Sanctuary Act) prohibit the harassment or killing of certain species but do not have habitat protection provisions.<sup>292</sup>

Each Gulf state maintains habitat in an array of state conservation lands. These lands serve several purposes, including hunting and fishing,<sup>293</sup> recreation,<sup>294</sup> and ecological preservation.<sup>295</sup> States have also developed a variety of funding mechanisms for their conservation lands.<sup>296</sup> While opportunities for restoration exist on almost all of these conservation lands, a few laws explicitly promote restoration.<sup>297</sup>

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<sup>286</sup> 16 U.S.C. § 3773.

<sup>287</sup> *Id.* § 3774.

<sup>288</sup> LA. R.S. 56:1903; MISS. CODE ANN. § 49-5-111.

<sup>289</sup> TEX. PARKS & WILD CODE §§ 11.051- 11.056. Statewide bans apply to taking endangered animals (*id.* §§ 68.001- 68.021) and taking endangered plants without the landowner's consent (*id.* §§ 88.001- 88.012).

<sup>290</sup> FLA. STAT. ch. 379.2291.

<sup>291</sup> *Id.* ch. 379.2431.

<sup>292</sup> ALA. CODE §§ 9-11-390 et seq.; FLA. STAT. ch. 379.2431.

<sup>293</sup> *See, e.g.,* Alabama Wildlife Management Areas, ALA. CODE § 9-11-300 et seq.; Mississippi Wildlife Refuges, MISS. CODE ANN. §§ 49-5-11 et seq.

<sup>294</sup> *See, e.g.,* Alabama Public Recreational and Historical Facilities Improvement Act, ALA. CODE §§ 9-14A-1 et seq.

<sup>295</sup> *See, e.g.,* Florida Fish and Wildlife Habitat Program, FLA. STAT. ch. 379.212.

<sup>296</sup> *See, e.g.,* Alabama Public Recreational and Historical Facilities Improvement Act, ALA. CODE §§ 9-14A-1 (bond revenue); Florida Fish and Wildlife Habitat Program, FLA. STAT. CH. 379.212 (Land Acquisition Trust Fund composed of donations, grants, mitigation fees, and legislative appropriations).

<sup>297</sup> *See e.g.,* FLA. STAT. § 259.032 (Conservation and Recreation Lands Trust Fund; purpose).

## 7. Cross-cutting issue: Environmental impact assessments

One of the most important cross-cutting issues in terms of conservation and restoration of ecosystems in the United States and Mexico is the procedure of environmental impact assessment

**Table 10. Environmental Impact Assessment Laws and Policies**

Mexico	United States
<ul style="list-style-type: none"> <li>• Article 28 of the General Law of Ecological Equilibrium and Environmental Protection</li> <li>• Regulations of the General Law of Ecological Equilibrium and Environmental Protection on Environmental Impact Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• National Environmental Policy Act</li> </ul>

### *i. Mexico Laws and Policies*

In Mexico, the Environmental Impact Assessment (EIA) procedure is detailed in Article 28 of the General Law of Ecological Equilibrium and Environmental Protection. This article governs **public or private** works and activities that may cause ecological imbalances or exceed maximum pollution limits. This includes:

- Hydraulics, communication routes, and pipelines works and activities;
- Oil industry, petrochemical, chemical, steel, paper, sugar, cement, and electricity works and activities;
- Forest harvesting in tropical forests and of species difficult to regenerate;
- Changes in land use of forested areas and jungles and arid zones;
- Real estate developments that affect coastal ecosystems;
- Works and activities in wetlands, mangroves, lagoons, rivers, lakes, streams connected to the sea, and coastal or federal areas;
- Works and activities in protected areas within federal jurisdiction;
- Fisheries, aquaculture, or agriculture activities that could endanger the preservation of one or more species or cause damage to ecosystems; and
- Works or activities that relate to matters of federal jurisdiction, which can cause serious and irreparable ecological imbalances, damage to public health or ecosystems, or exceed the limits and conditions set forth in the legal provisions concerning the preservation of ecological balance and environmental protection.

Before undertaking a work or activity, the interested party must submit an environmental impact statement (EIS). The EIS must contain at least a description of the possible effects on ecosystems that may be created by the work or activity in question, considering all the elements that make up the ecosystems, as well as preventative measures (e.g., mitigation measures) that may prevent and minimize the negative environmental impacts.

Within SEMARNAT, the Directorate General of Environmental Impact and Risk conducts an EIS. When the EIS is complete, it assesses the potential environmental impacts and decides whether to:

- a. Authorize the the work or activity as proposed;
- b. Conditionally authorize the work or activity, with modifications or the establishment of additional measures to avoid, mitigate, or offset adverse environmental impacts that may be produced during construction, normal operation, or in case of an accident. In these cases, the Directorate will identify requirements that need be observed in carrying out the work or activity in question; or
- c. Deny the requested authorization when:
  - I. The proposed work or activity contravenes Mexican laws, regulations, official Mexican standards, or other relevant provisions;
  - II. The proposed work or activity directly affects or may lead to one or more species being declared threatened or endangered; or
  - III. The project proponent provides false information regarding the environmental impacts of the work or activity in question.

In addition to this Article, there are provisions within the Rules of the General Law of Ecological Equilibrium and Environmental Protection that also govern EIAs.

## *ii. U.S. Laws and Policies*

The **National Environmental Policy Act (NEPA)** establishes an overarching requirement that federal agencies assess the potential environmental impacts of major projects that may “significantly affect[] the quality of the human environment.”<sup>298</sup> This includes actions the federal agency undertakes itself, or actions it permits, funds, or otherwise approves,<sup>299</sup> such as issuing federal leases for areas of the OCS or Clean Water Act Section 404 permits. The environmental review process provides a method for collecting information on potential environmental impacts, but it does not actually require the federal agency to choose the project alternative with the least environmental impacts.

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<sup>298</sup> 42 U.S.C. § 4332.

<sup>299</sup> See 40 C.F.R. § 1508.18.

The project proponents may choose to conduct an environmental assessment (EA) to determine whether they need to complete a full Environmental Impact Statement (EIS).<sup>300</sup> If the EA finds that there is likely to be a significant impact to the human environment, then an EIS is required. Among other things, an EIS systematically identifies the potential environmental impacts of the proposed project, plan, program, or policy, those impacts cannot be avoided, and alternatives to the proposed project.<sup>301</sup> This includes the relationship between local short-term uses of the human environment and long-term productivity.<sup>302</sup>

As mentioned above, the purpose of NEPA is to enable informed decision-making with regard to federal environmental impacts, as well as to allow for transparency and sufficient opportunities for public engagement. Anyone may comment on the initial scoping or on a draft EIS. In addition to the lead federal agency, other federal agencies with jurisdiction or state, local, or tribal government entities may become cooperating agencies by agreement.<sup>303</sup>

Energy-related projects are supposed to receive expedited review pursuant to **Executive Order 13,212**.<sup>304</sup> Agencies are specifically directed to consider project impacts on wetlands and floodplains by **Executive Orders 11,988** and **11,990**.<sup>305</sup>

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<sup>300</sup> *Id.* §§ 1501.4, 1508.9.

<sup>301</sup> 42 U.S.C. § 4332(2)(C).

<sup>302</sup> *Id.* § 4332(2)(C).

<sup>303</sup> 40 C.F.R. §§ 1501.6, 1508.5.

<sup>304</sup> *Actions to Expedite Energy-Related Projects*, Exec. Order 13,212, May 18, 2001.

<sup>305</sup> *Protection of Wetlands*, Exec. Order 11,990, May 24, 1977; *Floodplain Management*, Exec. Order 11,988, May 21, 1978.

## 8. Cross-cutting issue: Coastal management

Table 11. Coastal Management Laws and Policies

Mexico	United States
<ul style="list-style-type: none"> <li>• National Policy for Seas and Coasts of Mexico</li> <li>• <i>Various laws</i> (see Table 12)</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal Zone Management Act</li> <li>• Watershed Protection and Flood Prevention Act</li> <li>• National Environmental Policy Act</li> <li>• Fish and Wildlife Coordination Act</li> <li>• Executive Order 13,212</li> <li>• Executive Orders 11,988 and 11,990</li> <li>• Executive Order 13,547</li> </ul>

### i. Mexico Laws and Policies

Coastal management in Mexico is fragmented. There are numerous federal laws and policies that affect some aspect of coastal management.

Comparative analyses of coastal management strategies and patterns around the world have highlighted Mexico as a country with a terrestrial, rather than coastal orientation—i.e., as a country that devotes limited attention to its coasts and seas, which has resulted in inadequate coastal infrastructure and slow development of integrated management policies and tools.<sup>306</sup>

Table 12 shows the laws affecting the coastal management.

<sup>306</sup> Carlos Valdes & Hans Hermann, *Cooperacion Internacional en el Manejo Integrado de la Zona Costera en Mexico (International Cooperation in Integrated Coastal Zone Management in Mexico)*, in Evelia Rivera Arriaga, *El Manejo Costeero en Mexico* (Universidad Autonoma de Campeche, Centro de Ecologia, Pesquerias y Oceanografia del Golfo de Mexico, 2004), available at [http://etzna.uacam.mx/epomex/paginas/pdf/Manejo\\_Costeero.pdf](http://etzna.uacam.mx/epomex/paginas/pdf/Manejo_Costeero.pdf).

**Table 12. Mexican laws affecting coastal management.**

Which defines functions and general attributions	Which defines territorial spaces	Planning processes, territorial ordering.	Related to Infrastructure	Related to Non-Extractive Activities	Related to use, conservation and exploitation of living and non living resources.	Others (Preventive, responsibilities, taxes)
<ul style="list-style-type: none"> <li>• Federal Public Administration Organic Law</li> <li>• General Education Law</li> <li>• General Law of Social Development</li> <li>• Law of Public Works and Services Related to the Same</li> <li>• Planning Law</li> </ul>	<ul style="list-style-type: none"> <li>• General Law on Human Settlements</li> <li>• Federal Law of the Sea</li> <li>• National water law</li> <li>• General Law of National Assets</li> <li>• General Law of Ecological Equilibrium and Environmental Protection</li> <li>• General Law of Population</li> <li>• General Law on Sustainable Fisheries and Aquaculture</li> <li>• Ports Act</li> <li>• Law of the National Statistical and Geographic Information</li> <li>• General Tourism Law</li> </ul>	<ul style="list-style-type: none"> <li>• General Law of Ecological Equilibrium and Environmental Protection</li> <li>• General Law on Human Settlements</li> <li>• National water law</li> <li>• General Tourism Law</li> <li>• General Law on Sustainable Fisheries and Aquaculture</li> </ul>	<ul style="list-style-type: none"> <li>• Law of contribution of improvements by federal public works of hydraulic infrastructure</li> <li>• National water law</li> <li>• Law for the use of renewable energy and the energy transition funding</li> <li>• Law of roads, bridges and Federal motor carrier</li> <li>• Expropriation Law</li> <li>• General Law of Ecological Equilibrium and Environmental Protection</li> <li>• General Law of Civil Protection</li> <li>• General Law on the Prevention and Integrated Waste Management</li> <li>• Law of Public Works and Services Related to the Same</li> <li>• Ports Act</li> <li>• Petroleos Mexicanos Law</li> <li>• Housing Act</li> <li>• General Tourism Law</li> </ul>	<ul style="list-style-type: none"> <li>• Federal Law on Monuments and Archaeological sites, historical and artistic</li> <li>• Law for the use of renewable energy and the energy transition funding</li> <li>• Customs Law</li> <li>• General Tourism Law</li> <li>• Law of Navigation and Maritime Commerce</li> <li>• Ports Act</li> </ul>	<ul style="list-style-type: none"> <li>• Law of Public Works and Services Related to the Same</li> <li>• National water law</li> <li>• General Law of Ecological Equilibrium and Environmental Protection</li> <li>• General Tourism Law</li> <li>• Federal Law of the Sea</li> <li>• General Wildlife Law</li> <li>• Ports Act</li> <li>• Planning Law</li> <li>• Mining Law</li> <li>• Sustainable Rural Development Law</li> <li>• Law on the Promotion and Development of Bioenergy</li> <li>• Petroleos Mexicanos Law</li> <li>• General Law on the Prevention and Integrated Waste Management</li> <li>• General Law on Sustainable Fisheries and Aquaculture</li> <li>• General Law for Sustainable Forestry Development</li> <li>• Law of Public Works and Services Related to the Same</li> </ul>	<ul style="list-style-type: none"> <li>• Science and Technology Law</li> <li>• Biosafety Law on Genetically Modified Organisms</li> <li>• Federal Rights Law</li> <li>• Law of energy for the field</li> <li>• General Law of Civil Protection</li> <li>• General Law of Health</li> <li>• Law of Civil liability for nuclear damage</li> </ul>

Because of the fragmentation in the laws regulating different aspects of coastal management, responsibility is also divided among various federal institutions. To improve coordination among these institutions, the Inter-ministerial Commission for the Sustainable Management of Seas and Coasts (CIMARES) was established in 2008. CIMARES is a mechanism for communication and exchange, and forum for development of agreements between federal agencies. It seeks to coordinate, within their respective authorities, the actions of the units and entities of the federal public administration related to the formulation and implementation of national policies for the planning, management, and sustainable development of Mexico's oceans and coasts.<sup>307</sup> It seeks to achieve a common vision

Among its other activities, CIMARES developed the **National Policy for Seas and Coasts of Mexico (PNMC)**. Issued in 2011, the policy responds to the urgent need to establish a foundational management instrument to strengthen, direct, and support the planning and management of marine areas. The policy is intended to establish more efficient and effective decision-making processes, and to halt and reverse degradation that has occurred for decades. The objective is to improve current and future development.<sup>308</sup>

The policy defines the coastal area as the geographical space of mutual interaction between the marine environment, land, and atmosphere.<sup>309</sup> It delineates three major goals:

1. Help improve the living conditions of coastal populations, through the sustainable use of marine and coastal resources and ensuring a more equitable distribution of the wealth that they generate.
2. Strengthen local economies, improve regional and national economic competitiveness, and encourage economic and productive activities that demonstrate a responsible attitude with regard to the marine and coastal environment.
3. Ensure the structure and function of marine and coastal ecosystems are not irreversibly damaged and recover their ecological resilience, the maintenance or improvement of their goods and services, and their aesthetic qualities.<sup>310</sup>

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<sup>307</sup> CIMARES, *supra* note 178. CIMARES is composed of the national secretariats: SEMAR (Ministry of the Navy), SRE (Ministry of Foreign Affairs), SCT (Ministry of Communications and Transportation), SECTUR (Ministry of Tourism), SENER (Ministry of Energy), Interior (Ministry of the Interior), SE (Ministry of Economy) SAGARPA (Ministry of Agriculture, Livestock, Rural Development, Fisheries, and Good), SEDESOL (Ministry of Social Development), and SEMARNAT (Ministry of Environment and Natural Resources). Also participating as permanent guests are: FONATUR (National Fund for Tourism), SS (Ministry of Health), CONACYT (National Council of Science and Technology), INEGI (National Institute of Statistics Geographic and Computer Science), and PEMEX (Petróleos Mexicanos).

<sup>308</sup> National Policy for Seas and Coasts, *supra* note 6, at 5.

<sup>309</sup> It is comprised of: (a) a terrestrial portion, as defined by the country's 261 coastal municipalities (150 of which have beachfront areas, and 111 of which are adjacent inland municipalities with high coastal influence and media); (b) an area that the Navy defined as extending out to the portion of the continental shelf delineated by the 200 m isobath, and (c) an island portion represented by the national Islands.

<sup>310</sup> *Id.* at 41–42.



The third objective is most directly related to the conservation and restoration of the Gulf of Mexico. To achieve this objective, the policy outlines several lines of action, including:

- Develop the "national coastal inventory," based on a geographic information system which includes and classifies coastal natural resources and their main social and economic uses and environmental variables, on a scale useful both for regional to local management;
- Strengthen the development, implementation, and monitoring of Ecological Land Management Programs: Marine, Regional, and Local in priority coastal areas;
- Promote the development of a legal instrument to establish buffer zones adjacent to the shoreline and federal land reclaimed from the sea, which help ensure the integrity of the biophysical structure and functioning of coastal ecosystems, and the safety of human populations and urban infrastructure services and investments;
- Establish monitoring programs and regulations to help keep marine and coastal systems in the best possible condition;
- Design and implement a strategy for the prevention of damage to, maintenance of, and recovery of marine and coastal diversity;
- Design and implement a strategy for the prevention of damage to, maintenance of, and recovery of mangrove ecosystems; and
- Make joint efforts by the three levels of government (federal, state, and local) to protect and monitor compliance with necessary precautions that minimize risk to and reduce the vulnerability of particularly sensitive coastal and marine regions or areas.<sup>311</sup>

## *ii. U.S. Laws and Policies*

Under the Submerged Lands Act, states have primary authority over the submerged lands and natural resources below the navigable waters within their coastal zones,<sup>312</sup> which for Alabama, Louisiana, and Mississippi extend out to three nautical miles and for Texas and the Gulf coast of Florida extend to nine nautical miles. Within this area, the federal government retains regulatory authority for navigation, commerce, national defense, and international affairs.<sup>313</sup>

The general framework for coastal management across the United States was established by the **Coastal Zone Management Act**, which uses the twin incentives of federal consistency review and federal funding to encourage states to implement comprehensive plans for their coasts. Each Gulf state has an approved coastal management program, which NOAA's Office of Ocean and Coastal Resource Management reviewed to ensure it had mandatory program

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<sup>311</sup> National Policy for Seas and Coasts, *supra* note 6, at 50–52.

<sup>312</sup> 43 U.S.C. § 1311–12.

<sup>313</sup> *Id.* § 1314.

elements such as identified coastal zone boundaries and definitions of permissible uses.<sup>314</sup> NOAA must periodically review the states' management of their coastal programs and stop supporting states that are not following approved programs.<sup>315</sup> Under the CZMA and through the Coastal Zone Management Fund, NOAA administers several matching grants programs that promote coastal habitat conservation and restoration.

- States may use grants from the **Coastal Resource Improvement Program** to preserve or restore significant natural resources, regulate aquaculture, or conduct other activities that are less relevant for habitat protection (such as providing beach access and redeveloping urban waterfronts).<sup>316</sup>
- The **Coastal and Estuarine Land Conservation Program** provides money for conservation area acquisitions.<sup>317</sup> NOAA supports proposals that best leverage federal funding and that demonstrate the greatest need for protection, giving priority to lands of special ecological value and lands that are under imminent threats of development.
- To enhance the country's existing estuarine sanctuaries, NOAA may provide matching grants to states to acquire or manage **National Estuarine Research Reserves**. NOAA must set research priorities and provide matching grants to public or private institutions.<sup>318</sup>
- NOAA may provide matching **Coastal Zone Enhancement Grants** to states to use to meet a wide variety of objectives, including wetlands restoration and ocean resources planning.<sup>319</sup>

Congress enacted the **Watershed Protection and Flood Prevention Act** primarily to protect human life and property from floods, yet it also creates opportunities for conservation within floodplains.<sup>320</sup> The Act allows the USDA to provide technical assistance and matching grants for various flood control and conservation projects, which may involve acquiring wetland or floodplain conservation easements to help assure the lands maintain their ability to hold floodwaters, improve water quality, and provide wildlife habitat in perpetuity.<sup>321</sup> In addition, since 1998 the Forestry Service has been able to enter into watershed restoration and enhancement agreements with individual landowners, non-profit groups, or public entities, which allow the Service to collaborate to improve watersheds within National Forests to reduce risks from disaster and restore habitat.<sup>322</sup>

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<sup>314</sup> 16 U.S.C. § 1455.

<sup>315</sup> *Id.* § 1459.

<sup>316</sup> *Id.* § 1456a.

<sup>317</sup> *Id.* § 1456-1.

<sup>318</sup> *Id.* § 1461.

<sup>319</sup> 16 U.S.C. § 1456b.

<sup>320</sup> *Id.* § 1001.

<sup>321</sup> *Id.* §§ 1003-03a.

<sup>322</sup> *Id.* §§ 1011-11a.

Congress passed the **Fish and Wildlife Conservation Act** in 1980 to fill a gap created by the fact that most fish and wildlife conservation programs historically focused on recreationally and commercially important species, leaving nongame species conservation unfunded.<sup>323</sup> Therefore the Act authorizes the Secretary of the Interior to reimburse or fund state efforts to develop, revise, and implement conservation plans for nongame species. The plans must meet several criteria, such as inventorying habitats, identifying threats to habitats, and determining steps for conserving significant habitats.<sup>324</sup> The Act stipulates that funding be allocated among states according to state size and population.<sup>325</sup> Striving to address unmet needs, it does not direct funding for species that are protected by the ESA or MMPA.<sup>326</sup>

As explained in the *Environmental Impact Assessments* section, the **National Environmental Policy Act** requires federal agencies to study the effects of their activities on the environment before they conduct a major federal action.<sup>327</sup>

As discussed under *Protected Species and Protected Places*, **Executive Order 13,547** and the United State's new national ocean policy are focused on the development and implementation of a unified framework for coastal and ocean management across the nation.<sup>328</sup> All federal agencies whose actions affect the coasts must participate in a coastal and marine spatial planning (CMSP) process, which may ultimately temporally and spatially allocate uses and activities in a given area.

### *State Conservation and Restoration*

Each Gulf state has an approved coastal management program.<sup>329</sup> While each of these programs meets the basic requirements of the CZMA, they differ in some important ways. For instance, each state has a unique system for assigning responsibility for implementation. Further, states differ in how far the "coastal zone" extends onshore. In Alabama, the coastal zone is defined by an elevation line: it includes lands up to 10 feet above sea level.<sup>330</sup> In some states, wetland and floodplain laws (discussed above) play a role in coastal management.

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<sup>323</sup> 16 U.S.C. § 2901.

<sup>324</sup> *Id.* §§ 2903–06.

<sup>325</sup> *Id.* § 2907.

<sup>326</sup> *Id.* § 2902 (defining "nongame fish and wildlife").

<sup>327</sup> 42 U.S.C. § 4321 *et seq.*

<sup>328</sup> Exec. Order 13,547, *supra* note 279.

<sup>329</sup> ALA. CODE §§ 9-7-10 *et seq.*; FLA. STAT. ch 380.20 *et seq.*; LA. REV. STAT. § 49:214.21 *et seq.*; MISS. CODE ANN. § 57-15-6; TEX. NAT. RES. CODE §§ 33.051 *et seq.*

<sup>330</sup> ALA. CODE § 9-7-15.

