

# GULF OF MEXICO HABITAT CONSERVATION & RESTORATION

## A LOOK AT THE FIVE U.S. GULF STATES' LEGAL AND INSTITUTIONAL FRAMEWORKS

*Prepared by the*  
Environmental Law Institute

*For the*  
Gulf of Mexico Alliance,  
Habitat Conservation and Restoration Team

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## About this Report

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## Table of Abbreviations

### Federal Laws

ARPA	Archaeological Resources Protection Act
CBRA	Coastal Barrier Resources Act
CIAP	Coastal Impact Assistance Program
CRCA	Coral Reef Conservation Act
CWA	Clean Water Act (Federal Water Pollution Control Act)
<i>NPDES</i>	<i>National Pollution Discharge Elimination System</i>
<i>TMDL</i>	<i>Total Maximum Daily Load</i>
<i>WQS</i>	<i>Water Quality Standard</i>
CWPPRA	Coastal Wetlands Planning, Protection, and Restoration Act
CZMA	Coastal Zone Management Act
ESA	Endangered Species Act
MMPA	Marine Mammal Protection Act
<i>ITP</i>	<i>Incidental Take Permit</i>
MSA	Magnuson-Stevens Fishery Conservation and Management Act
<i>EFH</i>	<i>Essential Fish Habitat</i>
<i>FMP</i>	<i>Fishery Management Plan</i>
<i>HAPC</i>	<i>Habitat Area of Particular Concern</i>
NHPA	National Historic Preservation Act
NMSA	National Marine Sanctuaries Act
OPA	Oil Pollution Act
<i>NRDA</i>	<i>Natural Resources Damage Assessment</i>
WRDA	Water Resources Development Act

### Institutions

#### Federal

Army Corps	U.S. Army Corps of Engineers
BOEM	Bureau of Ocean Energy Management, DOI (formerly Minerals Management Service)
BSEE	Bureau of Safety and Environmental Enforcement, DOI (formerly Minerals Management Service)
DOC	U.S. Department of Commerce
DOI	U.S. Department of the Interior
DOJ	U.S. Department of Justice
FWS	Fish and Wildlife Service, DOI
NMFS	National Marine Fisheries Service, NOAA, DOC
NOAA	National Oceanic and Atmospheric Administration, DOC
NOS	National Ocean Service, NOAA, DOC
NRCS	Natural Resources Conservation Service, USDA
USDA	U.S. Department of Agriculture

**Regional**

GOMA	Gulf of Mexico Alliance
HCRT	Habitat Conservation and Restoration Priority Issue Team

**Alabama**

ADCNR	Alabama Department of Conservation and Natural Resources
ADECA	Alabama Department of Economic and Community Affairs
ADEM	Alabama Department of Environmental Management

**Florida**

FDEP	Florida Department of Environmental Protection
FFWCC	Florida Fish and Wildlife Conservation Commission
FWMDs	Florida Water Management Districts

**Louisiana**

LOCA, LCPRA, LOCPR	Louisiana Office of the Governor: Office of Coastal Activities, Coastal Protection and Restoration Authority, Office of Coastal Protection and Restoration
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LDEQ	Louisiana Department of Environmental Quality

**Mississippi**

MDEQ	Mississippi Department of Environmental Quality
MDMR	Mississippi Department of Marine Resources
MDWFP	Mississippi Department of Wildlife, Fisheries, and Parks
MSOS	Mississippi Secretary of State

**Texas**

TGLO	Texas General Land Office
TCEQ	Texas Commission on Environmental Quality
TPWD	Texas Parks and Wildlife Department

## A. Introduction

The Gulf of Mexico possesses a wealth of diverse natural resources and hosts an array of economic activities that contribute to regional, national, and international markets. According to a recent report, “[r]estoring our coasts can create more than 30 jobs for each million dollars invested.”<sup>1</sup> The region supports myriad natural habitats that provide critical ecosystem services, from coastal resiliency to supporting the region’s important finfish and shellfish industries. Coastal wetlands are of particularly high importance for the region, as they constitute almost one-third of the Gulf coastal watershed.<sup>2</sup>

Decades of anthropogenic impacts and natural processes have degraded Gulf Coast resources. Human activities in the Gulf include, among others, extensive oil and gas extraction, commercial and recreational fishing, shellfish production, shipping, agriculture, tourism, and coastal development. These activities result in direct and indirect impacts to coastal and marine habitats, such as the loss of coastal wetlands, the creation of an annual hypoxic “dead zone,” and the introduction of nonindigenous aquatic species that alter ecosystems and are difficult or impossible to eradicate.