## 9. Cross-cutting issue: Water quality

Table 13. Water Quality Laws and Policies

Mexico	United States
<ul style="list-style-type: none"> <li>• Constitution of the Mexican United States</li> <li>• National Water Law and its regulations</li> <li>• Federal Penal Code</li> <li>• General Law of Ecological Balance and Environmental Protection</li> <li>• Regulation to Prevent and Control Marine Pollution by Dumping of Wastes and Other Matter</li> </ul>	<ul style="list-style-type: none"> <li>• Clean Water Act</li> <li>• Clean Vessel Act</li> <li>• Clean Boating Act</li> <li>• Shore Protection Act</li> <li>• Harmful Algal Bloom and Hypoxia Research and Control Act</li> </ul>

### i. Mexico Laws and Policies

Water quality is regulated by various laws in Mexico. The topic is associated with the administration of water generally, as well as the obligations faced by public users. In this way, the **Constitution of the Mexican United States** defines “national waters.” In addition to freshwater bodies, the national waters include marine waters: the country’s territorial seas, as established by international law; inland marine waters; and lagoons and estuaries that interact permanently or intermittently with the sea.<sup>331</sup> The Constitution specifies that national waters are a natural resource and the property of the nation.<sup>332</sup> In particular, it is necessary to obtain a concession from the federal government for any use and exploitation of national waters, as detailed in the National Waters Law.

The Constitution states that municipalities are responsible for public services related to drinking water, drainage, sewerage, treatment, and wastewater disposal.<sup>333</sup> Therefore municipal governments have primary authority over access to and distribution of fresh water and the imposition of tariffs, as well as aspects of wastewater treatment.

<sup>331</sup> Constitution of the Mexican United States, *supra* note 1, art. 27. Freshwater and related bodies include: natural lakes that are directly linked to constant currents; rivers and their direct or indirect tributaries, from the point of the channel that starts the first permanent, intermittent, or torrential water, out to its mouth at the sea, lakes, lagoons, and estuaries of national property; constant or intermittent currents and its direct or indirect tributaries, when the channel entirely or partially serves as a limit to the national territory or two federal entities, or when you pass a federal entity to another or cross the dividing line of the Republic; lakes, lagoons, or marshes whose vessels, areas or banks, are crossed by lines of two or more entities or between the Republic and a neighbouring country, or when the limit of the banks serve as a boundary between two States or the Republic with a neighbouring country; those of the springs that freshwater beaches, maritime zones, channels, vessels or shores of the Lakes, lagoons and estuaries of national property, and that extract of the mines; and the channels, seagrass beds or shores of the lakes and inner flows in the extension that sets the Act.

<sup>332</sup> *Id.*

<sup>333</sup> *Id.* art. 115.

The **National Waters Law** addresses the exploitation, use, distribution, and control of national waters. It also regulates the preservation of water quantity and quality, to ensure sustainable development. With regard to water use, it details requirements, rights, and obligations placed on each recipient of a use concession. A concession is the instrument that the federal government, through the National Commission of Water (CONAGUA), uses to grant permission to public or private entities for the exploitation or use of national waters.<sup>334</sup> Permitted uses include agricultural, environmental, household, industrial, urban public, and aquaculture. The law creates obligations that the user must meet. A concession can be revoked if the user discharges permanent or intermittent wastewater in violation of the law in recipient bodies that are national assets, including sea water.<sup>335</sup> This type of behavior can result not only in revocation of the concession, but also fines and possible imprisonment.<sup>336</sup>

The **General Law of Ecological Balance and Environmental Protection** provides that polluted wastewater cannot be discharged into any waterbody, soil, or subsoil, without prior treatment and federal or local permission or authorization.<sup>337</sup>

Particularly important for managing marine water quality is the **Regulation to Prevent and Control Marine Pollution by Dumping of Wastes and Other Matter**.<sup>338</sup> This regulation prohibits the deliberate dumping of materials, substances, or waste in maritime waters under Mexican jurisdiction, unless authorized by the Secretariat of the Navy.<sup>339</sup> The Secretariat of the Navy, through the Mexican army, implements the regulation and grants permissions within the territorial sea, EEZ, and maritime fishing areas identified in the national fisheries law.<sup>340</sup> When considering granting a permission, the Secretariat is to consider: the necessity of disposal, when the interested party shows that another alternative is not possible; the effect of the dumping on human health, marine biology, and economic and recreational resources; the effect of the dumping on fisheries resources, marine mineral resources, and the beaches; the nature and quantity of the substance to be discharged; the site specified for the discharge by the authority; and the route to be followed by the ship or aircraft that transports the substance to the dumping site.<sup>341</sup>

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<sup>334</sup> National Waters Law, *supra* note 24, art. 3. A “concession” is the instrument that the Federal Executive, through the National Water Commission (CONAGUA), uses to grant a public or private party the right to use national waters.

<sup>335</sup> *Id.* art. 29.

<sup>336</sup> *Id.* art. 416. It is considered a crime that, pursuant to the **Federal Penal Code**, can result in one to nine years in prison.

<sup>337</sup> LGEEPA, *supra* note 10, art. 121.

<sup>338</sup> Reglamento para Prevenir y Controlar la Contaminación del Mar por Vertimiento de Deschos y Otras Materias (Nov. 2006), available at [http://www.semarnat.gob.mx/leyesynormas/Reglamentos/REGLA\\_CONTAM\\_MAR.pdf](http://www.semarnat.gob.mx/leyesynormas/Reglamentos/REGLA_CONTAM_MAR.pdf)

<sup>339</sup> *Id.* arts. 1-2, 5.

<sup>340</sup> *Id.* art. 4.

<sup>341</sup> *Id.* art. 8.

Exceptions to liability occur in two instances: (1) dumping by force majeure, when there is imminent danger to human life or to the safety of any vessel or aircraft, and (2) an accident not attributable to the owner.<sup>342</sup>

### *Restoration*

The **National Waters Law** provides that natural or juridical persons that pollute national waters are responsible for restoring its quality, and applies the “polluter pays” principle.<sup>343</sup>

### *ii. U.S. Laws and Policies*

Federal laws establish regulation and conservation measures to protect water quality, primarily through the **Federal Water Pollution Control Act**, more commonly known as the Clean Water Act (CWA). It is important to note that in addition to water quality, water quantity management – i.e. allocation of water between users – is a significant challenge to habitat conservation and restoration in the Gulf. Because water quantity management is governed primarily by state law, it is not addressed in detail in the following discussion.<sup>344</sup>

The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters, including ocean waters, by eliminating the discharge of pollutants into navigable waters. States adopt water quality standards, with oversight from the U.S. Environmental Protection Agency. If water quality standards are not met for a specific body of water, states must develop a total maximum daily load (TMDL). TMDLs identify point and nonpoint source pollutant loadings that are sufficiently low to bring impaired waters into compliance.<sup>345</sup> All the states in the Gulf region have been delegated the authority to issue permits for discharges into state waters from point sources.<sup>346</sup> Nonpoint source pollution is addressed in the CWA in section 319, which establishes a funding program for states, territories, and tribes for nonpoint source pollution control activities.<sup>347</sup> All states have approved CWA section 319 programs, and EPA has provided approximately \$200 million annually in grant funds in recent years.<sup>348</sup>

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<sup>342</sup> *Id.* art. 22.

<sup>343</sup> National Waters Law, *supra* note 24, art. 14.

<sup>344</sup> Water quantity issues are discussed in greater detail in the accompanying in-depth assessment of U.S. state laws and programs that ELI is currently completing. *See supra* note 3.

<sup>345</sup> 33 U.S.C. § 1313(d).

<sup>346</sup> *Id.* § 1319.

<sup>347</sup> *Id.* § 1329.

<sup>348</sup> EPA, Clean Water Act Section 319(h) Grant Funds History, <http://water.epa.gov/polwaste/nps/319hhistory.cfm> (last visited May 2, 2011).

Other provisions of the Clean Water Act are required to apply to both state and federal waters. Section 402 prohibits discharges of pollutants from point sources in both state and federal waters, absent a National Pollution Discharge Elimination System (NPDES) permit.<sup>349</sup> Section 403 implements additional requirements for point source discharges to federal waters, and calls for EPA to establish ocean discharge criteria.<sup>350</sup> EPA has not updated ocean discharge criteria since 1980, and in their current form the criteria provide limited guidance. Finally, there are some specific provisions that target pollution prevention in ocean and coastal waters. For example, ships with toilet facilities must have sanitation devices that meet certain standards,<sup>351</sup> and oil and hazardous substances cannot be discharged in coastal and ocean waters.<sup>352</sup> The CWA also requires EPA to either conduct research itself or administer research grants to other institutions to help reduce, monitor, and understand the effects of water pollution.<sup>353</sup> Some mandatory areas of research that might be especially important for the Gulf region include agricultural pollution, oil pollution, sewage treatment, and coastal water pathogens.<sup>354</sup>

The **Mississippi River Gulf of Mexico Watershed Nutrient Task Force** was established in 1997 to understand and address eutrophication and hypoxia in the Gulf of Mexico. The Task Force is chaired by EPA and includes federal representatives from the Department of the Interior, Department of Commerce (NOAA), Department of Agriculture (Natural Resources and Environment; Research, Education, and Extension), and Army Corps. It also includes state representatives from Mississippi, Minnesota, Louisiana, Illinois, Ohio, Tennessee, Iowa, Wisconsin, Missouri, and Arkansas. It is currently implementing the 2008 Action Plan.<sup>355</sup>

To control vessel discharges, the **Clean Vessel Act** seeks to reduce sewage pollution from boats through the Clean Vessel Act Grant Program. The Program funds state construction, operation, and maintenance of pumpout and waste reception facilities.<sup>356</sup> A state becomes eligible for such funding when its construction plan is approved by FWS.<sup>357</sup> In addition, the **Clean Boating Act of 2008** regulates discharges incident to normal operation of recreational boats, and requires the vessel operators to follow best management practices. Regulations are being developed in a tri-phase process wherein EPA, the Coast Guard, and NOAA determine the type of discharges that should be regulated; how much pollution can come from which types of

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<sup>349</sup> 33 U.S.C. § 1342.

<sup>350</sup> *Id.* § 1343(a).

<sup>351</sup> *Id.* § 1322.

<sup>352</sup> *Id.* § 1321.

<sup>353</sup> *Id.* § 1254.

<sup>354</sup> 33 U.S.C. § 1381; Pub. L. No. 106-284, 33 USC § 1254, 1313.

<sup>355</sup> See Mississippi River Gulf of Mexico Watershed Nutrient Task Force, [http://www.epa.gov/owow\\_keep/msbasin/](http://www.epa.gov/owow_keep/msbasin/).

<sup>356</sup> Pub. L. No. 102-587, Title V, Subtitle F, 106 Stat. 5086 (codified as amended in 33 U.S.C. § 1322 note).

<sup>357</sup> For more information, see U.S. Fish and Wildlife Service, Clean Vessel Act Grant Program, <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/CVA/CVA.htm> (last visited Apr. 24, 2011).

boats; and how different boats will meet the performance standards.<sup>358</sup> The agencies expect to finish the first phase in 2012.<sup>359</sup>

The **Shore Protection Act** regulates the shipment of commercial and municipal waste in order to prevent pollution from spills.<sup>360</sup> It covers ships traveling through all U.S. coastal waters, from state tidal waters to the seaward boundary of the EEZ. Vessel owners and operators must obtain a permit from the U.S. Department of Transportation to transport waste, take reasonable steps to minimize spills while loading, securing, and offloading waste, and provide adequate clean-up mechanisms if a spill should occur.<sup>361</sup> EPA, in consultation with the Department of Transportation, issues rules to prevent pollution at each stage of the shipping process.<sup>362</sup>

The **Act to Prevent Pollution from Ships** implements provisions of the International Convention for the Prevention of Pollution from Ships (MARPOL) related to garbage and plastics. It prohibits dumping plastics anywhere; packing materials within 25 nautical miles of shore; most refuse materials within 12 miles of shore; and food and paper within 3 miles of shore. The law applies to all U.S. ships, regardless of location, and all ships in U.S. inland and open waters.<sup>363</sup> Second, the **Ocean Dumping Act** prohibits public and private actors leaving U.S. ports or flying U.S. flags from dumping any materials in ocean waters without a permit.<sup>364</sup> The EPA oversees dumping permits for all materials except dredged material, over which the Army Corps has primary authority, and completely prohibited the dumping of certain materials such as high-level radioactive waste.<sup>365</sup> Permits may be issued for dumping if the activity “will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.”<sup>366</sup>

Finally, every five years or so, Congress enacts comprehensive legislation on agricultural policy. The most recent act was the **Food, Conservation, and Energy Act of 2008**, known more commonly as the 2008 Farm Bill.<sup>367</sup> With slight modifications, the 2008 Farm Bill retained several important measures that conserve or restore habitat on agricultural lands. Since 1985,

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<sup>358</sup> 33 U.S.C. § 1322(o).

<sup>359</sup> See EPA, About the Clean Boating Act, Implementation Timeline,

[http://water.epa.gov/lawsregs/lawsguidance/cwa/vessel/CBA/about.cfm#CP\\_JUMP\\_526512](http://water.epa.gov/lawsregs/lawsguidance/cwa/vessel/CBA/about.cfm#CP_JUMP_526512) (last visited Apr. 24, 2011).

<sup>360</sup> 33 U.S.C. §§ 2601 et seq.

<sup>361</sup> *Id.* § 2602–3.

<sup>362</sup> *Id.* § 2603.

<sup>363</sup> *Id.* § 1901 et seq.; see also U.S. Commission on Ocean Policy, An Ocean Blueprint for the 21st Century (2004), at D8; IMO, International Convention for the Prevention of Pollution from Ships (MARPOL), [www.imo.org/about/conventions/listofconventions/pages/default.aspx](http://www.imo.org/about/conventions/listofconventions/pages/default.aspx).

<sup>364</sup> 33 U.S.C. § 1411.

<sup>365</sup> *Id.* § 1412.

<sup>366</sup> *Id.* §§ 1412(a), 1413(b).

<sup>367</sup> Pub.L. 110-234.



Farm Bills have prevented farmers that convert “highly erodible land” to agriculture from benefiting from several major farm subsidies unless they have conservation plans in place.<sup>368</sup> The Natural Resources Conservation Service within the U.S. Department of Agriculture is responsible for developing cost-effective standards for conservation plans, certifying compliance, and providing technical assistance to farmers.<sup>369</sup>

The Farm Bill also promotes water quality through myriad easement, technical assistance, and incentive programs that encourage farmers to use best practices for controlling sediments. First, the Farm Bill creates the Conservation Reserve Program, administered by the USDA Farm Service Agency, which purchases 10–15 year conservation easements for highly erodible cropland, marginal pasture land converted or devoted to wetland or wildlife habitat, or other cropland devoted to permanent wildlife habitat, among others.<sup>370</sup> The USDA may designate a watershed with significantly impacted water quality or habitat, related to agricultural activities, as a conservation priority area.<sup>371</sup> If land is accepted into the program, the owner must adopt and implement a conservation plan.<sup>372</sup> Second, the Bill authorizes the Environmental Quality Incentives Program, which allows USDA to share the cost of implementing conservation plans on ranchlands and croplands.<sup>373</sup> It can cover up to 75% of planning and management costs and 100% of foregone income.<sup>374</sup> Third, the Conservation Stewardship Program pays private farmers, ranchers, and foresters to implement conservation activities that target a variety of goals, including water quality and wildlife habitat.<sup>375</sup> Congress directed USDA to enroll over 12 million new acres in the program each year.<sup>376</sup>

A few agricultural conservation programs have been discontinued or defunded. The 2002 Farm Bill created the Conservation of Private Grazing Lands program to promote sustainable grazing practices through technical assistance and education.<sup>377</sup> The program was reauthorized in 2008, with authorized appropriations of \$60 million per year, but Congress has never appropriated funding.<sup>378</sup> Through 2011, the Conservation Security Program also funded conservation on private and Tribal agricultural lands; that program, however was not reauthorized in the 2008 Farm bill.<sup>379</sup> This program has been replaced by the Conservation

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<sup>368</sup> 16 U.S.C. §§ 3811–12. The Secretary of Agriculture determines which lands are “highly erodible.” *Id.* § 3801.

<sup>369</sup> *Id.* § 3812a.

<sup>370</sup> *Id.* § 3831(b).

<sup>371</sup> *Id.* § 3831(f).

<sup>372</sup> *Id.* § 1832.

<sup>373</sup> 16 U.S.C. §§ 3839aa *et seq.*

<sup>374</sup> *Id.* § 3839aa-2.

<sup>375</sup> *Id.* §§ 3838d *et seq.*

<sup>376</sup> *Id.* § 3838g(d).

<sup>377</sup> *Id.* § 3839bb.

<sup>378</sup> Economic Research Service, USDA, <http://www.ers.usda.gov/farmbill/2008/titles/titleIIConservation.htm>.

<sup>379</sup> 16 U.S.C. § 3838a. In 2011, program payments in the five Gulf states were \$2,610,170.

Stewardship Program, discussed above. Another defunct program from the 1990s is the Environmental Easement Program, which was authorized to operate from 1991–1995. The Environmental Easement Program purchased permanent easements (or the longest easements permissible under state law) over riparian corridors, critical habitat for wildlife, and other environmentally sensitive lands.<sup>380</sup>

Finally, the **Nonindigenous Aquatic Nuisance Prevention and Control Act** (NANPCA) focuses on dealing with non-native species in the Great Lakes, but also establishes a framework for managing other invasive aquatic species, preventing introductions through ballast water, and providing grants for research, monitoring, and comprehensive planning programs.<sup>381</sup> Pursuant to the Act, the Gulf and South Atlantic Regional Panel on Aquatic Invasive Species manages a Gulf-wide inventory of non-native species data.<sup>382</sup> NANPCA was modified and expanded by the National Invasive Species Act (NISA) of 1996,<sup>383</sup> and since 2002 there have been efforts to reauthorize the legislation. Also relevant to controlling invasive species is the Clean Water Act prohibition on discharges of pollutants from point sources without a permit, which applies to discharges from vessels including greywater and biological material.<sup>384</sup> EPA has issued a vessel general permit to regulate these discharges.<sup>385</sup>

#### *Federal Research*

While federal water quality laws focus on regulation and conservation, they also establish research initiatives. In addition to the **Clean Water Act** programs described above, the **Harmful Algal Bloom and Hypoxia Research and Control Act** established a research program for understanding and dealing with the harmful effects of algal blooms.<sup>386</sup> The Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia must develop a comprehensive national research program for reducing the impacts of the Gulf’s oxygen-depleted “dead zone” and red tides on coastal ecosystems, public health, and the economy. The President must report to Congress on measures for protecting the environment and public health; techniques for predicting algal blooms; innovative research methods; and incentive-based partnerships. In addition, the Secretary of Commerce must perform local scientific assessments that address causes of, ecological and economic consequences of, and potential prevention and mitigation methods for local blooms at the request of state, local, and tribal governments.<sup>387</sup>

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<sup>380</sup> 16 U.S.C. §§ 3839-3839d.

<sup>381</sup> *Id.* §§ 4701–4724.

<sup>382</sup> See Gulf and South Atlantic Regional Panel on Aquatic Invasive Species, <http://www.gsarp.org>.

<sup>383</sup> National Invasive Species Act, Pub. L. 104-332 (Oct. 26, 1996).

<sup>384</sup> See *Nw. Env'tl. Advocates v. EPA*, 537 F.3d 106 (9th Cir. 2008); 33 USC §§ 1311(a), 1362.

<sup>385</sup> See EPA, Office of Water, Vessel General Permit, <http://cfpub.epa.gov/npdes/vessels/vgpermit.cfm>.

<sup>386</sup> Pub. L. 105-383 (Nov. 13, 1998); Pub. L. 108-456 (Dec. 10, 2004); 16 U.S.C. § 1451 nt.

<sup>387</sup> Pub. L. 108-456 § 104.

Pursuant to the **Marine Debris Research, Prevention, and Reduction Act** enacted in 2006, NOAA must map and study the origins and impacts of marine debris, develop a strategy for preventing and removing marine debris from the US EEZ, and engage in efforts to reduce debris from fishing gear such as developing alternative types of gear and new ways to recover it.<sup>388</sup> The **Oceans and Human Health Act** established a research program on the role of the ocean in public health.<sup>389</sup>

### *State Conservation and Restoration*

As mentioned above, all five of the Gulf states have been delegated authority from EPA to issue permits for discharges into state waters from point sources.<sup>390</sup> States may order restoration in response to a violation of the law or permit conditions. Florida has a law specifically devoted to water quality restoration and conservation: the state Water Resources Restoration and Preservation Act directs the Florida Department of Environmental Protection to use money from the general fund, the Ecosystem Management and Restoration Trust Fund, and federal grants for water quality projects.<sup>391</sup>

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<sup>388</sup> 33 U.S.C. § 1952. Information on NOAA's Marine Debris Program is available at <http://marinedebris.noaa.gov>.

<sup>389</sup> 33 U.S.C. §§ 3101–3103.

<sup>390</sup> *Id.* § 1319; Alabama Water Pollution Control Act, ALA. CODE §§ 22-22-1 *et seq.*; Florida Air and Water Pollution Control Act, FLA. STAT. ch. 403.011 *et seq.*; Louisiana Water Control Law, LA. REV. STAT. §§ 30:2071 *et seq.*; Mississippi Air and Water Pollution Control Law, MISS. CODE ANN. §§ 49-17-1 *et seq.*; Texas Water Quality Control Law, TEX. WATER CODE §§ 26.011 *et seq.*

<sup>391</sup> FLA. STAT. ch. 403.0615.



APPENDIX II.

REGIONAL INSTITUTIONS AFFECTING GULF OF MEXICO HABITAT  
CONSERVATION AND RESTORATION

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## **A. Regional Institutions**

The following section describes some of the key institutions active in habitat conservation and restoration in the Gulf of Mexico. Because many engage in efforts focused on a variety of habitats, they are organized not by habitat type but rather by institution type—federal, state, or regional. As in the majority of this report, focus is placed on federal institutions. (More detailed information on U.S. state entities is forthcoming in an analysis of the U.S. Gulf states’ frameworks.<sup>392</sup>) In addition, it is important to note that there are a multitude of nongovernmental organizations active in the Gulf of Mexico at the local, state, and regional levels. Because this report focuses on legal authority and associated capacity, they are not detailed below, but their impact and influence should not be overlooked.

The goal is to highlight each institution’s relevance to habitat conservation and restoration goals, including increased coordination; and each institution’s capacity, emphasizing financial resources as a proxy for the ability to undertake habitat conservation and restoration efforts. The summaries were developed from publicly available and requested data.

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<sup>392</sup> As discussed previously, the report is pending Fall 2011.

## **1. Mexico institutions in the Gulf of Mexico**

In Mexico, as in the United States, there are numerous institutions, universities, nongovernmental organizations, and government agencies whose work focuses on the Gulf of Mexico.

### ***Ministry of Environment and Natural Resources***

The Ministry of Environment and Natural Resources (SEMARNAT) is the primary federal agency responsible for promoting the protection, restoration, and conservation of ecosystems, natural resources, and environmental goods and services, to ensure their sustainable use and development.

SEMARNAT established a 2007–2012 sector program for environmental and natural resources.<sup>393</sup> There are two particularly important aspects of the program that relate to habitat conservation and restoration. First, the program sets as an objective the sustainable development of Mexico's oceans and coasts,<sup>394</sup> specifically the establishment of marine ecological and regional coastal areas and the formulation and development of the sustainable development policy for the oceans and coasts.

Second, a separate section relates to international cooperation.<sup>395</sup> It aims to strengthen institutions and national capacities for environmental management through international exchanges in science, technology, and information, and to raise funds to support these efforts. It also seeks to establish a strategy to support research of oceans and biodiversity, and the implementation of projects that contribute to improving their quality. To achieve this, the 2011 Annual Work Program creates the goal of publishing a Marine Ecological Management Plan for the Gulf of Mexico and Caribbean Sea within the year. Work on the development of such a plan began in 2006, when a coordination agreement was signed by SEMARNAT, the Ministry of Social Development (SEDESOL), SAGARPA, SECTUR, the Ministry of Agrarian Reform, SEGOB, the Ministry of Communications and Transportation (SCT), SENER, PEMEX, the Federal Electricity Commission (CFE), and the governments of Tamaulipas, Veracruz, Tabasco, Campeche, Yucatan, and Quintana Roo. Technical studies to support characterization and diagnosis were undertaken in 2007, the draft of the proposed program was completed in 2009, and in 2010 the collaborative engaged in national public consultation.

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<sup>393</sup> SEMARNAT, Decree approving the Environment Sector Program 2007-2012 and Natural Resources, Diario Oficial (Cuarta Seccion) 21 Jan. 2008, available at

<http://www.semarnat.gob.mx/programassubsidios/psmarn/Documents/PSMAyRN%2021%20ene%2008.pdf>.

<sup>394</sup> *Id.* at 16.

<sup>395</sup> *Id.* at 26.

The budget allocated to SEMARNAT for the implementation of all of their programs is as follows:<sup>396</sup>

Year	Amount (Mexican pesos)
2007	29,006,275,388
2008	39,064,608,200
2009	39,911,443,382
2010	46,236,202,437
2011	51,222,023,768

### ***National Commission of Natural Protected Areas***

The National Commission of Protected Natural Areas (CONANP) began operating in 2000 as a sub-agency of SEMARNAT. CONANP is responsible for the administration of Protected Natural Areas, and develops, promotes, directs, manages, and supervises programs and projects located within protected areas related to habitat protection, management, and restoration.<sup>397</sup>

CONANP leads the Species at Risk Conservation Program (PROCER). The program's objective is to achieve recovery of 30 priority species at risk between 2007 and 2012 through the implementation of their Program of Action for the Conservation of Species (PACE). PROCER was developed in collaboration with SEMARNAT, SEDESOL, SECTUR, SAGARPA, and others. The program includes three broad strategies: the National Sea Turtle Conservation Program, Conservation of Land and Water, and the Conservation Program for Coastal Marine Areas and Islands.<sup>398</sup> Each year, the program provides economic support to institutions of higher education, research entities, and civil society organizations that engage in efforts focused on conservation, management, protection, or research of endangered species and their habitats.

In 2011, SEMARNAT's total budget included 997,940,861 Mexican pesos for CONANP operation.<sup>399</sup>

### ***Federal Agency of Environmental Protection***

The Federal Agency of Environmental Protection (PROFEPA) is a sub-agency of SEMARNAT, which has technical and operational autonomy. One of its main tasks is to increase levels of

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<sup>396</sup> Expenditure Budget Act of the Federation 2007, 2008, 2009, 2010, and 2011.

<sup>397</sup> Internal Regulations of the Ministry of Environment and Natural Resources, art. 141.

<sup>398</sup> CONANP, Conservation Program for Endangered Species 2007-2012, *supra* note 127.

<sup>399</sup> Expenditure Budget of the Federation 2011, Programmatic Functional Economic Analysis (Jan. 2011), available at [http://www.apartados.hacienda.gob.mx/presupuesto/temas/pef/2011/temas/tomos/16/r16\\_afpe.pdf](http://www.apartados.hacienda.gob.mx/presupuesto/temas/pef/2011/temas/tomos/16/r16_afpe.pdf).



compliance with environmental regulations, in order to further sustainable development. Its responsibilities include monitoring compliance with the laws, to safeguard the interests of those seeking environmental compliance with environmental legislation, and to punish the individuals and entities who violate relevant rules of law.<sup>400</sup>

One of the priorities of PROFEPA is the conservation of protected marine species. The Directorate General of Inspection and Monitoring of Wildlife and Marine and Coastal Ecosystems is responsible for ensuring compliance with environmental legislation applicable to, among other things, the preservation and protection of turtles, marine mammals, and aquatic species at risk; marine protected areas; and environmental contingency regulations. It accomplishes this through policies and strategies aimed at increasing the coverage of inspection and monitoring efforts.<sup>401</sup>

To care for these species, in each coastal state PROFEPA guides inspection and surveillance efforts in coordination with the Mexican Navy, CONANP, CONAPESCA, and the State Governments in their respective areas of authority.

In 2011, SEMARNAT's total budget included 1,012,771,341 Mexican pesos for PROFEPA operation.<sup>402</sup>

### ***National Institute of Ecology***

The National Institute of Ecology (INE) is a sub-agency of SEMARNAT, whose purpose is to generate scientific and technical information on environmental problems and human resource training. The data are intended to inform society, support decision-making, promote environmental protection, promote the sustainable use of natural resources, and support SEMARNAT in meeting its objectives.<sup>403</sup>

Within the Institute, the Directorate General for Research of Ecological Management Planning and Ecosystem Conservation coordinates the technical development of the regional and marine ecological management plans in the interest of the Federation and generates environmental planning instruments of the territory.<sup>404</sup> The Directorate General directed the formulation of the Marine Ecological Management Plan for the Gulf of Mexico and Caribbean Sea, which will be published this year.

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<sup>400</sup> Internal Regulations of the Ministry of Environment and Natural Resources, art. 118.

<sup>401</sup> *Id.*, art. 130.

<sup>402</sup> Expenditure Budget of the Federation 2011, *supra* note 399.

<sup>403</sup> National Institute of Ecology, About the INE, <http://www.ine.gob.mx/acerca/mision>.

<sup>404</sup> Internal Regulations of the Ministry of Environment and Natural Resources, art. 112.

In 2011, SEMARNAT's total budget included 290,289,522 Mexican pesos for INE operation.<sup>405</sup>

### ***National Commission of Water***

The National Commission of Water (CONAGUA) is an administrative body within SEMARNAT. The purpose of CONAGUA is to manage and preserve national waters and ensure their sustainable use by both public and private parties.<sup>406</sup>

CONAGUA is responsible for the Clean Beaches Program, which promotes the cleaning of beaches and associated watersheds, basins, canyons, groundwater, and receiving water bodies. CONAGUA also strives to reduce pollution to conserve Mexican beaches, respecting their native ecology, and to improve the local communities' standard of living and the quality of beach tourism.<sup>407</sup>

It is important to note that CONAGUA has an international program of cooperation, whose purpose is to expedite the achievement of goals related to water quality and enhance water resource management in the country, with technical support from other countries or organizations. In addition, the international program shares Mexican experiences in water management to help other countries or organizations.

Finally, CONAGUA carries out the national inventory of wetlands and proposes the issuance of technical standards and Official Mexican Standards for the preservation, protection, and restoration of wetlands, including water reuse and recycling.

In 2011, SERMANAT's total budget included 36,399,398,116 Mexican pesos for CONAGUA operation.<sup>408</sup>

### ***Ministry of the Navy***

The Ministry of the Navy (SEMAR) is responsible for exercising sovereignty in the territorial sea and conducting coastal surveillance of the Mexican marine zones, without prejudice to the powers that apply to other agencies. Within its jurisdiction, the Navy intervenes in the protection and conservation of the marine environment and inspects, patrols, and conducts

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<sup>405</sup> Expenditure Budget of the Federation 2011, *supra* note 399.

<sup>406</sup> Internal Regulations of the National Commission of Water, art. 1.

<sup>407</sup> CONAGUA, Clean Beaches, *supra* note 154.

<sup>408</sup> Expenditure Budget of the Federation 2011, *supra* note 399.

reconnaissance and surveillance to preserve natural protected areas, in coordination with the competent authorities.<sup>409</sup>

As relevant to this study, within the structure of the Secretariat of the Navy, the Directorate General for the Protection of Marine Environment oversees the prevention and control of marine pollution and monitors and protects the marine environment within the Secretary of the Navy's jurisdiction. The Directorate acts alone or in collaboration with other agencies and institutions, domestic or foreign, in order to preserve and restore the ecological balance of the marine environment. To accomplish this, the Directorate established the National Contingency Plan (NCP) to Combat and Control Oil Spills and Other Harmful Substances in the Sea and the Permanent Ecological Protection Program for Coastal States.

The Directorate has 21 Departments of Marine Environmental Protection (PROMAM) and 20 Departments of Program Coordination Against Marine Pollution (CPCCM), settled on both coasts and assigned to the jurisdictions of the various naval commands. They are all equipped with the human and material resources necessary to prevent and control marine pollution.

The Marine Sector Program 2007–2012 identifies strategic areas of the marine environment where natural resources, populations, and economic activities intersect: such as areas containing hydrocarbon reserves in the Gulf of Mexico; shrimp, lobster, abalone, sardine, tuna, and flake fisheries; protected areas as biosphere reserves, as national parks, and for flora and fauna; and marine sanctuaries in domestic waters and in the Mexican Caribbean.

The Program identifies national interest in the conservation of the marine environment and of renewable and non-renewable marine resources. This implies that the Navy will be involved in the protection and/or development of these interests.

In particular, the program establishes sustainable maritime development as one of its objectives. For this line of action it runs operations for the protection of marine ecosystems and endangered species, to prevent and combat pollution of the seas and coasts, and to contribute to and promote scientific research of the seas and coasts that supports national development projects and the sustainable use of marine resources. Throughout the six years they have been awarded the annual budget to this office to fulfill its goals and objectives.

The budget allocated to the Department of the Navy over the past five years is as follows:<sup>410</sup>

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<sup>409</sup> Ministry of the Navy (Secretaria de Marina, SEMAR), [http://www.semar.gob.mx/sitio\\_2/](http://www.semar.gob.mx/sitio_2/).

<sup>410</sup> Expenditure Budget Act of the Federation 2007, 2008, 2009, 2010 and 2011.

Year	Amount (Mexican pesos)
2007	10,951,321,100
2008	13,382,746,100
2009	15,757,281,110
2010	15,991,869,193
2011	18,270,177,440

### **Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food**

The Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) carries out its fisheries responsibilities through the National Commission of Aquaculture and Fisheries (CONAPESCA). CONAPESCA's Directorate General of Fisheries and Aquaculture is responsible for regulating the creation of refuge areas, proposing the establishment of closed seasons and areas, and in coordination with SEMARNAT proposing measures to conserve fish stocks and encourage restocking of overfished areas.<sup>411</sup> In 2008, the Directorate developed the National Master Plan of Fisheries and Aquaculture, which includes the objective to resolve the conservation and restoration issues of the Gulf of Mexico, which for these purposes is divided into three regions: the North Region, the South Region, and the Caribbean Region.

Moreover, the CONAPESCA Directorate General of Inspection and Surveillance is responsible for monitoring compliance with the laws on fisheries and aquaculture, as well as conducting surveillance to prevent the introduction of unauthorized flora and fauna into federal water bodies.<sup>412</sup> This Directorate created the National Inspection and Monitoring Program.

Among the objectives of the Sector Program for Agricultural and Fisheries Development 2007-2012 is the reversal of the deterioration of ecosystems, to be accomplished through actions to conserve water, soil, and biodiversity. Such actions include reconciling the fishing activities with the marine ecological management plan and strengthening inspection and monitoring efforts to combat and punish illegal fishing and aquaculture operations. The program coordinates with other agencies involved in the care of natural resources.

The budget allocated to CONAPESCA over the past five years is as follows:<sup>413</sup>

Year	Amount (Mexican pesos)
2007	58,384,700,000
2008	64,447,300,000

<sup>411</sup> Internal regulations of the Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food, art. 39.

<sup>412</sup> *Id.*, art. 42.

<sup>413</sup> Expenditure Budget Act of the Federation 2007, 2008, 2009, 2010 and 2011.

2009	61,214,185,277
2010	73,368,451,917
2011	73,821,342,964

### ***Petróleos Mexicanos***

Petróleos Mexicanos (Pemex) carries out the exploration and exploitation of oil resources, and other strategic activities included in the national oil industry. To do this, Pemex established subsidiary bodies: Pemex Refining, Pemex Exploration and Production, Pemex Gas and Basic Petrochemicals, and Pemex Petrochemicals.<sup>414</sup>

Pemex published an Environmental Protection Strategy for 2008-2012. In 2010, to ensure the strategy is implemented, PEMEX authorized the creation of the Management of Sustainable Development and Environmental Areas, empowering a section dedicated specifically to sustainable development. As an integral part of the Environmental Protection Strategy, Pemex depends upon community environmental responsibility to achieve public participation and to lead to the development of environmental protection projects that include land use planning, integrated management, and the sustainable use of water resources, among others.<sup>415</sup>

### ***The Gulf of Mexico Large Marine Ecosystem Project***

The Gulf of Mexico Large Marine Ecosystem (GoM LME) Project was initiated in June 2009. The project is designed to further ecosystem-based management of the GoM LME by, among other things, removing obstacles, enacting necessary changes, developing tools, and increasing investment. Partially funded by the Global Environment Facility (GEF), the project focuses on building capacity and implementing pilot projects to further three specific aspects of ecosystem-based management: (i) productivity, (ii) conservation and adaptive management, and (iii) cross-sectoral engagement including substantive monitoring and evaluation.<sup>416</sup>

The overarching GoM LME Project objective is to “set the foundations for LME-wide ecosystem-based management approaches to rehabilitate marine and coastal ecosystems, recover depleted fish stocks, and reduce pollution and nutrient overloading.”<sup>417</sup> The project is intended to work as part of a broader regional movement, ideally undertaken through a regional coordinating initiative.

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<sup>414</sup> Petroleos Mexicanos, About PEMEX, <http://www.pemex.com/index.cfm?action=content&sectionID=1>.

<sup>415</sup> PEMEX, *Environmental Protection Strategy of Petroleos Mexicanos* (Jan. 2009), available at [http://www.pemex.com/files/content/estrategia\\_ambiental.pdf](http://www.pemex.com/files/content/estrategia_ambiental.pdf).

<sup>416</sup> The information in this description was obtained from the Gulf of Mexico Large Marine Ecosystem Project website, <http://gulfofmexico-lme.org/>.

<sup>417</sup> *Id.*, History.

There are four primary components to the project. They are:<sup>418</sup>

- 1) Transboundary Diagnostic Analysis (TDA) – This part of the project seeks to analyze the causes of transboundary environmental problems that affect the LME ecosystem. The TDA will identify capacities and information gaps.
- 2) Strategic Action Program (SAP) and National Action Programs (NAPs) – This component enables regional "agreement on priorities for identified transboundary problems of the GoM LME at national and regional levels." Through this process, it is intended that the states bordering the Gulf of Mexico will achieve a consensus on ecosystem priorities, governance reforms, and programs and projects to protect, manage, restore, and sustain the shared resources among others.
- 3) Pilot Projects – According to the GoM LME project, this component is about the implementation of "on the ground" activities on three selected topics located in the same area. Thus, Terminos Lagoon was chosen as the site for pilot projects in the following areas: 1) Enhanced natural habitat conservation in the coastal and marine areas of the Gulf of Mexico LME, 2) Enhancing shrimp production through ecosystem based management, and 3) Joint assessment and monitoring of coastal conditions in the Gulf of Mexico.
- 4) Monitoring and Evaluation System – The purpose of this component is to serve as a corrective function during the project cycle. The monitoring and evaluation system enables adjustments based on a special system of indicators developed specially for that objective.

## **2. U.S. institutions in the Gulf of Mexico**

There are a plethora of U.S. institutions that work in the Gulf of Mexico. From local grassroots organizations or region-wide public-private partnerships, there are hundreds of governmental, nongovernmental, academic, and private entities active in the region.

### ***i. Federal agencies***

In the federal government, five of the primary institutions active in habitat conservation and restoration are the U.S. Environmental Protection Agency (EPA), U.S. Department of

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<sup>418</sup> *Id.*, Home.

Commerce's National Oceanic and Atmospheric Administration (NOAA), U.S. Department of the Interior's Fish and Wildlife Service (FWS), U.S. Department of the Army's Army Corps of Engineers (Army Corps), and U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS).

### ***Environmental Protection Agency***

There are three primarily relevant programs within EPA. First, the Gulf of Mexico Program is a flagship effort to apply an adaptive management approach to large coastal ecosystems. Recognizing that coordination and partnerships are necessary to address the complex and expansive ecological challenges that the Gulf faces, the Program's focus is on increasing collaboration between the disparate entities working on preserving and restoring Gulf ecosystem health and productivity without endangering the region's economic well-being. The program led to the creation of the Gulf of Mexico Alliance in 2004 (see below).<sup>419</sup> The Program had a FY2010 enacted budget of \$6.00 million. Its performance targets include restoring water and habitat quality in 13 priority coastal areas (FY2011 target: 128 impaired segments); restoring, enhancing, or protecting coastal and marine habitats (FY2011 target: 30,000 acres); and improving the health of coastal waters on the National Coastal Condition Report (FY2011 target: 2.6/3.0 average score).<sup>420</sup>

Second, under the authority of the Clean Water Act, the National Estuary Program develops community-based comprehensive conservation and management plans focused on water quality improvements for regional estuaries. Habitat conservation and restoration is another primary focus of the program, which includes 28 estuaries throughout the United States, including seven in the Gulf of Mexico.<sup>421</sup> The FY2010 enacted budget for the National Estuary Program and coastal waterways was \$32.57 million, with FY2011 targets of protecting or restoring 100,000 acres and achieving \$500/acre efficiency levels.<sup>422</sup>

Finally, EPA conducts extensive research on hypoxia and water quality in the Gulf of Mexico. This research is generally conducted within Human Health and Ecosystems (FY2010 enacted budget: \$159.51 million), Water Quality (FY2010 enacted budget: \$61.92), Marine Pollution (FY2010 enacted budget: \$13.40), and Surface Water Protection (FY2010 enacted budget: \$208.63; for FY2011, requested an increase of \$3.78 million to support Mississippi River Basin

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<sup>419</sup> U.S. EPA, What is the Gulf of Mexico Program, <http://www.epa.gov/gmpo/about/whatisgmp.html>.

<sup>420</sup> U.S. EPA, FY 2011 Annual Performance Plan and Congressional Justification (2010), at 309-10.

<sup>421</sup> U.S. EPA, National Estuary Program, <http://water.epa.gov/type/oceb/nep/index.cfm>. The six national estuaries in the Gulf (from West to East) are Coastal Bends Bay, TX; Galveston Bay, TX; Barataria-Terrebonne, LA; Mobile Bay, AL; Tampa Bay, FL; Sarasota Bay, FL; and Charlotte Harbor, FL.

<sup>422</sup> U.S. EPA, FY 2011 Annual Performance Plan and Congressional Justification (2010), at 495-99.

work, below).<sup>423</sup> The Gulf Ecology Division, which conducts large-scale dynamics research with a focus on the Gulf of Mexico, is located in Gulf Breeze, Florida.<sup>424</sup> For FY2011 EPA also requested \$12.4 million for the Mississippi River Basin geographic program, including efforts to implement strategies for reducing nutrient inputs as outlined in the Mississippi River Gulf of Mexico Watershed Nutrient Task Force *Gulf Hypoxia Action Plan 2008* and GOMA's Action Plan II.<sup>425</sup> Regarding nonpoint source pollution, as mentioned previously, EPA has been providing grants to states under CWA section 319(h) for two decades. Since 1999 those grants have totaled roughly \$200 million annually.<sup>426</sup>

In sum, several of EPA's programs and efforts closely align with the HCRT's long-term goal of increasing collaboration and coordination. Unsurprisingly, the Gulf of Mexico Program specifically targets this objective and directly supports the idea of expanding partnerships. While the National Estuary Program only targets a specific habitat type, it too adopts a comprehensive planning approach. The Mississippi River Basin program faces a tremendous challenge in pulling together disparate parties and sectors to address nonpoint sources, but the stated approach is similarly collaborative. One of the major obstacles all of the programs face is funding. In FY2010 the Gulf of Mexico Program received \$6.0 million, the National Estuary Program received approximately \$33 million, and the Mississippi River Basin program is beginning with a request for just over \$12 million.

### ***National Oceanic and Atmospheric Administration***

Two line offices in NOAA house the majority of programs relevant to Gulf habitat conservation and restoration. First, the National Marine Fisheries Service (NMFS) is responsible for managing and protecting living marine sources within U.S. jurisdiction. Under NMFS, the Office of Protected Resources implements the Endangered Species Act and Marine Mammal Protection Act. The NMFS Office of Habitat Conservation undertakes numerous habitat protection and restoration activities under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Fish and Wildlife Coordination Act, and other laws. The NMFS Office of Sustainable Fisheries implements substantial portions of the MSA, including providing guidance for regional offices and the regional fishery management councils.<sup>427</sup> In FY2010, NMFS received \$203.95

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<sup>423</sup> *Id.* at 155-68, 130-33, 519, 524, 534.

<sup>424</sup> U.S. EPA, NHEERL, Gulf Ecology Division, <http://www.epa.gov/ged/index.html>.

<sup>425</sup> U.S. EPA, FY 2011, *supra* note 422, at 132-33, 302-03; Mississippi River Gulf of Mexico Watershed Nutrient Task Force, Gulf Hypoxia Action Plan 2008, available at <http://water.epa.gov/type/watersheds/named/msbasin/actionplan.cfm>.

<sup>426</sup> EPA, Office of Water, Clean Water Act Section 319(h) Grant Funds History, <http://water.epa.gov/polwaste/nps/319hhistory.cfm>.