Exacerbating these challenges, in April 2010, the BP *Deepwater Horizon* oil disaster resulted in the release of over four million barrels of oil into the Gulf of Mexico and the death of eleven rig workers.<sup>3</sup> The impacts of the spill, on Gulf ecosystems and economies, will likely be felt for years or decades to come. With the disaster came a broader awareness of the Gulf’s ecological and economic conditions and renewed interest in funding regional recovery.<sup>4</sup>

There are many challenges associated with managing human impacts and effectively conserving and restoring Gulf habitat. For one, the legal and policy mechanisms for protecting habitat are fragmented among different authorities, subject to varying constraints and requirements, and focused on different habitats and related issues. Also, there are limited resources available to federal, tribal, state, local, and nongovernmental entities to engage in conservation efforts.

This report is designed to facilitate dialogues about how to strengthen the U.S. legal and institutional framework for conserving and restoring Gulf coastal habitat. It summarizes and analyzes the current frameworks of the five Gulf states, assessing the state legal and policy tools, habitat-related programs, and responsible institutions. It then offers recommendations for strengthening the individual state

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<sup>1</sup> Restore America’s Estuaries, *Jobs & Dollars: Big Returns from Coastal Habitat Restoration*, available at <http://www.estuaries.org/images/stories/rae17.pdf>.

<sup>2</sup> NOAA’S STATE OF THE COAST, THE GULF OF MEXICO AT A GLANCE: A SECOND GLANCE 28 (June 2011) (citing NOAA Coastal Services Center, *Coastal Change Analysis Program* (2006)).

<sup>3</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).

<sup>4</sup> See, e.g., the Gulf Coast Ecosystem Restoration Task Force, <http://www.epa.gov/gcertf/> (the Task Force was established following the disaster to guide regional recovery); *Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2011*, S.1400/H.R.3096, 112th Cong., 1st Sess. (2011) (proposing to devote 80% of any the Clean Water Act fines levied against BP to the Gulf).

frameworks and the regional approach to habitat conservation as a whole. It highlights examples of successful state approaches to addressing particular habitat issues and common setbacks.

From the outset, it is important to note that many of the issues and challenges identified in this report deserve more in-depth examination of underlying causes and potential solutions. Where recommendations are offered, they reflect a combination of opportunities identified by the authors as well as recommendations provided by regional and substantive experts.

First, the report explores nine issues (Table 1) and provides information about key portions of the federal and state frameworks, allowing cross-cutting analysis and comparison of the different programs and approaches. For each issue, the authors summarize the relevant federal and state laws and programs and provide specific recommendations for strengthening individual and collective efforts.<sup>5</sup>

**Table 1. The nine priority issues addressed in the report.**

Priority Issues		
Wetlands & Estuaries	Protected Species Habitat	Accident Response
Beaches & Dunes	Protected Places	Water Quality Management
Harvested Species Habitat	Coastal Management	Water Quantity Management

Second, the report contains profiles of each of the five states' legal and institutional frameworks. The state-specific profiles provide a targeted look at the strengths, limitations, and focal points of each state's laws, programs, and institutional structures.

The authors gathered the information contained in this report using three mechanisms: (1) analysis of the five states' statutory and regulatory frameworks; (2) review and analysis of secondary materials, such as law reviews, scholarly commentary, and web-based resources focused on Gulf coastal habitat; and (3) conversations with approximately 51 governmental and nongovernmental subject matter and regional experts.<sup>6</sup> Through these three resources, the authors developed a practical understanding of the existing law and policy frameworks, the non-statutory programs that complement these frameworks, and the associated implementation entities, strategies, and practices.

In conducting this assessment and analysis, the authors considered target questions and criteria developed to highlight key legal and practical considerations (Table 2).

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<sup>5</sup> Information about the federal framework for habitat conservation and restoration is drawn from and detailed in ELI & CEMDA, GULF OF MEXICO HABITAT CONSERVATION & RESTORATION: COMPARING THE MEXICAN & UNITED STATES LEGAL & INSTITUTIONAL FRAMEWORKS (July 2011). The information summarized in this report is based upon that assessment's coverage of the U.S. federal framework.

<sup>6</sup> ELI engaged in one-on-one or group conversations with these experts over the course of the project. The 51 individuals included 12 from federal government, 24 from state government, and 15 from nongovernmental organizations, academic institutions, or other.