<sup>427</sup> NOAA, National Marine Fisheries Service, [www.nmfs.noaa.gov](http://www.nmfs.noaa.gov); *see also* Office of Protected Resources, <http://www.nmfs.noaa.gov/pr/>; Office of Sustainable Fisheries, <http://www.nmfs.noaa.gov/pr/>; Office of Habitat Conservation, <http://www.habitat.noaa.gov/aboutus/whatwedo.html>.



million to devote to protected species research and management, \$58.19 million specifically for habitat conservation and restoration; and a combined \$642.4 million for fisheries research, management, enforcement, observers, and other fisheries activities.<sup>428</sup> Of the \$58.19 million devoted to habitat conservation and restoration, \$22.38 million was specified for sustainable habitat management, \$27.97 million for fisheries habitat restoration, \$200,000 for ecosystem vitality through habitat restoration, and \$250,000 for Pontchartrain Basin restoration.<sup>429</sup>

Second, the National Ocean Service houses the Office of Ocean and Coastal Resource Management (OCRM), National Centers for Coastal Ocean Science (NCCOS), Office of National Marine Sanctuaries (ONMS), and Coastal Services Center (CSC).

- OCRM implements the Coastal Zone Management Act through the National Coastal Zone Management Program, including the Coastal Nonpoint Pollution Control Program and Coastal and Estuarine Land Conservation Program. It also houses the Estuarine Resources Division, which oversees the National Estuarine Research Reserve System (NERRS) in partnership with state agencies and universities.<sup>430</sup> OCRM also administers the Coral Reef Conservation Program.<sup>431</sup>
- NCCOS supports NOAA's goals with long-term and nationwide coastal research and monitoring information and tools. Three of the five Centers focus on supporting coastal managers with competitive research opportunities; conducting local, regional, and national research and monitoring; and providing leading science on coastal fisheries and habitat.<sup>432</sup>
- ONMS oversees, manages, and conducts research in the 13 national sanctuaries and 1 marine national monument located in U.S. waters.<sup>433</sup>
- CSC supports local and state management of coastal resources, supporting decision-making with information and tools that enable balancing economic, social, and environmental demands and benefits.<sup>434</sup>

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<sup>428</sup> NOAA 2011 Blue Book, FY 2010 Enacted Budget, at 2-41, available at [http://www.corporateservices.noaa.gov/~nbo/fy11\\_bluebook/Chapter\\_2\\_Operations\\_Research\\_Facilities.pdf](http://www.corporateservices.noaa.gov/~nbo/fy11_bluebook/Chapter_2_Operations_Research_Facilities.pdf).

<sup>429</sup> NOAA, Budget Estimates: Fiscal Year 2011, NOAA Control Table, available at [http://www.osec.doc.gov/bmi/budget/11CJ/NOAA\\_FY2011CongressionalBudgetFINAL.pdf](http://www.osec.doc.gov/bmi/budget/11CJ/NOAA_FY2011CongressionalBudgetFINAL.pdf).

<sup>430</sup> The NERRS is a network of 28 estuaries located around the country (including Puerto Rico), which are managed by state and local partners with funding and guidance from NOAA. The Estuarine Resources Division receives assistance from other NOAA offices, partners with other federal agencies such as FWS and the National Park Service, and collaborates with numerous non-governmental organizations. NGO partners include the National Estuarine Research Reserve Association, Coastal States Organization, Restore America's Estuaries, Coastal and Estuarine Research Foundation, Coastal Society, and National Environmental Education Foundation. NOAA, National Estuarine Research Reserve System, <http://www.nerrs.noaa.gov/>; Key Documents and Partners, <http://www.nerrs.noaa.gov/BGDefault.aspx?ID=17>.

<sup>431</sup> NOAA, Office of Ocean and Coastal Resource Management, <http://oceanservice.noaa.gov/programs/ocrm/welcome.html>.

<sup>432</sup> NOAA, National Centers for Coastal Ocean Science, <http://coastalscience.noaa.gov/default.aspx>.

<sup>433</sup> NOAA, Office of National Marine Sanctuaries, <http://oceanservice.noaa.gov/programs/nmsp/welcome.html>.

<sup>434</sup> NOAA, Coastal Services Center, <http://csc.noaa.gov/about/>.

In FY2010, the National Ocean Service had enacted budgets of \$195.93 for ocean resources conservation and assessment, and \$158.12 for ocean and coastal management.<sup>435</sup> The line office also administers several funds. In FY2010, the balance of the Damage Assessment and Restoration Revolving Fund was \$42.33 million. The balance of the Coastal Impact Assessment Fund was at \$155,000.<sup>436</sup> The CELCP Program received FY2010 appropriations of \$20 million (with an additional \$5 million for the Great Lake Restoration Initiative). Although this is the largest amount it has received in the past several years, it is significantly less than the \$30-50 million annual appropriations it received in FY2003-2006.<sup>437</sup>

In sum, this section provides a high-level overview of NOAA's direction and organization. The agency has numerous offices tackling various management issues and challenges related to ocean and coastal marine habitat conservation and restoration. The Habitat Conservation office is located within NFMS, and of its \$58.19 million in funding, almost 50% is directed towards fisheries habitat restoration while just less than 40% is applied to sustainable habitat management. NOS funding for ocean resources conservation and assessment is spread amongst all managed resources, not just those within the Gulf. Additional analysis of how precisely those funds are distributed for habitat-related projects would help determine whether priorities or focus areas could or should be modified. The CELCP Program continues to fund important coastal and estuarine acquisitions, but is not funded at historic levels.

### ***Department of the Interior***

Within the Department of the Interior, the Fish and Wildlife Service (FWS) was established to conserve, protect, and enhance fish, wildlife, plants, and their habitats. Its authority for habitat conservation and restoration activities stems from the Endangered Species Act, Fisheries Restoration and Management Act, Land and Water Conservation Fund Act, Migratory Bird Conservation Act, National Wildlife Refuge Administration Act, and Partners for Fish and Wildlife Act. FWS oversees the North American Wetlands Conservation Fund (FY2010 appropriations: \$47.65 million), National Wildlife Refuge Fund (FY2010: \$14.5 million), Land and Water Conservation Fund (FY2010: \$86.34 million), and Federal Aid in Wildlife Restoration Fund (as of FY2010, permanent appropriations: \$507.60 million).<sup>438</sup> The Migratory Bird Conservation

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<sup>435</sup> NOAA, FY2011 Budget Summary (Feb. 2010), at 2-33, available at [http://www.rdc.noaa.gov/nbo/11bluebook\\_highlights.html](http://www.rdc.noaa.gov/nbo/11bluebook_highlights.html).

<sup>436</sup> NOAA, Budget Estimates FY2011, *supra* note 429, Exh. 12A. This is separate from the DOI-administered Coastal Impact Assistance Program (CIAP). It was created by one-year appropriations of \$150 million in 2001 to help the seven coastal states – Alaska, Alabama, California, Florida, Louisiana, Mississippi, and Texas (i.e. the CIAP states plus Florida) with Coastal Impact Assistance Plans.

<sup>437</sup> See NOAA, Ocean and Coastal Resource Management, CELCP, Funding Opportunities, [http://coastalmanagement.noaa.gov/land/celcp\\_fundingop.html](http://coastalmanagement.noaa.gov/land/celcp_fundingop.html).

<sup>438</sup> Dep't of the Interior, Fish and Wildlife Service, Budget Justifications and Performance Information: Fiscal Year 2011 (2010), GS-11–GS-17.

Account is supported by duck stamps, an import tax on arms and ammunition, and user fees, and among other things uses its FY2010 permanent appropriations of \$44 million to support acquisitions of migratory bird areas and habitats.<sup>439</sup> For non-federal habitat efforts, in FY2010 FWS received \$90 million for state and tribal wildlife grants, and \$85 million in appropriations and \$58.95 in equivalent payments for the Cooperative Endangered Species Conservation Fund that supports habitat conservation on non-federal lands.<sup>440</sup> Finally, the Sport Fish Restoration Account provides 18.5% of its appropriations for CWPPRA Programs, which in FY2010 was equal to \$36.24 million.<sup>441</sup> Within FWS, the Partners for Fish and Wildlife Program works to achieve habitat restoration on privately owned land.<sup>442</sup>

The Bureau of Ocean Energy Management, Regulation, and Enforcement (formerly the Minerals Management Service) manages energy and mineral resource development on the Outer Continental Shelf (the OCS is 3-200 miles offshore Louisiana, Mississippi, and Alabama; 9-200 miles offshore Texas and the Gulf coast of Florida).<sup>443</sup> The newly reorganized agency will be divided into three bureaus: the Bureau of Ocean Energy Management, which will handle leasing and environmental management functions; the Bureau of Safety and Environmental Enforcement, which will oversee safety and enforcement functions; and the Office of Natural Resources Revenue, which will handle royalties, penalties, and other revenue from the OCS.<sup>444</sup> BOEMRE administers the Coastal Impact Assistance Program, which as statutorily provided received the final appropriation of \$250 million in FY2010. Although it will stop accruing funds, project applications for CIAP will be accepted through the end of 2013, and projects may continue through the end of 2016.<sup>445</sup> CIAP will also be transferred to FWS in FY2012.<sup>446</sup> BOEMRE also transfers \$150 million annually to the National Historic Preservation Fund.

In sum, the Department of the Interior has substantial resources for federal land acquisition, drawing from consistently robust funds such as the Migratory Bird Conservation Account. FWS oversees numerous efforts focused on conserving resources, including important habitats, and on improving management, including working with private landowners. It also administers several of the most substantial funds for Gulf habitat conservation and restoration projects,

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<sup>439</sup> *Id.* at MBC-1–MBC-4.

<sup>440</sup> *Id.* at GS-11–GS-17, ES-4–ES-5.

<sup>441</sup> FWS Greenbook, *supra* note 274, at SF-1–SF-4. In FY2010, \$18.12 million was distributed to the National Coastal Wetlands Conservation Grant Program, and \$18.12 to the North American Wetlands Conservation Grant Program.

<sup>442</sup> Dep't of the Interior, Fish and Wildlife Service, Partners for Fish and Wildlife Program, <http://www.fws.gov/partners/aboutus.html>; Partners for Fish and Wildlife Act, Pub. L. 109-294 (Oct. 3, 2006), § 2(a)(1).

<sup>443</sup> Dep't of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE), <http://www.boemre.gov/aboutBOEMRE/>.

<sup>444</sup> Ken Salazar, Secretary of the Interior, Order No. 3299 (May 19, 2010), available at <http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=32475>.

<sup>445</sup> See Dep't of the Interior, BOEMRE, Coastal Impact Assistance Program, <http://www.boemre.gov/offshore/CIAPmain.htm> (last visited May 1, 2011); 43 USC § 1356a.

<sup>446</sup> FWS Green Book, *supra* note 438, at CIAP-1.

including the National Coastal Wetlands Grants Program and the North American Wetlands Conservation Program. However, several programs are hampered by stringent matching requirements and grant caps (e.g., 50% nonfederal funds requirement and \$1 million cap for the National Coastal Wetlands Grant Program). FWS will also administer CIAP starting in FY2012, but pursuant to the statute the fund will not receive additional appropriations in coming years. In general, aside from CIAP, BOEMRE's programs do not directly target coastal habitats or resources within state waters. However, the Bureau has substantial planning authority on the OCS and – as demonstrated by the Deepwater Horizon disaster – its actions can have substantial impacts on ocean and coastal habitat.

### ***Department of the Army***

The Army Corps of Engineers (Army Corps) is responsible for constructing and maintaining public works projects, including dredging, flood prevention, and shore protection projects. The Army Corps is responsible for issuing Clean Water Act permits to parties seeking to dredge or fill navigable waterways or certain wetlands. Three distinct regional divisions oversee projects in the Gulf region – the South Atlantic Division, the Mississippi Valley Division, and the Southwest Division. In FY2011, the Army Corps requested \$586 million for aquatic ecosystem restoration.<sup>447</sup> The Army Corps plays a particularly significant role in coastal restoration in Louisiana, where it administers restoration funding under CWPPRA and is collaborating with the Louisiana Coastal Protection and Restoration Authority on a comprehensive planning effort.<sup>448</sup>

In sum, the Army Corps plays a critical role in terms of habitat conservation and restoration, as appropriate measures and designs must be incorporated into its public works projects. However, the Army Corps must work within its designated statutory authority, including the federal standards for beneficial use and funding restrictions.

### ***Department of Agriculture***

The U.S. Department of Agriculture (USDA) operates several restoration and conservation programs. A number of them are administered through the Natural Resources Conservation Service (NRCS),<sup>449</sup> including conservation easement programs that protect wildlife habitat in the

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<sup>447</sup> US Army Corps of Engineers, Fiscal Year 2011 Civil Works Budget for the U.S. Army Corps of Engineers Summary (Feb. 2010), at 4, available at <http://www.usace.army.mil/CECW/PID/Documents/budget/budget2011.pdf>.

<sup>448</sup> Army Corps of Engineers, Environmental Priorities in the New Orleans District, <http://www.mvn.usace.army.mil/environmental/priorities.asp>.

<sup>449</sup> Natural Resources Conservation Service, U.S. Department of Agriculture, <http://www.nrcs.usda.gov/>.

Gulf states.<sup>450</sup> In each of these voluntary programs, the NRCS provides financial support to farmers that adopt certain conservation standards and most provide cost-share for restoration activities. The easements for a term of years require the USDA to transfer a contracted amount of money to landowners each year, whereas permanent easements require a greater up-front cost. In 2010, the Wetlands Reserve Program enrolled nearly 100,000 acres in the region with an obligation of over \$250 million; the Wildlife Habitat Incentive Program enrolled over 450,000 acres in the five states with an obligation of \$15 million; the Environmental Quality Incentives Program enrolled over 2.4 million acres in the region with an obligation of nearly \$250 million; and the Conservation Stewardship Program enrolled over 3 million acres with an obligation of over \$35 million.<sup>451</sup> Through these programs, far more land is under contract in Texas than in any other of the Gulf states. The NRCS' main research activities are conducted through the Conservation Effects Assessment Project (CEAP), which studies the effectiveness of conservation practices and assesses the health of watersheds.<sup>452</sup> The NRCS also has a variety of technical assistance programs that advise individuals and groups on how to reduce erosion and foster habitat on agricultural lands.<sup>453</sup>

Drawing on several of these programs, NRCS has established the Mississippi River Basin Healthy Watersheds Initiative (MRBI).<sup>454</sup> Announced in late 2009, MRBI funds voluntary programs in 13 states with the goal of controlling nutrient loads in the Mississippi River Basin. EPA intends to coordinate their Mississippi River Basin geographic program efforts with this initiative.<sup>455</sup> NRCS is providing financial incentives and technical assistance to help implement soil erosion control measures and improve soil and water quality through the Cooperative Conservation Partnership Initiative via existing Farm Bill conservation programs such as the Wetlands Reserve Enhancement Program, Environmental Quality Incentives Program, and Wildlife Habitat Incentive Program.<sup>456</sup> The initiative is intended to provide \$320 million over the course of fiscal

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<sup>450</sup> A sixth easement program, the Emergency Watershed Protection Program, covers wetlands in floodplains. However, it is unclear whether this program is active in the Gulf states. <http://www.nrcs.usda.gov/programs/ewp/Floodplain/index.html>

<sup>451</sup> 2010 GRP Enrollment Data, [http://www.nrcs.usda.gov/programs/GRP/2010\\_progstats/fundingdata.html](http://www.nrcs.usda.gov/programs/GRP/2010_progstats/fundingdata.html); WRP FY 2010 Number of Contracts Acres and Dollars Obligated, [http://www.nrcs.usda.gov/programs/wrp/2010\\_contracts/contracts-and-dollars.html](http://www.nrcs.usda.gov/programs/wrp/2010_contracts/contracts-and-dollars.html); Wildlife Habitat Incentive Program FY 2010 WHIP Contracts and Dollars Obligated, [http://www.nrcs.usda.gov/programs/whip/fy10contract\\_info/acres-and-dollars.html](http://www.nrcs.usda.gov/programs/whip/fy10contract_info/acres-and-dollars.html); FY 2010 EQIP contracts and dollars obligated, <http://www.nrcs.usda.gov/programs/eqip/2010data/acres-and-dollars.html>; CSP Number of Contracts and Dollars Obligated on Active Contracts – Contract Fiscal Year 2010, [http://www.nrcs.usda.gov/programs/new\\_csp/2010contractsdollars.html](http://www.nrcs.usda.gov/programs/new_csp/2010contractsdollars.html).

<sup>452</sup> <http://www.nrcs.usda.gov/technical/NRI/ceap/>

<sup>453</sup> For more information on the Conservation of Private Grazing Land (CPGL) initiative, Conservation Technical Assistance Program (CTA), and Grazing Land Conservation Initiative (GLCI), see <http://www.nrcs.usda.gov/programs/>.

<sup>454</sup> Mississippi River Basin Healthy Watersheds Initiative, NRCS, USDA, [http://www.nrcs.usda.gov/programs/mrbi/mrbi\\_overview.html](http://www.nrcs.usda.gov/programs/mrbi/mrbi_overview.html).

<sup>455</sup> U.S. EPA, FY 2011, *supra* note 422, at 303.

<sup>456</sup> USDA NRCS, Mississippi River Basin Healthy Watershed Initiative, 2010 Conservation Activities (2011), available at [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcsdev11\\_023950.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcsdev11_023950.pdf).

years 2010–2013.<sup>457</sup> In 2010, the initiative provided financial and technical assistance totaling \$32.86 million through 724 contracts in 12 states. This included 131 contracts (totaling \$8.39 million) in Mississippi, and 19 contracts (totaling \$0.38 million) in Louisiana. In 2011 programs will provide \$46.11 million in technical and financial assistance.<sup>458</sup>

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<sup>457</sup> See USDA, News Release, *Agriculture Secretary Vilsack Announces Major Initiative to Improve Health of Mississippi River Basin*, Sept. 29, 2009, available at <http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=2009/09/0463.xml>.

<sup>458</sup> *Id.*

**Table 14. USDA conservation and restoration programs**

<b>Program</b>	<b>2010 Acres Enrolled and Obligations (in Gulf States)</b>	<b>Compensation Standards</b>	<b>Authorized Scope of Program (nationally)</b>
<b>Wetlands Reserve Program</b>	99,756 acres \$258,797,693	<i>Per acre:</i> <u>Permanent easements</u> – the lowest of (a) fair market value, (b) any geographical cap set by regulation, or (c) landowner’s offer <u>30-year easements</u> – ≤ 75% of cost of a permanent easement  <i>For restoration projects:</i> <u>Permanent easements</u> – 75-100% cost share for restoration projects <u>30-year easements</u> – 50-75% cost share ≤ \$50,000 per farm/year	3.041 million acres
<b>Wildlife Habitat Incentive Program</b>	456,684 acres \$15,814,222	≤ 90% of cost of installing conservation practices ≤ \$50,000 per farm/year	\$85 million annually through 2012
<b>Environmental Quality Incentives Program</b>	2,401,164 acres \$249,027,044	<i>Per acre:</i> ≤ 100% of estimated foregone income to implement a conservation practice ≤ 75% of planning and implementing conservation practices; ≤ \$300,000 per farm/6-year period, or \$450,000 for projects with “special environmental significance”	Mandatory funding of \$7.325 billion for FY 2008-12 from the Commodity Credit Corporation
<b>Conservation Stewardship Program</b>	3,069,253 acres \$35,024,016	Uses a “pay for conservation performance” model instead of per-acre rental rate, with average cost of \$18 per acre/year ≤ \$40,000 per farm/year	Secretary directed to enroll 12.77 million acres/year
<b>Conservation Reserve Program*</b> *2009	5,549,680 acres \$215,026,000	\$51.4/acre (national average) ≤ 50% share of conservation costs; up to \$50,000 per farm/year	32 million

The NRCS also has a variety of international programs that might provide opportunities for increased collaboration with Mexico.<sup>459</sup> The Scientific Cooperation Program is a professional

<sup>459</sup> International Programs, NRCS, USDA, <http://www.nrcs.usda.gov/programs/international/>.

exchange program that allows scientists from government agencies, universities, and other institutions to share knowledge with their counterparts at the USDA about several issues, including habitat protection. NRCS staff frequently attend international meetings, traveling most often to Canada and Mexico.<sup>460</sup>

USDA's Farm Service Agency operates another important easement program, the Conservation Reserve Program. To provide wildlife habitat and promote water quality, landowners receive payments for fallowing agricultural lands. In 2009, 22.7 million acres were under contract in the Mississippi River Basin and over 5.5 million acres were under contract in the five Gulf states (mostly in Texas).<sup>461</sup>

In sum, USDA provides several prominent funding mechanisms for water quality and conservation and easement efforts. Along with several FWS efforts, USDA's NRCS programs are also one of the key pathways for working with private landowners to increase habitat protection. Many of the programs work via incentive to encourage conservation by private landowners.

## *ii. State entities*

In Alabama, there are three primary agencies with habitat related responsibilities and authorities. The Alabama Coastal Area Management Plan is administered by two agencies: the **Alabama Department of Conservation and Natural Resources** (ADCNR) is responsible for planning and management, while the **Alabama Department of Environmental Management** (ADEM) oversees permitting, regulations, and enforcement. ADCNR is also responsible for marine fisheries management (Marine Resources Division); acquisition and preservation of natural areas (State Parks Division); managing, conserving, and enhancing the state's wildlife and aquatic resources (Wildlife and Freshwater Fisheries Division); and on-water enforcement (Marine Police).<sup>462</sup> ADEM was created by the Alabama Environmental Management Act of 1982, and in addition to administering most major federal laws in the state (such as the Clean Water Act) also administers the coastal watershed survey program, conducts beach monitoring, conducts federal consistency reviews, and provides funding and technical assistance to local governments for coastal resource management issues.<sup>463</sup> Finally, the **Alabama Department of Economic and Community Affairs'** Office of Water Resources manages Alabama's water

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<sup>460</sup> 2009 Annual Report, International Programs Division, NRCS, USDA, [http://www.nrcs.usda.gov/programs/international/IPD\\_Annual\\_Report\\_2009.pdf](http://www.nrcs.usda.gov/programs/international/IPD_Annual_Report_2009.pdf).

<sup>461</sup> Farm Service Agency, Conservation Reserve Program: Annual Summary and Enrollment Statistics-FY 2009, [http://www.fsa.usda.gov/Internet/FSA\\_File/fyannual2009.pdf](http://www.fsa.usda.gov/Internet/FSA_File/fyannual2009.pdf).

<sup>462</sup> Alabama Department of Conservation and Natural Resources, About Us, <http://www.dcnr.state.al.us/about/>.

<sup>463</sup> See Alabama Department of Environmental Management, Coastal Programs, <http://www.adem.alabama.gov/programs/coastal/default.cnt>.



resources management programs, under the Alabama Water Resources Act and advised by the Alabama Water Resources Commission.<sup>464</sup>

Two agencies in Florida lead habitat protection efforts. First, the **Florida Department of Environmental Protection (FDEP)** is the lead environmental management agency, administering the state's permitting and regulatory programs, land and water conservation programs, and Florida's coastal management program. Within FDEP, the Office of Coastal and Aquatic Management Areas oversees the state's 41 aquatic preserves and coordinates with NOAA on the management of the three National Estuarine Research Reserves in the state and the Florida Keys National Marine Sanctuary. The FDEP's Coastal Management Program implements the 24 statutes related to protecting and enhancing the state's coastal resources, and passes through funds to state agencies, water management districts, and local coastal governments.<sup>465</sup> It works with the state's five Water Quality Districts on water management. Second, several state entities were merged to create the **Florida Fish and Wildlife Commission** in 1999. The Commission manages Florida's fish and wildlife to ensure their continued health, use, and enjoyment. The Commission issues licenses and permits for fish and game activities, conducts research and monitoring of habitats and fish and wildlife, and enforces federal and state natural resources laws and regulations, including the Florida Fish and Wildlife Habitat Program and the Florida Manatee Sanctuary Act.<sup>466</sup>

The **Louisiana Department of Natural Resources (LDNR)** Office of Coastal Management protects the state's coastal wetlands. It regulates human uses and activities and manages coastal resources through its Permits/Mitigation Division and Interagency Affairs, Field Services, and Compliance Division. The former implements the Louisiana Coastal Resources Program and the Coastal Use Permit Program, including compensatory mitigation actions. The latter provides assistance for and approves local coastal programs, conducts federal consistency reviews, is developing the Coastal Nonpoint Pollution Control Program, is the state lead for the Coastal and Estuarine Land Conservation Program, and is responsible for oil spill planning, response, and natural resource damage assessment (NRDA) activities.<sup>467</sup> The **Louisiana Governor's Coastal Protection and Restoration Authority (LCPRA)** was established in 2005, replacing the Wetlands Conservation and Restoration Authority, and tasked with developing and implementing a comprehensive coastal protection plan. LCPRA is intended to integrate

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<sup>464</sup> See Alabama Department of Economic and Community Affairs, Office of Water Resources, <http://www.adeca.state.al.us/Office%20of%20Water%20Resources/default.aspx>.

<sup>465</sup> Florida Department of Environmental Protection, About the Florida Coastal Management Program, <http://www.dep.state.fl.us/cmp/about.htm>.

<sup>466</sup> Florida Legislature's Office of Program Policy Analysis and Government Accountability, Fish and Wildlife Conservation Commission, <http://www.oppaga.state.fl.us/profiles/6147/>.

<sup>467</sup> Louisiana Department of Natural Resources, Office of Coastal Management, <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=85>.

coastal restoration and hurricane protection efforts across state agencies and offices, and in coordination with federal, state, and local entities aims to “establish a safe and sustainable coast that will protect our communities, the nation’s critical energy infrastructure and our bountiful natural resources for generations to come.”<sup>468</sup> LCPRA issued a Master Plan in 2007, and is scheduled to publish an updated and expanded Master Plan in 2012. The **Governor’s Office of Coastal Protection and Restoration** (LOCPR) implements LCPRA’s policies and the state Master Plan.<sup>469</sup> The **Governor’s Office of Coastal Activities** coordinates the Master Plan and the state’s other various coastal policies.<sup>470</sup>

The **Louisiana Department of Wildlife and Fisheries** (LDWF) manages the state’s wildlife and aquatic life. LDWF’s objectives are “to manage, conserve, and promote wise utilization of Louisiana’s renewable fish and wildlife resources and their supporting habitats” through a variety of activities including protection, enhancement, research, and development; and to provide opportunities to enjoy a safe and healthy environment.<sup>471</sup> LDWF oversees the Louisiana Artificial Reef Program, and the state’s shrimp and oyster programs. Finally, the **Louisiana Department of Environmental Quality** seeks to implement comprehensive environmental protection in the state. It administers water permits pursuant to Louisiana’s water quality regulations, and is responsible for surface water quality standards and TMDLs for impaired water bodies.<sup>472</sup>

Three primary state agencies lead Mississippi’s efforts to protect and restore habitat in the Gulf. First, marine resources programs and public trust wetlands are managed by the **Mississippi Department of Marine Resources** (MDMR). MDMR aims to “provide for the balanced commercial, recreational, education and economic uses of [marine] resources consistent with environmental concerns and social changes.”<sup>473</sup> Among other things, the Department oversees comprehensive coastal management and planning under the Mississippi Coastal Program; partners with NOAA to manage the Grand Bay National Estuarine Research Reserve; regulates fish and seafood harvesting; permits wetlands within the coastal zone; and patrols marine waters.<sup>474</sup> Second, the **Mississippi Department of Environmental Quality** (MDEQ) works to conserve and improve the Mississippi environment, and as relevant to habitat

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<sup>468</sup> See State of Louisiana, Coastal Protection and Restoration, CPRA, <http://www.coastal.la.gov/index.cfm?md=pagebuilder&tmp=home&nid=79&pnid=73&pid=75&catid=0&elid=0>; Louisiana State Legislature, Act No. 8 (SB 71/HB 141), First Extraordinary Session of 2005, available at <http://www.legis.state.la.us/billdata/streamdocument.asp?did=329530>.

<sup>469</sup> See State of Louisiana, Coastal Protection and Restoration, OCPRA, <http://www.coastal.la.gov/index.cfm?md=pagebuilder&tmp=home&nid=99&pnid=73&pid=91&catid=0&elid=0>.

<sup>470</sup> Office of Coastal Activities, Governor of Louisiana, <http://www.goca.state.la.us/>.

<sup>471</sup> Louisiana Department of Wildlife and Fisheries, About LDWF, <http://www.wlf.louisiana.gov/about-ldwf>.

<sup>472</sup> Louisiana Department of Environmental Quality, <http://www.deq.louisiana.gov/>

<sup>473</sup> Mississippi Department of Marine Resources, About Us, [http://www.dmr.state.ms.us/DMR/about\\_us.htm](http://www.dmr.state.ms.us/DMR/about_us.htm).

<sup>474</sup> *Id.*

conservation and restoration is responsible for water quality, permitting, and management.<sup>475</sup> The Environmental Quality Permit Board manages action on permits and certifications.<sup>476</sup> Finally, the **Mississippi Department of Wildlife, Fisheries, and Parks** (MDWFP) implements the Mississippi Nongame and Endangered Species Conservation Act, issues fishing and hunting permits, and manages natural heritage areas and wildlife refuges designated under the Mississippi Natural Heritage Law and the Mississippi Wildlife Refuge Codes.<sup>477</sup>

In Texas, the **Texas Commission on Environmental Quality** (TCEQ) aims to protect the state's environment by balancing natural resources and sustainable economic development. Among other things, TCEQ houses permitting programs that include water quality, storm water, and mining and mineral extraction permits.<sup>478</sup> It is also the lead state agency for conservation and management plans under the Texas Estuaries Act, and implements various other bay and estuary programs. In addition, the **Texas Parks and Wildlife Department** (TPW) conserves, protects, and enhances Texas fish and wildlife resources. TPW develops and maintains a system of public lands that currently includes 93 state parks and 51 wildlife management areas, and provides assistance to local governments for land acquisitions; regulates and enforces commercial and recreational fishing, hunting, and boating; and monitors, protects, and enhances state aquatic and wildlife habitats.<sup>479</sup> The Coastal Resources Division of the **Texas General Land Office** (TGLO) strives to maintain an ecological and economically healthy Gulf, and provides funding for coastal erosion, works to attain sound coastal development, and protects public beach access.<sup>480</sup> It also administers state and federal funds through the Coastal Erosion Planning and Response Act, the Coastal Impact Assistant Program, Coastal management Program, Beach Maintenance Reimbursement Fund, and Coastal and Estuarine Land Conservation Program.<sup>481</sup> The Texas Coastal Coordination Council (TCCC), comprised of both public and private members, is the TGLO entity responsible for administering the Texas Coastal Management Program. Finally, the **Texas Railroad Commission** regulates oil and gas development in the state.<sup>482</sup>

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<sup>475</sup> Mississippi Department of Environmental Quality, Surface Water Division, [http://www.deq.state.ms.us/MDEQ.nsf/page/SurfaceWater\\_home?OpenDocument](http://www.deq.state.ms.us/MDEQ.nsf/page/SurfaceWater_home?OpenDocument).

<sup>476</sup>

<sup>477</sup> See Mississippi Wildlife, Fisheries, and Parks, <http://home.mdwfp.com>.

<sup>478</sup> Texas Council on Environmental Quality, About the TCEQ, <http://www.tceq.texas.gov/about>; Permits and Registrations, [http://www.tceq.texas.gov/permitting/business\\_permitting.html](http://www.tceq.texas.gov/permitting/business_permitting.html).

<sup>479</sup> Texas Parks and Wildlife Department, Financial Overview (Feb. 2011), at 1, available at [http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd\\_rp\\_a0900\\_0679\\_02\\_11.pdf](http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_rp_a0900_0679_02_11.pdf); see also Texas Parks and Wildlife Department, Divisions and Offices, <http://www.tpwd.state.tx.us/business/about/divisions/>.

<sup>480</sup> Texas General Land Office, What We Do, Caring for the Coast, <http://www.glo.texas.gov/what-we-do/caring-for-the-coast/index.html>.

<sup>481</sup> *Id.* at Grants & Funding.

<sup>482</sup> Texas Railroad Commission, <http://www.rrc.state.tx.us/about/divisions/aboutog.php>.

In sum, when it comes to habitat conservation and restoration, there is significant variation among the management and administration structures and resources in the five Gulf states. In general, relevant legal authorities and responsibilities are divided between multiple entities in each state. Louisiana is the only state to have a formal body established specifically to coordinate coastal management across state agencies and with federal and local partners.

### *iii. Regional entities*

The **Gulf of Mexico Alliance** (GOMA) is a partnership between the five Gulf states aimed at ensuring a healthy Gulf through increased regional coordination and collaboration. The states are supported by a Workgroup of 13 federal agencies, which includes the EPA Gulf of Mexico Program, NOAA, the Army Corps of Engineers, and the Department of the Interior. The Alliance also works with nongovernmental organizations in the region, and with the six Mexican states that border the Gulf.<sup>483</sup> GOMA's six priority areas for 2009–2014 are water quality for healthy beaches and seafood, habitat conservation and restoration, ecosystems integration and assessment, reducing nutrient impacts to coastal ecosystems, coastal community resilience, and environmental education.<sup>484</sup> Among other things, in 2008 the Gulf of Mexico Foundation released a Habitat Conservation and Restoration Team (HCRT) Priority Issue Recommendations Synthesis that fleshes out issues summarized in the GOMA Governors' Action Plan II and details steps forward.<sup>485</sup> GOMA actions are supported by funding from EPA's Gulf of Mexico Program, and were included in the FY2011 funding request for the newly established Mississippi River Basin Program.<sup>486</sup> Following the BP Deepwater Horizon Oil Spill in April 2010, GOMA also administers the Gulf of Mexico Research Initiative (GRI), a research program focused on spill and response impacts funded by a \$500 commitment from BP.<sup>487</sup>

The **Gulf of Mexico Foundation** (GMF) is a nongovernmental and non-profit organization that promotes conservation of the Gulf of Mexico. The Foundation supports individual, community, and private efforts to preserve the Gulf's environmental, economic, and cultural resources. GMF has provided over \$10 million in financial support to more than 90 conservation and restoration projects, from community-based to region-wide efforts targeting policy, implementation,<sup>488</sup> and on-the-ground improvements. For example, GMF provided funding from NOAA and the EPA Gulf of Mexico Program to support the development of the Gulf of

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<sup>483</sup> GOMA, About the Alliance, <http://gulfofmexicoalliance.org/about/about.html>.

<sup>484</sup> Gulf of Mexico Alliance, Governors' Action Plan II for Healthy and Resilient Coasts (2009-2014), available at <http://www.gulfofmexicoalliance.org/index.php>.

<sup>485</sup> Gulf of Mexico Foundation, *Priority Issue Recommendations Synthesis*, Gulf of Mexico Alliance Habitat Conservation and Restoration Team (2008).

<sup>486</sup> See *supra* text surrounding notes 419–425.

<sup>487</sup> GOMA, <http://gulfofmexicoalliance.org>.

<sup>488</sup> Gulf of Mexico Foundation, Conservation and Restoration, <http://www.gulfmex.org/conservation-restoration/>.

Mexico Regional Habitat Restoration Web Portal, which seeks to collate information and educate the public about Gulf of Mexico restoration activities.<sup>489</sup>

Comprised of federal staff, state staff, and other state-nominated and federally appointed members, the **Gulf of Mexico Fishery Management Council** (Gulf FMC) prepares fishery management plans for Gulf fishery resources primarily located in federal waters pursuant to the Magnuson-Stevens Fishery Conservation and Management Act.<sup>490</sup> Fishery resources primarily located in state waters are managed by the **Gulf States Marine Fisheries Commission** (Gulf States MFC), pursuant to a compact signed by the five Gulf states in 1949.<sup>491</sup> Three representatives from each state establish policy and direct Commission activities, which are funded by the member states, federal grants, and special contracts.<sup>492</sup> The Gulf FMC and Gulf States MFC have collaborated on a Habitat Program since 1997. In addition to determining whether projects in the Gulf may be adversely affecting habitat, after developing an EFH amendment for the Gulf FMC the Habitat Program is now developing an annotated bibliography of fishing impacts on habitat and working to address derelict crab traps in the region.<sup>493</sup>

The **Northern Gulf Institute** is a partnership between NOAA and five Gulf research institutions: Mississippi State University (lead), University of Southern Mississippi, Louisiana State University, Florida State University, and Dauphin Island Sea Lab. It was formed through a Memorandum of Agreement, which established a Cooperative Institute with NOAA's Office of Oceanic and Atmospheric Research. NGI focuses on integration research through four theme areas: ecosystem-based management, geospatial data/information and visualization in environmental science, climate change and climate variability effects on regional ecosystems, and coastal hazards and resiliency.<sup>494</sup> The program received \$4.5 million in FY2010, although the funding was proposed for termination in FY2011.<sup>495</sup>

In sum, the Gulf of Mexico Alliance is the leading coordination mechanism in the Gulf of Mexico. With representatives from almost all relevant state and federal agencies, GOMA is able to facilitate information-sharing and collaborative planning. However, GOMA does not

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<sup>489</sup> See Gulf of Mexico Regional Habitat Restoration Web Portal, <http://webportal.gulfmex.org/Mission.html>.

<sup>490</sup> Gulf of Mexico Fishery Management Council, <http://www.gulfcouncil.org/>.

<sup>491</sup> The compact was approved by the President on May 19, 1949. Pub. Law 81-66 (1949), available at <http://www.gsmfc.org/images/GSMFC%20Compact%20page%201.jpg>. The compact states that its purpose is to "promote the better utilization of the fisheries, marine, shell and anadromous, of the seaboard of the Gulf of Mexico, by the development of a joint program for the promotion and protection of such fisheries and the prevention of the physical waste of the fisheries from any cause." *Id.* art. I.

<sup>492</sup> Gulf States Marine Fisheries Commission, Overview: Funding, <http://www.gsmfc.org/#:links@3:content@2>.

<sup>493</sup> Gulf States Marine Fisheries Commission, GSMFC Habitat Program, <http://www.gsmfc.org/#:links@7:content@6>.

<sup>494</sup> Northern Gulf Institute, NGI Research Themes, <http://www.northerngulfinstitute.org/about/themes.php>.

<sup>495</sup> NOAA FY2011 Budget, *supra* note 429, at 368.

have binding authority and cannot restrict or require individual state or agency actions. This limits the HCRT's ability to revise or reform the existing habitat conservation and restoration framework.

Aside from GOMA, there are relatively few region-wide organizations actively focused on habitat conservation and restoration. The Gulf of Mexico Foundation is a leading funder of habitat-related projects, and works closely with GOMA, EPA, and NOAA to ensure the efforts it funds are coordinated with state and federal objectives and needs. State and federal fisheries management and research is centralized in the Gulf of Mexico Fishery Management Council and the Gulf States Marine Fisheries Commission. Although inherently limited to fisheries habitat, these bodies provide a binding forum for Gulf-wide actions related to habitat conservation and restoration.

### ***3. Comparing the Distribution of Authority***

The distribution of authority between federal and state entities varies between Mexico and the United States. One of the primary distinctions between the two countries' structures for marine management is the lack of Mexican state jurisdiction over a defined coastal zone and the resources within it, whereas in the United States the states have primary authority out to either three nautical miles from shore (Alabama, Louisiana, and Mississippi) or nine nautical miles from shore (Texas and the Gulf coast of Florida). The Mexican federal and state governments may enter into agreements for joint planning and implementation of the federation's ocean laws, but there is no explicit or inherent state authority in most areas of marine management. Table 15 summarizes the distribution of cross-cutting and sector-specific multilateral/bilateral, federal, and states authorities relevant to habitat conservation and restoration in Mexico and the United States.

**Table 15. Mexico and United States State and Federal Authorities**

Sector / Jurisdiction	Bilateral & Multilateral & International (parties)	Mexico-Federal	Mexico-State	US-Federal	US-State
<b>Cross-cutting Regulation</b>					
<b>Ocean jurisdiction</b>	Bilateral boundary treaties in place between United States & Mexico	0–200 miles	No explicit authority in law	3/9–200 miles (some authority retained 0–3 or 0–9 miles)	0–3 or 0–9 miles main authority (some influence in federal waters—e.g., federal consistency authority)
<b>Endangered &amp; threatened species</b>	Convention on Biological Diversity (Mexico) CITES (US, Mexico) Convention for the Protection of Migratory Birds and Game Mammals (US, Mexico) Inter-American Convention for the Protection and Conservation of Sea Turtles (US, Mexico)	Sole authority (includes wetlands, sea turtles, etc.)		Main authority	Potential delegated authority and ability to create additional protection under state law
<b>Marine mammals</b>	IWC (US & Mexico), CITES	General wildlife law BUT only protects endangered species (no MMPA); sole authority if endangered	Authority for species not under special protection	Main authority	Potential delegated authority (rare in practice)
<b>Marine protected areas</b>		Sole authority in marine environment		Authority in federal waters (possible state waters)	Authority in state waters
<b>Onshore protected areas (e.g. wetlands &amp; estuaries)</b>	RAMSAR			Federal can protect under CWA and specific federal sites (e.g., NEP & NERR)	States can protect under CWA and state laws
<b>Water quality</b>		Authority in federal waters	Authority in state waters	Joint authority with states	Federal government delegates
<b>Environmental assessment</b>	MOU (DOI-SEMARNAP) <i>Proposed agreement under NAAEC (trilateral-US, Canada, Mexico)</i>	General Law of Ecological Balance and Environmental Protection – concurrent environmental	General Law of Ecological Balance and Environmental Protection – concurrent	Authority under NEPA	No “little NEPAs” in Gulf of Mexico states

Sector / Jurisdiction	Bilateral & Multilateral & International (parties)	Mexico-Federal	Mexico-State	US-Federal	US-State
		assessment authority (with states), except sole federal authority in instances listed in Article 28	environmental assessment authority (with federal) in all instances except those listed in Article 28		
<b>Sector-Specific</b>					
<b>Fisheries</b>	International Convention for the Conservation of Atlantic Tunas – tuna and billfish (Mexico, US)	Authority for regulation at sea in terms of closed fisheries, determinations of protected fisheries, total catch and seasons to fish	Authority for land-based activities (landings, processing etc)	Federal fisheries authority	State fisheries authority; potential joint enforcement of federal fisheries; participate on regional councils
<b>Coastal management</b>	None	Main authority	No explicit authority in law	CZMA provides federal mechanism to influence state regulation (grant-based program)	Largely a product of state law and regulation (e.g., land use law)
<b>Tourism</b>	NAFTA—CEC Bilateral treaty on tourism—no environmental provisions	Concurrent	Concurrent	Little to no direct regulation of tourism (potential regulation of its impacts)	Nearshore tourism largely a product of state and local land use law
<b>Shipping</b>	IMO	Sole authority		Main authority: EPA = discharge from ships & emissions; CG enforcement, customs	States can influence with specific laws (e.g. discharge & emissions requirements)
<b>Ports</b>		Sole authority—ports administration can be granted to private parties		Authority over customs, enforcement, discharges (EPA)	Authority over land use, discharges, development
<b>Oil and gas</b>	Treaty in place now <i>Efforts to develop trilateral treaty (Cuba, Mexico, US)</i>	Sole authority		Federal waters	State waters

Key: CITES—Convention on International Trade in Endangered Species of Wild Fauna and Flora; IWC—International Whaling Commission; RAMSAR—Convention on Wetlands of International Importance, especially as Waterfowl Habitat; NAFTA—North American Free Trade Agreement; CEC—Commission for Environmental Cooperation; IMO—International Maritime Organization; CZMA—Coastal Zone Management Act.



## B. Regional Activities, Development Goals, and Management Plans

The Gulf of Mexico region is diverse ecologically, socially, and economically. In the U.S. and Mexico, key economic activities include the oil and gas industry, tourism, fisheries, and agriculture, among others. Many of these activities, which create short-term economic prosperity, are often the same activities that lead to long-term environmental degradation and loss of natural capital.<sup>496</sup>

This section briefly summarizes regional activities and development goals and plans that focus on improving the Gulf Coast economies and considers the potential for broader transboundary conservation and restoration actions that could accompany these goals and plans.

### 1. Mexico

#### *Mexico Regional Activities*

In the 1993-2006 period, coastal states have contributed 36% to the Gross Domestic Product (GDP). The Gulf of Mexico and Caribbean Sea state GDP includes mining activity, extraction of oil in Campeche, and tourism in Quintana Roo.<sup>497</sup>

The oil industry and associated activities occur mostly in the coastal and marine areas of the Gulf of Mexico. These areas generate gainful employment opportunities, contribute to economic development in coastal regions, and in general add to the viability of the country's public finances. However, the industry is not without negative impacts on the environment related to normal activity, such as leaks and spills.<sup>498</sup>

The maritime transport and port activity have represented an important means of exchange between Mexico and the rest of the world. The national port system is made up of 116 ports and enabled terminals: 101 are ports and 15 are terminals; 57 are in the Pacific and 59 in the Gulf of Mexico and the Caribbean; and 66 are for traffic of height and cabotage and 48 for cabotage only.<sup>499</sup>

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<sup>496</sup> See, e.g., David Batker, Isabel de la Torre, Robert Costanza, Paula Swedeen, John Day, Roelof Boumans, & Kenneth Bagsta, *Gaining Ground: Wetlands, Hurricanes, and the Economy: The Value of Restoring the Mississippi River Delta*, 40 ENVTL. L. REPORTER 11106 (2010) (estimating the value of Mississippi River Delta ecosystem services to be \$12-47 billion annually with human-caused losses valuing \$41 billion over the next 80 years if we take a "do nothing" approach to addressing the problems).

<sup>497</sup> National Policy for Seas and Coasts, *supra* note 6, at 13.

<sup>498</sup> *Id.* at 17.

<sup>499</sup> *Id.* at 18.

## *Mexico Development Goals*

This section describes the contents of the National Development Plan 2007-2012, and mentions parts of the two State Development Plans (Campeche and Yucatan) related to restoration and conservation goals in the Gulf of Mexico. The National Development Plan is an instrument provided in the Act of Planning, whose purpose is to specify the overall objectives, strategies, and priorities for the integral development of the country. It contains forecasts on the resources that will be allocated for such purposes; determines the global, sectoral, and regional guidelines; and its provisions refer to the economic and social activities of the entire country.

The **National Development Plan 2007-2012** establishes environmental sustainability as one of its main public policies. Along this axis in particular, it establishes the need to develop policies for integrated management and sustainable use of oceans and coast.<sup>500</sup> Therefore care should be taken to ensure there is steady recovery of marine species that are caught, and to establish clear cross-regulations that aim to establish sustainable uses and conservation of marine and coastal resources, so that all sectors involved commit themselves to their protection and conservation.

Products of the implementation of this strategy are the Ecological Marine Plan of the Gulf of Mexico (forthcoming), the creation of the Interministerial Commission on Oceans and Coasts (CIMARES), and the development of the National Policy on Seas and Coasts.

Every six years, the States also are obligated to establish a State Development Plan that aligns with the National Development Plan. Thus the six states along the Gulf of Mexico should have a plan with regional development objectives adjusted to the practical realities of each state.

The State Development Plan is made, approved, and published within six months of the date on which the Governor of the State takes office, and its entry into force shall not exceed six years. Because of this, and given that in some States there are new elected Governors (e.g., Quintana Roo, Tamaulipas, Veracruz), the analysis is limited to those States that already have a State Plan of Development. States that are not described here are currently preparing their Plans.

The **State Development Plan of Campeche** does not provide a specific section for the conservation of the environment as such. However, there is a strategy called "sustainable use" within the second axis, economic growth, which includes two lines of action that relate to the

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<sup>500</sup> President of the United Mexican States, 2007–2012 National Development Plan, Axis 4: 4.5 Ecological Management (2007), available at [http://pnd.calderon.presidencia.gob.mx/pdf/PND\\_2007-2012.pdf](http://pnd.calderon.presidencia.gob.mx/pdf/PND_2007-2012.pdf).

environment: implementing policies that promote the sustainable development of the State and promoting ecological land management.

There are two issues (called pillars in the Plan) of particular relevance in terms of the preservation and restoration of the Gulf of Mexico within the **State Development Plan of Yucatan** for 2007–2012:

- *The second pillar, regional development for balanced growth:* This pillar brings together public policies focused on regional planning and urban and rural development; it also includes protection of the environment and social and productive infrastructure.
- *The third pillar, modern economic building:* This pillar contains public policies aimed at creating the conditions for a modern State economy, aimed at sustainable and diversified development. Public policies for improving regulatory and administrative simplification; actions aimed at promoting the growth of agriculture, forestry, fisheries, industrial, services and tourism sectors; the improvement and increase in the creation of work places; actions for the promotion of productivity and competitiveness; policies to give certainty to development, and, with regard to these sectors, the promotion of innovation and technological linking.

## 2. United States

The U.S. Gulf of Mexico is home to the majority of U.S. offshore oil and gas development, some of the busiest U.S. ports, and a majority of commercial fisheries among the lower-48 states. Louisiana alone has ten major navigation routes and five of the busiest ports in the country by tonnage.<sup>501</sup> Louisiana's commerce represents 19% of all U.S.-born commerce, and twenty-six percent of commercial fish landings in lower-48 are in Louisiana.<sup>502</sup>

In addition to specific activities of the Gulf States, the Gulf of Mexico is the receiving water body for the Mississippi River watershed, meaning that industrial, agricultural and other non-point sources of pollution from thirty-one states, and even part of Canada, in this massive watershed, affect the health and resilience of the Gulf of Mexico.<sup>503</sup>

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<sup>501</sup> State of Louisiana, Coastal Protection and Restoration Authority, *Integrated Ecosystem Restoration and Hurricane Protection: Louisiana's Comprehensive Master Plan for a Sustainable Coast* (2007), available at <http://coastal.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&nid=24&pnid=0&pid=28&fmid=0&catid=0&elid=0>.

<sup>502</sup> *Id.*

<sup>503</sup> See, e.g., EPA, Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, at <http://water.epa.gov/type/watersheds/named/msbasin/index.cfm>.

This section briefly summarizes the economic development goals of the Gulf States and identifies those aspects of the economic development plans that address or potentially affect the Gulf of Mexico.

Florida's 2010-2015 economic development plan, *Roadmap to Florida's Future*, includes the marine sector as a key sector to expand in order to diversify Florida's economy.<sup>504</sup> It identifies the following potential industries: biosensor development for environmental monitoring and chemicals and materials extracted from marine organisms that can be used for commercial purposes, including potential biotechnology uses.<sup>505</sup> Ocean energy is also identified as a future opportunity.<sup>506</sup> The plan recognizes that the maritime security industry is a growing sector even during the economic downturn, including port security and maritime tracking.<sup>507</sup> It also calls for upgrading seaports along with accompanying transportation routes to enable increased global commerce.<sup>508</sup> The plan recognizes the importance of land use and economy and calls for "improve[d] timeliness of permitting and regulatory approvals."<sup>509</sup> It calls for expanding efforts to use brackish and saltwater resources to address freshwater supply needs.<sup>510</sup> Finally, despite recognizing the importance of quality of life and the utility of natural assets, the plan creates no recommendations related to the ocean as a natural asset or its role in creating a sense of place.<sup>511</sup>

Alabama's Comprehensive Economic Development Strategy recognizes the importance of its natural resources.<sup>512</sup> In describing the economic situation of Alabama, the Strategy states that "Alabama's wetlands hold some of the greatest biodiversity on the continent with over 20 percent of the nation's freshwater passing through the state's waterways."<sup>513</sup> Furthermore, it recognizes that "many of these areas remain unprotected from development."<sup>514</sup> The Strategy also points out that Alabama generally lacks community and regional planning and has weak land development regulations.<sup>515</sup> Port development is viewed as one of several transportation and infrastructure opportunities to bolster the economy. Included in the strategy is an overall

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<sup>504</sup> ENTERPRISE FLORIDA, ROADMAP TO FLORIDA'S FUTURE: 2010-2015 STRATEGIC PLAN FOR ECONOMIC DEVELOPMENT 6. The plan is required under FLORIDA STAT. § 288.905(2).

<sup>505</sup> *Id.* at 14.

<sup>506</sup> *Id.* at 17.

<sup>507</sup> *Id.* at 19.

<sup>508</sup> *Id.* at 77.

<sup>509</sup> *Id.* at 56.

<sup>510</sup> *Id.* at 59.

<sup>511</sup> *Id.* at 83.

<sup>512</sup> In addition to the state plan, each region has a plan. Region 8 include's Alabama's coastal counties. Its plan can be found at: <http://ceds.alabama.gov/wp-content/uploads/2011/05/Region-8-CEDS-2007.pdf>.

<sup>513</sup> Alabama Comprehensive Economic Development Strategy (ACEDS), The Economic Situation of the State and the Regions, <http://ceds.alabama.gov/the-economic-situation-of-the-state-and-the-regions/>.

<sup>514</sup> *Id.*

<sup>515</sup> ACEDS, An Analysis of Economic Development Issues: Common Themes, <http://ceds.alabama.gov/an-analysis-of-economic-development-issues/common-themes/>.

vision for “environmental vitality,” which includes goals to promote sound management of natural capital, protect critical environmental areas, and fostering environmental stewardship.<sup>516</sup>

Mississippi has the third busiest U.S. port in the Gulf of Mexico with potential to expand its capacity, and the state’s ports are among its chief economic assets.<sup>517</sup> The Southern Mississippi Planning and Development District includes all coastal counties, among others, and has developed an economic strategy for 2007-2012.<sup>518</sup> Target areas for economic development include shipbuilding, among others.<sup>519</sup> In coastal counties, in particular, potential economic development includes shipbuilding, petroleum and polymers, tourism, and oceanographic research and manufacturing among others.<sup>520</sup> Included in the region’s action plan items is a goal to facilitate public health and welfare, which includes researching economic and social impacts on wetlands, identifying pollution problems, improving sewer systems, and encouraging land use that aligns with floodplain management.<sup>521</sup>

Louisiana has regional economic development plans, and Regions 1, 3, 4, and 5 comprise the coastal regions. In Region 1, the area that includes New Orleans, the planning vision includes the following key issue areas: regional collaboration, economic equity, workforce, infrastructure, changing perceptions, wetland restoration & conservation, and spurring entrepreneurship. For wetlands restoration and conservation, the goal is to “[p]rioritize projects that support wetland restoration and conservation efforts.”<sup>522</sup> To achieve this goal, the plan lists two objectives: (1) “Create awareness that restoration is of national significance due to energy security;” and (2) “Identify niche opportunities where local technology and/or products can be used for restoration purposes.”<sup>523</sup> In order to implement these objectives, the plan calls for the development of a coastal protection plan that is developed in collaboration with all stakeholders.

Region 3, just west of Region 1, has a draft plan available.<sup>524</sup> Several goals relate to the Gulf of Mexico. Goal 1, to “[i]mprove the region’s public infrastructure in order to support and sustain

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<sup>516</sup> ACEDS, The Vision of the Regional Councils for Sustainable Economic Prosperity: Environmental Vitality, <http://ceds.alabama.gov/the-vision-of-the-regional-councils-for-sustainable-economic-prosperity/environmental-vitality/>.

<sup>517</sup> Southern Mississippi Planning and Development District, Comprehensive Economic Development Strategy 2007-2012, available at [http://www.smpdd.com/assets/Planning/publications/SMPDD\\_CEDS\\_2012.pdf](http://www.smpdd.com/assets/Planning/publications/SMPDD_CEDS_2012.pdf).

<sup>518</sup> *Id.*

<sup>519</sup> *Id.*

<sup>520</sup> *Id.*

<sup>521</sup> *Id.*

<sup>522</sup> *Id.* at 58.

<sup>523</sup> *Id.*

<sup>524</sup> South Central Planning and Development Commission, Comprehensive Economic Development Strategy (2010), available at <http://www.scpdc.org/wp-content/uploads/CEDS-2010-Final-Draft.pdf>.

a viable economy and environment,” includes objectives to improve infrastructure as well as flood protection and drainage.<sup>525</sup> Goal 3 is to “[i]mprove the region’s overall capacity to make efficient land use decisions,” and to achieve this goal the plan calls for the development of practices to reduce vulnerability to severe weather, mitigation for flood-prone areas, and use of pervious pavement to reduce runoff.<sup>526</sup> Goal 6 calls for the protection and conservation of natural uses and the equitable use of those resources. To achieve this goal, the plan objectives call for conservation, improvement of barrier islands and wetlands, recognition of the value of open spaces including wetlands, and promoting ecotourism. Finally, Goal 7 calls for improvements to the region’s emergency response and recovery systems in case of accidents or disasters.

In Region 4, the Acadiana region, there is no comprehensive plan available but one appears to be under development.<sup>527</sup> Region 5, on the Texas border, has three main goals: economic development, community development, and transportation. None of the goals or objectives focus specifically on the Gulf of Mexico.

As an example, Texas has a Gulf Coast Economic Development District that includes thirteen counties near the coast, including Harris and Galveston Counties, which has adopted a comprehensive economic plan.<sup>528</sup> One of the major needs identified for the region is disaster recovery and community resilience. Goals of the region include economic development, coordination, and raising awareness about issues affecting quality growth including environmental issues. Other county-level plans also exist for the Gulf Coast.

### **3. Potential Joint U.S.-Mexico Actions**

Overall, U.S. Gulf Coast economic plans are limited in their recognition of natural capital and are especially limited in their recognition of the value and protection needs in the marine environment. All U.S. Gulf Coast state recognize the crucial importance of global trade and the economic value of their ports.

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<sup>525</sup> *Id.* at 19.

<sup>526</sup> *Id.*

<sup>527</sup> For a summary of the project goal, see [http://www.ardd.org/GOVERNMENT\\_eda.html](http://www.ardd.org/GOVERNMENT_eda.html).

<sup>528</sup> Gulf Coast Economic Development District, 2009-2011 Comprehensive Economic Development Strategy (adopted July 17, 2009), available at [http://www.h-gac.com/community/community/economic-development/documents/comprehensive\\_economic\\_development\\_strategy.pdf](http://www.h-gac.com/community/community/economic-development/documents/comprehensive_economic_development_strategy.pdf).

Few regional efforts include bilateral approaches to addressing transboundary challenges. However, there are some issues of particular importance for transboundary coordination, cooperation, and management including approaches that address:

- Activities that move between the waters of Mexico and the US (e.g. shipping);
- Activities that can have transboundary impacts (e.g., oil spills, commercial fishing); and
- Activities that require transboundary solutions (e.g., invasive marine species in the Gulf of Mexico).

The U.S. Restoration Task Force Executive Order as written largely targets domestic restoration.<sup>529</sup> However, there is no explicit requirement for such a focus, opening the door to the potential opportunity to creating international goals and milestones that would support an even broader Gulf of Mexico restoration effort.

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<sup>529</sup> There is no mention of the other Gulf nations, and the Task Force structure targets domestic rather than international agencies and bodies.





### APPENDIX III.

## THE INTERNATIONAL CONTEXT: BILATERAL AND INTERNATIONAL AGREEMENTS AND LESSONS LEARNED FROM OTHER REGIONS

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## **A. International, Multilateral, and Binational Agreements**

Many Mexican and U.S. federal agencies work to manage resources in and near the Gulf of Mexico. Some Mexican and U.S. agencies have joint non-binding agreements to address shared resources. For environmental issues, Mexican and U.S. joint efforts concentrate in the terrestrial and freshwater environments with considerably less ocean and coastal efforts described (Table 16). Therefore, many bilateral institutional efforts could be expanded or refined to better include ocean and coastal resources.

**Table 16. Mexico's Management Authorities and U.S. Equivalents<sup>530</sup>**

<b>Mexican Agency:</b> Ministry of the Environment and Natural Resources (Secretaria de Medio Ambiente y Recursos Naturales) [SEMARNAT]
<p><b>Role:</b> Broad authority related to environmental protection, hazardous materials, forestry and soil, wildlife protection, ocean and coastal zones, and air emissions.</p> <p><b>U.S. Federal Equivalent:</b> Department of the Interior (DOI), Department of Commerce (DOC), Environmental Protection Agency (EPA), U.S. Department of Agriculture</p> <p><b>Relevant Agreements &amp; Partnerships: (1)</b> U.S.-Mexico Border 2012 Program<sup>531</sup> with SEMARNAT &amp; EPA as lead agencies. Its mission is to protect the environment and public health in the border region.<sup>532</sup> It is focused mainly on terrestrial and freshwater environments.<sup>533</sup> <b>(2)</b> Memorandum of Understanding between the Department of the Interior of the United States of America and the Secretariat of Environment, Natural Resources and Fisheries of the United Mexican States to Work Jointly in Matters Related to the Protection and Conservation of the Environment (DOI-SEMARNAP MOU)<sup>534</sup></p>
<b>Mexican Agency:</b> Federal Agency of Environmental Protection (Procuraduria Federal de Proteccion del Ambiente) [PROFEPA] (under SEMARNAT)
<p><b>Role:</b> Natural resource enforcement under the following laws: General Act of Ecological Balance and Environmental Protection (LGEEPA-1996), the Forestry Act (1997), the National Water Act, the Land Act, the Soil Conservation Act, the Fishery Act, the National Property Act and the General Act on Human Settlements.<sup>535</sup></p> <p><b>U.S. Federal Equivalent:</b> Ocean enforcement agencies include DOI, DOC (National Oceanic and Atmospheric Administration, NOAA), U.S. Coast Guard, &amp; EPA. States have joint enforcement agreements with NOAA to participate in fisheries enforcement</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified.</p>
<b>Mexican Agency:</b> Office of Wildlife of the Ministry of the Environment and Natural Resources (under SEMARNAT)
<p><b>Role:</b> Conservation and protection of biodiversity including marine mammals, sea turtles, and endangered aquatic species</p>

<sup>530</sup> Raul Valdez et al., *Wildlife Conservation and Management in Mexico*, 34 WILDLIFE SOCIETY BULLETIN 270 (2006); JULIA FRAGA & ANA JESUS, COASTAL AND MARINE PROTECTED AREAS IN MEXICO 7-8 (2008).

<sup>531</sup> EPA, *What is Border 2012?*, <http://www.epa.gov/usmexicoborder/framework/index.html>.

<sup>532</sup> Border region defined by La Paz Agreement as "62.5 miles (100 kilometers) on each side of the international border." *Id.*

<sup>533</sup> EPA, US-MEXICO ENVIRONMENTAL PROGRAM: BORDER 2012, *available at* <http://www.epa.gov/Border2012/news/NCM-Fact-Sheet-English.pdf>.

<sup>534</sup> See Memorandum of Understanding between the Dep't of the Interior of the United States of America and the Secretariat of Environment, Natural Resources and Fisheries of the United Mexican States to work jointly in matters related to the protection and conservation of the environment (2000), *available at* <http://www.doi.gov/intl/agreements/Secretariat-of-Environment-Natural-Resources-and-Fisheries-Mexico.cfm>.

<sup>535</sup> PROFEPA, *Our History*, [http://www.profepa.gob.mx/innovaportal/v/1402/1/mx/our\\_history.html](http://www.profepa.gob.mx/innovaportal/v/1402/1/mx/our_history.html).

<p><b>U.S. Federal Equivalent:</b> DOI’s Fish and Wildlife Service (USFWS), DOC’s NOAA, U.S. Coast Guard</p> <p><b>Relevant Agreements &amp; Partnerships:</b> Wildlife Without Borders-Mexico with multiple Mexican agencies and USFWS participating. The program’s mission is to preserve shared natural heritage.<sup>536</sup> It is mainly focused on terrestrial species.<sup>537</sup></p>
<p><b>Mexican Agency:</b> National Commission of Natural Protected Areas (Comisión Nacional de Areas Naturales Protegidas) [CONANP] (under SEMARNAT)</p> <p><b>Role:</b> Establishment, management and enforcement of national protected areas.</p> <p><b>U.S. Federal Equivalent:</b> NOAA’s National Marine Sanctuaries Program (marine areas), National Park Service (mainly terrestrial or coastal), FWS (national wildlife refuges—35 in Gulf with a coastal or marine component)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> National Park Service and its Mexican counterparts have worked together for decades.<sup>538</sup> In the 1970s and 1980s, the U.S. and Mexico partnered to support the Kemp’s ridley sea turtle at Padre Island National Seashore. In 1988, NPS and SEMARNAT signed an MOU: Memorandum of Understanding between the National Park Service of the United State of America, and the Secretariat of Urban Development and Ecology, United Mexican States, on Cooperation in Management and Protection of National Parks and Other Protected Natural and Cultural Heritage Sites, with Annex. In 1996, the U.S., Mexico and Canada developed the Trilateral Committee for Wildlife and Ecosystem Conservation, which included the North American Marine Protected Area Network (NAMPAN). Beginning in 1997, the U.S. and Mexico initiated a “Sister Park” concept that enables coordinated management. In 2006, NPS and CONANP signed the Sister Park Declaration. While the U.S. Padre Island National Seashore and the Laguna Madre y Delta del Rio Bravo Park in Mexico are close in proximity, they are not considered “Sister Parks” under this agreement.</p>
<p><b>Mexican Agency:</b> National Institute of Ecology (Instituto Nacional de Ecología) [INE] (under SEMARNAT)</p> <p><b>Role:</b> Generate scientific and technical information on environmental challenges, support decision-making, promote the sustainable use of natural resources, and support the Ministry of Environment and Natural Resources.</p> <p><b>U.S. Federal Equivalent:</b> The U.S. does not have a corresponding agency. However, many U.S. agencies engage in research related to ocean and coastal habitat restoration and conservation.</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified.</p>
<p><b>Mexican Agency:</b> National Water Commission (Comisión Nacional del Agua) [CONAGUA] (under SEMARNAT)</p> <p><b>Role:</b> Manage and preserve national to achieve its sustainable use, including ground and surface water resources as well working with other agencies to address clean beaches.</p>

<sup>536</sup> USFWS, Mexico (Feb. 2010), available at

<http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/MEXFS2010.pdf>.

<sup>537</sup> Gulf of Mexico marine species benefitting from this program include: West Indian manatee and seven species of sea turtle.

See USFWS, WILDLIFE WITHOUT BORDERS-MEXICO: ACTIVITIES REPORT 1995-2006, available at

[http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/2007\\_MexicoReport.pdf](http://www.fws.gov/international/dic/regionalprograms/mexico/pdf/2007_MexicoReport.pdf).

<sup>538</sup> CONANP & National Park Service, Shared Heritage – Shared Stewardship: U.S. – Mexico Cooperation in Parks and Protected Areas, available at [http://www.nps.gov/oia/around/Presentations/Sister\\_Park\\_History\\_NPS\\_CONANP.pdf](http://www.nps.gov/oia/around/Presentations/Sister_Park_History_NPS_CONANP.pdf).

<p><b>U.S. Federal Equivalent:</b> EPA</p> <p><b>Relevant Agreements &amp; Partnerships:</b> U.S.-Mexico Border 2012 Program<sup>539</sup> (see SEMARNAT section for more information).</p>
<p><b>Mexican Agency:</b> Geography and Census Bureau (Instituto Nacional de Estadística y Geografía) [INEGI]</p> <p><b>Role:</b> The purpose of the Bureau is to collect, process, and disseminate information about the land, population, and the economy in order to generate statistical and geographical information.</p> <p><b>U.S. Federal Equivalent:</b> U.S. Geological Survey (USGS)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> U.S. – Mexico Border Environmental Health Initiative (BEHI) is a joint initiative led by USGS, INEGI and other agencies in order to develop transboundary information using watershed boundaries to define region of joint action. The goal of this effort is to provide a transboundary framework to understand and address disease-causing agents in the environment and examine linkages between human and environmental health.</p>
<p><b>Mexican Agency:</b> Ministry of Livestock, Agriculture, Rural Development, Fisheries, and Foods (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca, y Alimentación) [SAGARPA]</p> <p><b>Role:</b> To promote development of the countryside and seas to enable sustainable use of resources, sustained growth and balanced development. Its jurisdiction extends to agriculture, animal husbandry, fisheries, and rural development.</p> <p><b>U.S. Federal Equivalent:</b> U.S. Department of Agriculture (agriculture and animal husbandry) and NOAA's NMFS (fisheries)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> MOU between USDA, the Office of the U.S. Trade Representative, SAGARPA, and the Mexican Secretariat of Economy, which creates a Consultative Committee on Agriculture.<sup>540</sup> The MOU focuses on increasing the dissemination of information on bilateral trade. An annex to this agreement focuses on improving and strengthening agricultural trade relationships.</p>
<p><b>Mexican Agency:</b> National Commission for Aquaculture and Fisheries (Comisión Nacional de Acuacultura y Pesca) [CONAPESCA] (within SAGARPA)</p> <p><b>Role:</b> Manages fishery resources.</p> <p><b>U.S. Federal Equivalent:</b> National Marine Fisheries Service (NMFS)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> U.S.-Mexico Fisheries Cooperation Program<sup>541</sup> whose creates three MOUs to formalize the fisheries relationship between the U.S. and Mexico: (1) MEXUS-Gulf research program, (2) MEXUS-Pacifico research program, and (3) information exchange.</p>
<p><b>Mexican Agency:</b> Secretariat of Communications and Transportation (Secretaría de Comunicaciones y Transportes) [SCT]</p> <p><b>Role:</b> Ports and navigation</p>

<sup>539</sup> EPA, *What is Border 2012?*, <http://www.epa.gov/usmexicoborder/framework/index.html>.

<sup>540</sup> Memorandum of Understanding between the United States Department of Agriculture and the Office of The United States Trade Representative, and the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food and the Secretariat of Economy of the United Mexican States Regarding Areas of Food and Agricultural Trade (2002), available at <http://www.usda.gov/news/releases/2002/04/moumexico.htm>.

<sup>541</sup> A program summary is available at <http://www.nmfs.noaa.gov/ia/bilateral/docs/US-Mexico2008-1.pdf>.

<p><b>U.S. Federal Equivalent:</b> U.S. Coast Guard, Department of Transportation</p> <p><b>Relevant Agreements &amp; Partnerships:</b> U.S./Mexico Joint Working Committee on Transportation Planning. Mexican members include SCT, Secretariat of Foreign Relations, Baja California, Chihuahua, Coahuila, Nuevo Leon, Sonora, and Tamaulipas. U.S. members include the U.S. Federal Highway Administration, Department of State, the Mexican Secretariat, Texas, New Mexico, California, and Arizona. Its mission is cooperation on <i>land</i> transportation between U.S. and Mexico (it does not address shipping).</p>
<p><b>Mexican Agency:</b> Navy Secretariat (Secretaría de Marina) [SEMAR]</p> <p><b>Role:</b> Defends nation's waters and monitors ocean pollution.</p> <p><b>U.S. Federal Equivalent:</b> Department of Defense (defending water), U.S. Coast Guard (enforcing pollution requirements on the water), and EPA</p> <p><b>Relevant Agreements &amp; Partnerships:</b> Informal efforts between SEMAR, USCG, and DOD related to maritime security.<sup>542</sup></p>
<p><b>Mexican Agency:</b> Health Secretariat (Secretaría de Salud) [SSA]</p> <p><b>Role:</b> Addresses contamination that may affect public health.</p> <p><b>U.S. Federal Equivalent:</b> EPA, Food and Drug Administration (FDA)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> Memorandum of Cooperation: Cooperation in the Scientific and Regulatory Fields of Health, which is an EPA and SSA agreement focused on food and product safety.</p>
<p><b>Mexican Agency:</b> Secretariat of Tourism (Secretaría de Turismo) [SECTUR]</p> <p><b>Role:</b> Promotes and regulates tourism-related activities</p> <p><b>U.S. Federal Equivalent:</b> International Trade Administration, Office of Travel and Tourism Industries</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified.</p>
<p><b>Mexican Agency:</b> Secretariat of Agrarian Reform (Secretaría de la Reforma Agraria) [SRA]</p> <p><b>Role:</b> Addresses communal land tenure</p> <p><b>U.S. Federal Equivalent:</b> None identified</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified</p>
<p><b>Mexican Agency:</b> Secretariat of Energy (Secretaría de Energía) [SENER]</p> <p><b>Role:</b> Driving the country's energy policy within the constitutional framework, to ensure the competitive supply, sufficient, high quality, economically viable and environmentally sustainable energy requires the development of national life.</p> <p><b>U.S. Federal Equivalent:</b> Department of Energy, DOI's Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)</p> <p><b>Relevant Agreements &amp; Partnerships:</b> None identified.</p>

<sup>542</sup> See, e.g., U.S. Coast Guard, Subcommittee Testimony (Mar. 2011), available at [http://www.cbp.gov/linkhandler/cgov/newsroom/congressional\\_test/southwest.ctt/southwest.pdf](http://www.cbp.gov/linkhandler/cgov/newsroom/congressional_test/southwest.ctt/southwest.pdf).

**Mexican Agency: National Petroleum Company (Petróleos Mexicanos) [Pemex]**

**Role:** To carry out the exploration and exploitation of oil and other strategic activities of the national oil industry. In order to carry out these activities, subsidiary bodies were established with legal personality and patrimony: Pemex Refining, Pemex Exploration and Production, Pemex Gas and Basic Petrochemicals, and Pemex Petrochemicals.

**U.S. Federal Equivalent:** None identified

**Relevant Agreements & Partnerships:** None identified

**Mexican Agency: Secretariat of Governance (Secretaría de Gobernación) [SEGOB]**

**Role:** Jurisdiction over national islands and cays.

**U.S. Federal Equivalent:** None identified

**Relevant Agreements & Partnerships:** None identified

The remainder of this section explores the various international, multilateral, and/or bilateral agreements that could provide a foundation for continued and expanded collaboration and coordination.

### **1. International Agreements**

There are a broad range of international agreements that relate to the environment generally and the ocean specifically, ranging from the ocean umbrella treaty, the United Nations Convention on the Law of the Sea (UNCLOS), to the treaty establishing the World Trade Organization (not a direct environmental treaty but one that has environmental consequences).

The U.S. and Mexico are parties to many of the same international conventions that provide guidance on how to address transboundary ocean management (Table 17), including for example, the treaty establishing the International Maritime Organization which regulates international shipping, the International Whaling Convention, and the High Seas Compliance Agreement to address at-sea compliance and enforcement.

Overall, Mexico has ratified more ocean/environmental treaties than the U.S. One of the greatest U.S. gaps from the international ocean law perspective is that it has yet to ratify UNCLOS. While Mexico has ratified UNCLOS, it has yet to ratify the related Straddling Stocks Agreement—a treaty designed to enable regional management of overlapping fish stocks.

**Table 17. Environmental and Ocean Treaties Ratified by the U.S. and Mexico**

	FAO	UNESCO	WTO	UNFCCC	UNCLOS	IAEA	OECD	IMO	
Mexico	X	X	X	X	X	X	X	X	
USA	X	X	X	X		X	X	X	
	UCH	WHC	CITES	CBD	Cartagena (Biosafety)	Basel	Kyoto	Ramsar	Bonn
Mexico	X	X	X	X	X	X	X	X	
USA		X	X					X	*
	IWC	SSA	HSC	SC	Cartagena (Caribbean)	LC	LC 1996	MARPOL	SOLAS
Mexico	X		X	X	X	X	X	X	X
USA	X	X	X		X	X		X	X

KEY TO TABLE ABBREVIATIONS	
1. Broad Scope Treaties	2. Narrowly Tailored Treaties
<u>FAO</u> Food & Agriculture Organization	<u>UCH</u> UNESCO Convention on Underwater Cultural Heritage
<u>UNESCO</u> UN Educational, Scientific & Cultural Organization	<u>WHC</u> UNESCO World Heritage Convention
<u>WTO</u> World Trade Organization	<u>CITES</u> Convention on the International Trade of Endangered Species
<u>UNFCCC</u> United Nations Framework Convention on Climate Change	<u>CBD</u> Convention on Biological Diversity
<u>UNCLOS</u> United Nations Convention on the Law of the Sea	<u>Cartagena (Biosafety)</u> Cartagena Protocol on Biosafety to the CBD
<u>IAEA</u> International Atomic Energy Agency	<u>Basel</u> Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
<u>IMO</u> International Maritime Organization	<u>Kyoto</u> Kyoto Protocol to the UNFCCC
<u>OECD</u> Organization for Economic Cooperation and Development	<u>Ramsar</u> Ramsar Agreement (Convention on Wetlands of Int'l Import...)
	<u>Bonn</u> Bonn Agreement (Convention on the Conservation of Migratory Species)
	<u>IWC</u> International Whaling Commission
	<u>SSA</u> Straddling Stocks Agreement
	<u>HSC</u> High Seas Compliance Agreement
	<u>SC</u> Stockholm Convention on Persistent Organic Pollutants
	<u>Cartagena (Caribbean)</u> Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region
	<u>LC</u> London Dumping Convention
	<u>LC 1996</u> 1996 Protocol to the London Dumping Convention
	<u>MARPOL</u> International Convention for the Prevention of Pollution From Ships 1973/1978, Annex I & II only
	<u>Basel</u> Basel Treaty on the Control of Transboundary Waste
	<u>SOLAS</u> Safety of Life at Sea (1974) – does not include following protocols

\* USA is a signatory to the MOUs for sea turtles and sharks (but not a party to the convention)



## **2. Regional Multilateral Agreements**

Mexico and the United States are both parties to the Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region (Cartagena Convention). The regional seas convention opened for signature in 1983 and entered into force in 1986, and since its creation has been supplemented by protocols on cooperation in combating oil spills (1986), specially protected areas and wildlife (2000), and pollution from land-based sources and activities (2010).<sup>543</sup> It provides an umbrella agreement for protecting and developing the Caribbean marine environment, including the Gulf of Mexico.

Among the provisions relevant to Gulf habitat conservation and restoration, Article 4 of the Convention states that all parties shall take all appropriate measures “to prevent, reduce and control pollution of the Convention area and to ensure sound environmental management,” and that they “shall assist each other in fulfilling their obligations.” Article 10 then describes that the parties will “individually or jointly, take all appropriate measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species, in the Convention area,” including designating protected areas and exchanging information about their administration and management. Finally, Article 12 notes that the parties will “undertake to develop technical and other guidelines to assist the planning of their major development projects in such a way as to prevent or minimize harmful impacts on the Convention area.”<sup>544</sup>

## **3. Bilateral Agreements**

The U.S. and Mexico have many bilateral treaties that are relevant to the ecosystem, society, and economy of the Gulf of Mexico. Only a few treaties directly relate to the ocean and/or Gulf of Mexico, specifically (Table 18). These treaties relate to maritime boundaries, salvage, search and rescue, and pollution of the marine environment.

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<sup>543</sup> UN Environment Programme, The Caribbean Environment Programme, *About the Cartagena Convention*, [www.cep.unep.org/cartagena-convention](http://www.cep.unep.org/cartagena-convention).

<sup>544</sup> Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region, 1506 UNTS 157 (1983), arts. 4, 10, 12.

**Table 18. US-Mexico Bilateral Treaties**

Treaty	Signed	Entered into force
Treaty for the sending of vessels for purposes of assistance and salvage. <i>49 Stat. 3359; TS 905; 9 Bevans 1015; 168 LNTS 135</i>	June 13, 1935 <i>Mexico</i>	Mar. 7, 1936
Mexican Waters Treaty (addressing Rio Grande River among others), 59 STAT. 1219	February 3, 1944	November 8, 1945
Convention for the Protection of Migratory Birds and Game Mammals <i>and</i> Agreement Supplementing the Convention of February 7, 1936, for the Protection of Migratory Birds and Game Animals <sup>545</sup>	Feb. 7, 1936; Mar. 10, 1972	Mar. 10, 1972
Agreement of cooperation regarding pollution of the marine environment by discharges of hydrocarbons and other hazardous substances, with annexes. <i>32 UST 5899; TIAS 10021; 1241 UNTS 225</i>	July 24, 1980 <i>Mexico</i>	Provisionally July 24, 1980; definitively Mar. 30, 1981
La Paz Agreement with Annexes (focuses on environment and human health in the boundary region (100 km on either side of the border) and includes maritime boundaries (Art. 4). Annex III addresses transboundary shipment of hazardous waste.)	La Paz August 14, 1983	February 16, 1984
Agreement on maritime search and rescue. <i>TIAS 11700; 1580 UNTS 385</i>	Aug. 7, 1989 <i>Mexico</i>	June 25, 1990
Treaty on maritime boundaries. <i>TIAS; 2143 UNTS 405</i>	May 4, 1978 <i>Mexico City</i>	Nov. 13, 1997
Treaty on the delimitation of the continental shelf in the western Gulf of Mexico beyond 200 nautical miles, with annexes. <i>TIAS; 2143 UNTS 417.</i>	June 9, 2000 <i>Washington, D.C.</i>	Jan. 17, 2001

In particular, the *Convention for the Protection of Migratory Birds and Game Mammals* and the supplementing agreement require the U.S. and Mexico to develop laws, regulations and provisions to establish close seasons, refuge zones that prohibit take at all times, and the killing of insectivorous birds with few exceptions, among others. Listed seabirds and other coastal birds include, for example, herons, egrets, bitterns, cormorants, oyster catchers, sea gulls, terns, pelicans, spoonbills, ibises, and flamingos, among many others.

While not a treaty, the DOI-SEMARNAP MOU between U.S. and Mexican agencies provides a platform upon which to cooperate to protect and conserve the Gulf of Mexico. Signed in 1995, the MOU specifically identifies the following potential cooperative actions:

- a. Conservation and restoration of land;
- b. Coordinated management in contiguous natural protected areas;
- c. Protection and management of natural protected areas; ...

<sup>545</sup> Convention for the Protection of Migratory Birds and Game Mammals (1936), available at [http://www.fws.gov/le/pdf/mexico\\_mig\\_bird\\_treaty.pdf](http://www.fws.gov/le/pdf/mexico_mig_bird_treaty.pdf).

- d. Protection of wild flora and fauna, including migratory and transboundary species;
- e. Enforcement of environmental laws with the areas under their respective jurisdiction;
- f. Management of coastal areas; ... [and]
- g. Environmental impact and risk assessment...<sup>546</sup>

However, the MOU also limits the bilateral actions related to protection of wild flora and fauna and enforcement to the extent that it overlaps with an existing trilateral (Canada/US/Mexico) MOU.<sup>547</sup>

Outside of specific agreements or MOUs, within existing U.S. laws there are mechanisms that already promote bilateral cooperation discussed in the previous sections. Table 19 provides a summary of U.S. laws that have some provisions that could support international or bilateral habitat conservation and restoration in the Gulf of Mexico.

**Table 19. U.S. Legal Provisions Providing Support for International Efforts**

Law	Description of Relevant Provisions
American Antiquities Act	No provisions related to international management/cooperation.
Clean Water Act	<p><b>Section 102. Comprehensive Programs for Water Pollution Control.</b> Enables the Administrator of EPA to provide matching grants to U.S. states for a comprehensive water quality control plan, including in areas where there international interests.</p> <p><b>Section 310. International Pollution Abatement.</b> Creates a mechanism to address U.S. pollution affecting the health or welfare of persons in a foreign country.</p> <p><b>Section 320. National Estuary Program.</b> Enables international agencies having jurisdiction over all or significant part of an estuary for which a management conference has been organized to assess the water quality and natural resources of the estuary, among other things.</p> <p><b>Section 7 (33 USC 1251) International Agreements.</b> Calls upon the President to enter into international agreements to control discharge of pollutants into the ocean.</p>
Coastal Wetlands Planning, Protection, and Restoration Act	No provisions related to international management/cooperation.
Coastal Zone Management Act	<b>Section 310. Technical Assistance.</b> Allows the Secretary to conduct a technical assistance program that furthers international cooperative efforts, among other

<sup>546</sup> DOI-SEMARNAP MOU, *supra* note 534, art. 2.

<sup>547</sup> *Id.*

	things.
Comprehensive Environmental Response, Compensation, and Liability Act	<b>Section 111. Uses of Fund.</b> Allows foreign claimants to assert claims under some circumstances.
Coral Reef Conservation Act	<b>Section 204. Coral Reef Conservation Program.</b> Up to 20% of grant funds can be used for emerging priorities or threats, including international priorities or threats to coral reefs. <b>Section 207. National Program.</b> Authorizes cooperative conservation and management of coral reefs with international partners and programs.
Endangered Species Act	<b>Section 8. International Cooperation.</b> This provision grants the U.S. President the authority to provide financial assistance to foreign countries for the conservation of endangered or threatened species listed under the U.S. Endangered Species Act. It also calls for the Secretary of State to encourage foreign countries to conserve endangered and threatened species and encourages the development of bilateral and multilateral agreements to achieve such objectives.
Estuary Protection Act	No provisions related to international management/cooperation.
Land and Water Conservation Fund Act	No provisions related to international management/cooperation.
Magnuson-Stevens Fishery Conservation and Management Act	<b>Section 102. Highly Migratory Species.</b> Calls for U.S. cooperation through international organizations with the management of highly migratory species. <b>Section 202. International Fishery Agreements.</b> Calls for the Secretary of State to negotiate treaties in order to conserve and manage anadromous and highly migratory species. It also calls upon the Secretary to develop an international treaty for bycatch reduction. <b>Section 607. Biennial Report on International Compliance.</b> Requires the Secretary of Commerce to provide a report to Congress every two years on the progress to end illegal, unreported and unregulated (IUU) fishing. <b>Section 608. Action to Strengthen International Fishery Management Organizations.</b> Calls for the Secretary of Commerce to take actions to encourage international fishery management organizations to adopt measures that halt IUU fishing including market-based measures, increased usage of observers, centralized vessel monitoring systems, and more. <b>Section 609. Illegal, Unreported or Unregulated Fishing.</b> Requires the Commerce Secretary to identify and list nations engaged in IUU fishing. <b>Section 610. Equivalent Conservation Measures.</b> Creates a program to list nations whose vessels are not achieving appropriate bycatch reduction and a system to encourage the adoption of bycatch measures that are equivalent to U.S. efforts. The provision also enables the Secretary to provide financial assistance to nations to achieve bycatch reduction, undertake research activities,

	develop appropriate technology, and implement appropriate fish harvesting plans.
Marine Debris Research, Prevention, and Reduction Act	<b>Section 4. Coast Guard Program.</b> Calls upon the Coast Guard to take actions to improve international cooperation to reduce marine debris.
Marine Mammal Protection Act	<b>Section 108. International Program.</b> Calls upon the Secretary of Commerce to initiate negotiations for developing bilateral or multilateral agreements to protect and conserve marine mammals
Marine Turtle Conservation Act	<b>In general.</b> The purpose of the act is to provide assist turtle conservation efforts in foreign countries by providing financial resources. Matching funds are preferred but not required. Funds are available to support nesting habitats of marine turtles and can include efforts to protect, restore, and manage such habitats; conduct research; enforce laws; train local law enforcement; and more.
Migratory Bird Conservation Act	<b>16 U.S.C. Section 715i. Administration.</b> Calls for the law to be implemented in accordance with existing treaty obligations including those with Mexico.
Migratory Bird Species Act	<b>In general.</b> Implements the US and Mexican treaty to address migratory bird species.
National Environmental Policy Act	<b>Section 208.</b> Allows the Council on Environmental Quality to make expenditures in support of international activities including implementation of international agreements.
National Marine Sanctuaries Act	<b>Section 201 Findings, Purposes, and Policies; Establishment of System.</b> Recognizes the importance of some international sites and allows the development of plans in conjunction with international organizations where appropriate. <b>Section 305. Application of Regulations, International Negotiations and Cooperation.</b> Calls upon the Secretary of Commerce to cooperate with other governments and international organizations in furtherance of the purpose and policies of the Act.
National Wildlife Refuge System Administration Act	No provisions related to international management/cooperation.
Nonindigenous Aquatic Nuisance Prevention and Control Act	<b>Section 1101. Aquatic Nuisance Species in Waters of the United States.</b> Calls for the U.S. to make regulations consistent with international regulations related to the transfer of nonindigenous aquatic species by vessel. It also specifically calls upon the Secretary to consult with Mexico when developing and implementing international programs for preventing introduction and spread of nonindigenous species. It calls for the U.S. to work with the International Maritime Organization (IMO) and the Commission on Environmental Cooperation to develop and implement international programs. <b>Section 1102. National Ballast Water Management Information.</b> Calls upon the Secretary to work through the IMO to negotiate with foreign countries on preventing and controlling the unintentional introduction of aquatic nuisance

	<p>species in coastal waters.</p> <p><b>Section 1206. International Cooperation.</b> The Secretary of State, along with the Aquatic Nuisance Species Task Force, is encouraged to negotiate with foreign nations to address aquatic nuisance species “infesting shared water resources.”</p>
North American Wetlands Conservation Act	<p><b>16 USC Section 4405 Conditions Relating to Wetlands Conservation Projects.</b> Enables the Secretary to provide federal funds to wetland conservation projects in Mexico that have been approved by the Migratory Bird Conservation Commission.</p> <p><b>16 USC Section 4407. Allocation of Amounts Available to Carry Out this Chapter.</b> Cost-sharing is required, and for projects in Mexico the cost sharing funds can include cash contributions from non-U.S. sources.</p> <p><b>16 USC Section 4410. Revisions to Plan.</b> Five-year review and revisions to the North American Waterfowl Management Plan are carried out in collaboration with officials from Mexico and Canada.</p>
Ocean Dumping Act	<p><b>Section 109 International Cooperation.</b> Calls for the Secretary of State, in consultation with the EPA Administrator, to seek effective international action to achieve law’s objectives.</p> <p><b>Section 202.</b> Calls for the Secretary of Commerce to consider international policies when conducting research on ocean dumping.</p>
Oil Pollution Act	<p><b>Section 1002. Elements of Liability.</b> Allows for foreign trustees to participate in the natural resource damages process where appropriate. (see also, Section 1006).</p> <p><b>Section 1006. Natural Resources.</b> States that natural resource damages liability is to foreign countries where appropriate and explains the nature of the foreign trustee role and the use of recovered sums.</p> <p><b>Section 1007. Recovery by Foreign Claimants.</b> Allows for foreign claimants to be compensated for removal costs or damages.</p> <p><b>Section 7001. Oil Pollution Research and Development Program.</b> Calls for coordination and cooperation with other nations on oil pollution research, development, and demonstration activities.</p>
Outer Continental Shelf Lands Act	No provisions related to international management/cooperation.
Park System Resources Protection Act	No provisions related to international management/cooperation.

## B. Lessons Learned from Other Regional Approaches

The following section summarizes approaches to transboundary water resources management in other regions. Lessons learned from these regions may inform the development of regional strategies in the Gulf of Mexico.

## 1. Baltic Sea

Shallow, brackish, and virtually land-locked, the Baltic Sea supports myriad unique ecosystems and is vulnerable to pollution. It is surrounded by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden, and the watershed is home to nearly 90 million people.<sup>548</sup> The following section highlights a few of the numerous efforts the littoral countries have initiated over the years to address Baltic Sea issues and challenges.

To address pollution in the Sea, the Convention on the Protection of the Marine Environment of the Baltic Sea Area was signed in 1974 and entered into force in 1980. It was replaced by a new version of the Convention, which was signed in 1992 and entered into force in 2000.

Commonly referred to as the Helsinki Convention, the agreement addresses the entire Baltic Sea area, including inland waters and land-based pollution sources. The ten contracting parties are the surrounding countries and the European Commission.<sup>549</sup> The preamble to the Helsinki Convention notes that the contracting parties “recogniz[e] that the protection and enhancement of the marine environment of the Baltic Sea Area are tasks that cannot effectively be accomplished by national efforts alone but by close regional co-operation and other appropriate international measures.”<sup>550</sup>

1992 also saw the adoption by the same ten contracting parties of the Baltic Sea Joint Comprehensive Environmental Programme (Joint Programme). The Joint Programme provides a 20-year (i.e. through 2012) management framework for long-term restoration of the Baltic Sea. Emphasis is placed on pollution reduction in the most heavily affected sites in the Sea, including identifying sources, reducing nutrient loads, and tracking and assessing hot spots.<sup>551</sup> A list of the 132 hot spots in the Baltic Sea catchment area indicates which have been restored and which remain to be addressed.<sup>552</sup>

The Convention is coordinated by, and the Joint Programme is implemented by, the Helsinki Commission (HELCOM). One of HELCOM’s principal duties is to issue recommendations to the

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<sup>548</sup> Commission of the European Communities, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Concerning the European Union Strategy for the Baltic Sea Region, COM(2008) 248 final (Brussels, Oct. 2009), at 6 [*hereinafter* EU Strategy for the Baltic Sea Region], available at [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/baltic/com\\_baltic\\_en.pdf](http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/com_baltic_en.pdf).

<sup>549</sup> Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), as amended (Nov. 2008), at 1, available at <http://www.helcome.fi>; United Nations Environment Programme, Regional Seas Programme, Baltic Sea, <http://www.unep.org/regionalseas/programmes/independent/baltic/default.asp>.

<sup>550</sup> Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992 (Helsinki Convention), as amended (Nov. 2008), at 1, available at <http://www.helcome.fi>.

<sup>551</sup> HELCOM, The Baltic Sea Joint Comprehensive Environmental Action Programme (JCP), [http://www.helcom.fi/projects/jcp/en\\_GB/pitf/](http://www.helcom.fi/projects/jcp/en_GB/pitf/).

<sup>552</sup> HELCOM, List of JCP Hot Spots in the Baltic Sea catchment area (as of Dec. 2009), available at <http://www.helcom.fi/stc/files/Projects/JCP/LISTperDEC09.pdf>.

contracting parties, which the parties then adopt through domestic legislation. It has issued over 200 such recommendations, including a dozen targeting habitat issues.<sup>553</sup> In 2003, the First Joint Ministerial Meeting of the Helsinki and OSPAR Commissions issued a decision stating the need to develop and implement an ecosystem approach to managing human activities in the marine environment.<sup>554</sup> This was echoed in the declaration issued from the 2010 HELCOM ministerial meeting.<sup>555</sup>

In 2007, HELCOM adopted a Baltic Sea Action Plan that focuses on four primary objectives: ameliorate eutrophication in the Sea and reduce hazardous substance levels to natural levels, while promoting maritime activities to be conducted in an environmentally friendly manner and achieving a favorable conservation status for biodiversity. It includes a series of actions designed to “achieve a Baltic Sea in good environmental status” by 2021.<sup>556</sup> The plan addresses the need for assessment and monitoring tools and methodologies, the importance of raising awareness and building capacity, and general funding issues.<sup>557</sup>

To address increasing pressure on the Baltic Sea Region, in 2009 the European Commission developed (and the European Council approved) a Strategy for the Baltic Sea Region, with an accompanying Action Plan. The multi-sectoral, macro-regional strategy addresses four primary elements: the region’s environment, economy, accessibility, and security.<sup>558</sup> It is designed to build from existing institutions, such as the Helsinki Convention and HELCOM, and is meant to serve as a model for macro-regional cooperation in other parts of the European Union. It focuses on the eight European Union member states in the region, and recognizes the need to cooperate closely with Russia, Norway, and Belarus.<sup>559</sup> The accompanying Action Plan identifies 15 priority areas where the Strategy can effectuate improvements, categorized according to the Strategy’s four focus areas and a cross-cutting category of horizontal issues.<sup>560</sup>

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<sup>553</sup> HELCOM, *Recommendations*, [http://www.helcom.fi/Recommendations/en\\_GB/front](http://www.helcom.fi/Recommendations/en_GB/front).

<sup>554</sup> Joint Ministerial Meeting of Helsinki & OSPAR Commissions, Recording of Meeting – Annex 8, Ref. § 6.33 (2003), available at <http://www.helcom.fi/stc/files/MinisterialDeclarations/HelcomOsparMinDecl2003.pdf>.

<sup>555</sup> The parties decided “to further develop the role of HELCOM as the main driving force of the implementation of the ecosystem approach to the management of human activities in the Baltic Sea marine areas also taking into account the role of other organisations.” HELCOM, Ministerial Declaration on the implementation of the HELCOM Baltic Sea Action Plan (Moscow, 2010), at 5, available at <http://www.helcom.fi/stc/files/Moscow2010/HELCOM%20Moscow%20Ministerial%20Declaration%20FINAL.pdf>.

<sup>556</sup> HELCOM, Baltic Sea Action Plan (adopted 15 Nov. 2007), at 5, 7, 13, 18, available at [http://www.helcom.fi/stc/files/BSAP/BSAP\\_Final.pdf](http://www.helcom.fi/stc/files/BSAP/BSAP_Final.pdf).

<sup>557</sup> *Id.* at 28-34.

<sup>558</sup> EU Strategy for the Baltic Sea Region, *supra* note 548; Jakob Granit, Stockholm International Water Institute, Presentation: Collective Action in the Baltic Sea Basin (May 2011).

<sup>559</sup> EU Strategy for the Baltic Sea Region, *supra* note 548, at 3, 5–11.

<sup>560</sup> Commission of the European Communities, Commission Staff Working Document Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Concerning the European Union Strategy for the Baltic Sea Region, SEC(2009) 712/2 (Brussels, updated May 2010) [*hereinafter* EU Action Plan for the Baltic Sea Region], available at [http://ec.europa.eu/regional\\_policy/sources/docoffic/official/communic/baltic/action\\_17122010\\_en.doc](http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/action_17122010_en.doc).



## 2. Great Lakes

Canada and the United States have long collaborated on the management of water quality and quantity of resources that cross their boundaries. The two nations signed the Boundary Waters Treaty in 1909, which seeks to reduce and resolve conflicts springing from these shared resources.<sup>561</sup> Among the water resources covered by the agreement are the Great Lakes-St. Lawrence River system and the Kootenay, Osoyoos, Columbia, St. Mary, Milk, Souris, Rainy, and St. Croix Rivers.<sup>562</sup> To help accomplish its objectives, the treaty established an International Joint Commission (IJC) comprised of three U.S. representatives (appointed by the President and approved by the Senate) and three Canadian representatives (appointed by the Governor in Council of Canada upon the Prime Minister's advice). The IJC can issue reports on any disputes or matters referred to it, although the reports are not binding upon the nation parties.<sup>563</sup>

The ICJ also oversees implementation of the Great Lakes Water Quality Agreement, which was first signed by the U.S. and Canada in 1972 (and has been subsequently renewed and amended). The Agreement states the parties' objective of restoring and maintaining the water's chemical, physical and biological integrity. To do so, the parties pledged "to make a maximum effort to develop programs, practices, and technology necessary for a better understanding of the Great Lakes Basin Ecosystem and to eliminate or reduce to the maximum extent practicable the discharge of pollutants."<sup>564</sup> The Agreement includes objectives, specific objectives, and standards linked to these purposes, and delineated various pollution sources that programs and measures should address.<sup>565</sup> In 2006, the IJC issued a report on the Agreement that, among more detailed recommendations, advised the parties to issue a "new, more action-oriented Agreement . . . that would present a bold and convincing statement of commitment by the Parties and address a broader array of stressors that impact on the quality of the waters of the Great Lakes basin ecosystem."<sup>566</sup>

A transboundary partnership also grew out of a partnership initially started within the United States. In 1955, the eight U.S. Great Lakes states—Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin—developed the Great Lakes Basin Compact. The Compact identified regional priorities and also established the Great Lakes Commission with the

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<sup>561</sup> TREATY BETWEEN THE UNITED STATES AND GREAT BRITAIN RELATING TO BOUNDARY WATERS, AND QUESTIONS ARISING BETWEEN THE UNITED STATES AND CANADA (1909) [*hereinafter* Boundary Waters Treaty]. The treaty prioritizes domestic and sanitary uses of waters above navigational uses, and both above power and irrigation uses. *Id.* art. VIII.

<sup>562</sup> See International Joint Commission, About Us, [www.ijc.org/en/background/ijc\\_cmi\\_nature.htm](http://www.ijc.org/en/background/ijc_cmi_nature.htm).

<sup>563</sup> Boundary Waters Treaty, *supra* note 561, arts. III, VII–IX.

<sup>564</sup> Great Lakes Water Quality Agreement of 1978 (signed at Ottawa, Nov. 22, 2978), art. II.

<sup>565</sup> *Id.* art. III–VI.

<sup>566</sup> IJC, Advice to Governments on their Review of the Great Lakes Water Quality Agreement—A Special Report to the Governments of Canada and the United States (Aug. 2006), at 1, available at <http://www.ijc.org/php/publications/pdf/ID1603.pdf>.

eight states as Members. The Canadian provinces of Quebec and Ontario became Associate Members in 1999.<sup>567</sup>

The Compact was congressionally approved in 1968, and is binding on each member state.<sup>568</sup> Their activities are intended to focus on four areas: promoting “orderly, integrated, and comprehensive development, use, and conservation” of Great Lakes water resources; conduct comprehensive planning for those water resources; ensure the public obtains maximum benefit from public works such as navigational aids; provide advice for attaining the proper balance between users (industrial, recreational, etc.) of Great Lakes resources. Activities to these ends are coordinated and furthered by the Great Lakes Commission. The Commission, comprised of delegations of three to five representatives per party state (each delegation gets three votes), issues recommendations that the member states agreed to consider.<sup>569</sup>

### **3. Gulf of Maine**

The Gulf of Maine, which spans the United States and Canada, supports myriad marine economies for the two countries, including commercial fishing, transportation, coastal development, and recreation.<sup>570</sup> The Gulf, including Georges Bank and the Bay of Fundy, is “among the most diverse, productive and complex marine temperate areas in the world.”<sup>571</sup> Known and emerging marine and coastal environmental issues in the Gulf of Maine include the impacts of aquaculture, commercial fishing, petroleum exploration and development, mining, coastal development and land use, invasive species, industrial chemicals and effluents, and microbial pathogens, as well as habitat degradation and loss.<sup>572</sup>

In light of these important resources and known and emerging impacts, the Gulf of Maine Council on the Marine Environment was established “to maintain and enhance environmental quality in the Gulf of Maine to allow for sustainable resource use by existing and future generations.”<sup>573</sup> Formed in 1989 by the relevant state Governors, the Council is a partnership

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<sup>567</sup> Great Lakes Basin Compact (1955), available at <http://www.glc.org/about/glbc.html>; Great Lakes Commission des Grands Lacs, Declaration of Partnership (1999), available at <http://www.glc.org/about/pdf/declarations.pdf>.

<sup>568</sup> Great Lakes Basin Compact, *supra* note 567, art. II; Great Lakes Commission, *About the Great Lakes Commission*, <http://www.glc.org/about>.

<sup>569</sup> Great Lakes Basin Compact, *supra* note 567, art. I, IV, VII.

<sup>570</sup> GULF OF MAINE COUNCIL ON THE MARINE ENVIRONMENT [*hereinafter* Gulf of Maine Council], GULF OF MAINE MARINE HABITAT PRIMER (2005), at 1.

<sup>571</sup> GULF OF MAINE COUNCIL, STATE OF THE GULF OF MAINE REPORT: THE GULF OF MAINE IN CONTEXT (2010), at 2 (citing K. Sherman & H.R. Skjoldal, Large Marine Ecosystems of the North Atlantic: Changing States and Sustainability (Elsevier, 2002)).

<sup>572</sup> GULF OF MAINE COUNCIL, STATE OF THE GULF OF MAINE REPORT: EMERGING ISSUES (2010), at tbl. 1; *see also* JOHN R. COON, A SURVEY AND SYNTHESIS OF SIGNIFICANT U.S. LAW AND PRIORITIES INFLUENCING GOVERNANCE IN THE GULF OF MAINE REGION—A SUMMARY REPORT SUBMITTED TO THE GULF OF MAINE COUNCIL ON THE MARINE ENVIRONMENT (Nov. 2005).

<sup>573</sup> Gulf of Maine Council, *About the Council, Mission & Principles*, <http://www.gulfofmaine.org/council/mission.php>.

of federal and state representatives from the U.S. states of Maine, Massachusetts, and New Hampshire and the Canadian provinces of New Brunswick and Nova Scotia; it also includes nongovernmental organizations and private sector representatives. The Council serves as a forum for information-sharing and planning for the shared water resources of the Gulf, and is administered through the U.S. Gulf of Maine Association, a 501(c)(3) nonprofit, and the Canadian Gulf of Maine Association.<sup>574</sup> The Secretariat rotates through the five jurisdictions, and through 2012 is located in New Brunswick.<sup>575</sup>

The Council does not have regulatory or policy-making authority. It operates by consensus, and votes are non-binding on members that oppose a proposal or abstain from voting on it.<sup>576</sup> Council decisions are guided by four principles: ecologically sustainable development, ecosystem-based planning and management, environmental protection through precaution, and public information and participation-based planning and management.<sup>577</sup> In addition to state and provincial leaders, the Council's target audience includes the local decision-makers, coastal communities, and academics and scientists.<sup>578</sup>

The Council develops periodic Action Plans to guide its activities. The 2007-2012 Action Plan identifies three primary goals: protect and restore coastal and marine habitats, foster environmental and human health, and support vibrant coastal communities.<sup>579</sup> Annual work plans are developed by the Council's Working Group, which also oversees implementation by the Council's five Committees. The five main committees focus on habitat, contaminants, maritime activities, crosscutting matters, and services, and each has multiple subcommittees. For example, for habitat there is a Habitat Conservation Subcommittee; a Habitat Monitoring Subcommittee; a Habitat Restoration Subcommittee; and a Gulf of Maine Mapping Initiative.<sup>580</sup>

#### **4. Benguela Current**

The Benguela Current runs along the southwestern African coast. Considered one of the most productive ocean areas on the planet, the region contains and supports numerous natural

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<sup>574</sup> Gulf of Maine Council, *About the Council*, <http://www.gulfofmaine.org/council>.

<sup>575</sup> Gulf of Maine Council, *About the Council, Secretariat*, <http://www.gulfofmaine.org/council/secretariat.php>.

<sup>576</sup> Gulf of Maine Council, *Operating Guidelines*, <http://www.gulfofmaine.org/council/internal/rh/opguidelines.doc>.

<sup>577</sup> Gulf of Maine Council, *About the Council, Mission & Principles*, <http://www.gulfofmaine.org/council/mission.php>.

<sup>578</sup> GULF OF MAINE COUNCIL, ACTION PLAN 2007-2012 (2007), at 6.

<sup>579</sup> *Id.*

<sup>580</sup> Gulf of Maine Council, *Committees and Task Forces*, <http://www.gulfofmaine.org/council/committees/>.

resources, from oil and gas to diverse species of zooplankton, fish, seabirds, and marine mammals.<sup>581</sup>

Over the past decade the Republics of Angola, Namibia, and South Africa have worked together to develop integrated and sustainable management of the coastal region. With support from the UN Development Programme, in 1997 representatives from the three countries established the BCLME Programme to identify, prioritize, and develop solutions for regional environmental issues and challenges. The Programme included a Transboundary Diagnostic Analysis (TDA), which contains an overview of transboundary issues, causes, and impacts; and a Strategic Action Programme (SAP), outlining a regional policy for integrated sustainable management.<sup>582</sup>

The SAP outlined the challenges the region faces, delineated the institutional foundation for internationally recognized cooperative action, and expressed the nations' commitment to enumerated policy actions to promote sustainable development. Specifically, the policy actions targeted sustainable management and utilization of living marine resources; management of mining and drilling activities; assessment of environmental variability, ecosystem impacts, and improvement of predictability; pollution management; maintenance of ecosystem health and protection of biological diversity; and capacity strengthening.<sup>583</sup> The SAP also required each member state to prepare a national strategic action plan, or its equivalent, to implement it.<sup>584</sup>

In addition to UNDP, the BCLME Programme received support from GEF. In 2002 the BCLME Programme began a five-year project, funded by GEF at \$38.74 million, to address ecosystem priorities identified in the TDA and SAP.<sup>585</sup> In addition to information and data collection, a major outcome of the project was the establishment of (and eventual absorption into) the Benguela Current Commission (BCC) in early 2007.<sup>586</sup> The BCC provides a forum for developing mechanisms to institute an ecosystem approach to managing the region, and is currently working to establish a binding agreement between the three member nations.<sup>587</sup> In March

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<sup>581</sup> UNDP & GEF, Project Document, *Integrated Management of the Benguela Current Large Marine Ecosystem (BCLME)*, No. RAF/00/G32/A/1G/31 (2001), at 4, [*hereinafter* UNDP & GEF, BCLME Project Document] available at [http://www.benguelacc.org/admin/publications/Publication\\_Project%20Document.pdf](http://www.benguelacc.org/admin/publications/Publication_Project%20Document.pdf).

<sup>582</sup> BCLME, *The Development of the BCLME Programme*, [www.bclme.org](http://www.bclme.org).

<sup>583</sup> BENGUELA CURRENT LARGE MARINE ECOSYSTEM PROGRAMME, STRATEGIC ACTION PROGRAMME (originally published Nov. 1999, updated Nov. 2002), at 9–11 [*hereinafter* BCLME SAP].

<sup>584</sup> *Id.* at 17.

<sup>585</sup> UNDP & GEF, BCLME Project Document.

<sup>586</sup> BENGUELA CURRENT COMMISSION, INTERIM AGREEMENT (signed 2006–2007) | Benguela Current Commission, Pamphlet—The Benguela Current Commission, available via <http://www.benguelacc.org/publication.php>.

<sup>587</sup> *Id.*

2011 it was reported that the countries are hoping to ratify a convention in 2012.<sup>588</sup> It currently has 14 projects under implementation (2009–2012), with budgets totaling \$4.77 million.<sup>589</sup>

## 5. Lessons Learned

The above sections outlined some of the efforts taken in different regions to address transboundary water resources. They were selected because they represent a range of resources, regions, and approaches.

**Table 20. Characteristics of Selected Other Regional Approaches**

Marine Body	Primary Marine Issue(s)	States Involved	Instruments & Bodies
Baltic Sea	Marine pollution	Denmark, European Union, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, and Sweden	Convention on the Protection of the Marine Environment of the Baltic Sea Area; Baltic Sea Joint Comprehensive Environmental Programme; Helsinki Commission; Baltic Sea Action Plan; Strategy for the Baltic Sea Region
Great Lakes	Marine pollution; invasive species	United States and Canada	Boundary Waters Treaty of 1909; Great Lakes Water Quality Agreement; International Joint Commission; Great Lakes Basin Compact; Great Lakes Commission
Gulf of Maine	Marine pollution; invasive species; loss of biodiversity; aquaculture and commercial fishing; habitat degradation from extraction activities; coastal development	United State (Maine, Massachusetts, and New Hampshire and Canada (New Brunswick and Nova Scotia)	Gulf of Maine Council on the Marine Environment
Benguela Current	Overharvesting; industrial development; water quality	Angola, Namibia, and South Africa	Benguela Current Commission

<sup>588</sup> BuaNews (Tshwane), *Ministers Converge to Discuss Benguela Current*, Mar. 24, 2011, <http://allafrica.com/stories/201103250028.html>.

<sup>589</sup> Benguela Current Commission, *BCC Projects under implementation 2009-2012*, available via <http://www.benguelacc.org/publication.php>.

There are numerous lessons to be drawn from the above examples. Broadly speaking, there are four overarching factors that should be carefully weighed when developing a regional body:

- The importance of considering the advantages and disadvantages of having multiple multilateral bodies working in a single region. Distributing authority among multiple regional bodies can decrease momentum and efficacy. If it is determined that different issues may most effectively be addressed by different bodies, it is critical to establish coordination mechanisms so that the bodies can cooperate meaningfully.
- Progress may be greatly aided by the development of clear objectives, implementation measures, and accountability mechanisms. This can be accomplished by developing actions programs, work plans, and/or other documents or strategies that delegate implementation responsibility for particular actions to specific parties.
- A significant factor is whether a regional entity has authority to issue binding decisions. Working with state-level leaders, the Great Lakes Basin Compact is binding on member parties because it was congressionally approved; conversely, the Gulf of Maine Council operates by consensus and does not have binding rule-making authority. At the national level, the nations that are party to the Helsinki Convention are expected to take domestic action to implement their decisions; the nations that are party to the Benguela Current Commission are working to develop a binding multilateral instrument.
- Successful collaborations often involve actors from various levels of government as well as nongovernmental entities. However, the number of parties can also increase the difficulty of the process; inclusivity should be emphasized but also balanced with process manageability. In the alternative, without the right members, certain types of regional challenges may be insurmountable.

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