**Table 2. Target questions and characteristics considered throughout the analysis.**

<b>Substantive Coverage</b>	<b>Implementation &amp; Enforcement</b>
Are there gaps in the existing laws and regulations? (Including consideration of discretionary versus mandatory authority)	Is the legal framework effectively implemented? (Including whether there is sufficient financial and technical capacity and political will)
Are there overlaps in the laws and regulations? (Including overlap between state and federal laws)	Is the legal framework effectively enforced? (Including whether there is sufficient financial and technical capacity and political will)
Are the provisions enforceable, and are there adequate implementing mechanisms? (Including issues such as legal interpretations)	Are there significant obstacles to effective implementation and enforcement? (Such as whether there are adequate incentives to motivate compliance)

## B. Overview of Priority Issues

### I. The Big Picture

This report focuses on the state and federal approaches to conserve and restore different types of Gulf coastal habitat and to address major issues affecting it. Beyond the specific issues detailed in this section, there are several cross-cutting factors that affect virtually all programs and efforts.<sup>7</sup>

Limited resources are a consistent challenge for habitat conservation and restoration programs. This limitation includes constraints on available funding and its associated requirements. For example, some federal programs have limited funding that may be spread across many states or programs (e.g., the Coastal Zone Management Program), and other programs cap individual project funds (e.g., the \$1 million project grant cap under the Coastal Wetlands Planning, Protection, and Restoration Act). In addition to fiscal constraints, state efforts are subject to fluctuations in programmatic funding received from state and other non-federal sources (e.g., significant budget reductions recently experienced by Florida's Coastal and Aquatic Managed Areas office). Another limitation can be grant restrictions, such as substantial nonfederal match requirements and short-term timeframes for delivering measurable results that may not align with the most effective timescale for the project.

Another challenging aspect of habitat conservation and restoration is that efforts are often fragmented, occurring in accordance with a wide variety of laws and implemented by a wide variety of actors at the federal, state, and local levels. The challenge becomes how to better coordinate the laws and institutions to effect the most change.<sup>8</sup>

In addition to programmatic challenges, two specific impacts bear mentioning: one, the *Deepwater Horizon* oil spill, which has had profound impacts on the Gulf ecosystem and is and will likely be the focus of concentrated attention for the next several years; and two, climate change, which is likely to fundamentally and permanently alter the coastline and ecosystem and has received less attention than it requires.

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<sup>7</sup> It also bears mentioning that there are several issues whose discussion in this report is constrained due to their in-depth coverage by other bodies. For example, expanding the beneficial use of dredged materials is an issue of paramount importance in the Gulf, and is being addressed by state and regional working groups, including the HCRT's compilation of associated recommendations and support of the development and implementation of a Gulf Regional Sediment Management Master Plan. More information, associated reports and publications, and links are available at GOMA, *Habitat Conservation and Restoration*, <http://www.gulfofmexicoalliance.org/issues/habitat.php>. Similarly, the annual dead zone that appears in the Gulf of Mexico is a tremendous concern, which is being researched and analyzed by individual and multi-state issue teams, task forces, and other entities. See, e.g., the GOMA Water Quality and Nutrient & Nutrient Impacts Priority Issue Teams, <http://www.gulfofmexicoalliance.org/issues/issues.html>; Mississippi River Gulf of Mexico Watershed Nutrient Task Force, <http://water.epa.gov/type/watersheds/named/msbasin/index.cfm>.

<sup>8</sup> In its 2004 report on the condition of U.S. ocean policy, the U.S. Commission on Ocean Policy (USCOP) noted that “[c]urrently the many entities that administer conservation and restoration activities operate largely independently of one another, with no framework for assessing overall benefits in an ecosystem-based context. The multitude of disjointed programs prohibits a comprehensive assessment of the progress of conservation and restoration efforts and makes it difficult to ensure the most effective use of limited resources.” U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 176 (2004).

The *Deepwater Horizon* oil spill has not only resulted in the largest and most complex natural resource damage assessment and restoration planning effort in U.S. history, but has also focused needed attention on Gulf restoration more broadly. In particular, the spill led to establishment of the Gulf Coast Ecosystem Restoration Task Force that is developing a broad strategy for restoration, and efforts are underway in Congress to dedicate Clean Water Act fines associated with the spill to Gulf Coast ecosystem and economic restoration.

Another enormous challenge in coming years will be adapting to changing conditions associated with climate change. Especially daunting for coastal management is the need to address sea level rise and increased storm surge. States likely will need to consider how to buffer and minimize impacts while at the same time making plans for managed retreat from the coastal areas. With managed retreat, armoring, and other approaches to address sea level rise and storm surge come a large number of questions related to, among other things, private property rights, the best mechanisms to ensure a safe, fair, and effective response, who bears the costs of adaptation, insurance in threatened areas, and how to balance and decide tradeoffs between growing uses in shrinking spaces.<sup>9</sup>

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<sup>9</sup> See, e.g., Sandra S. Nichols & Carl Bruch, *New Frameworks for Managing Dynamic Coasts: Legal and Policy Tools for Adapting U.S. Coastal Zone Management to Climate Change*, 1 SEA GRANT L. & POL'Y J. 19 (2008); Massachusetts Executive Office of Energy and Environmental Affairs & Adaptation Advisory Committee, *Massachusetts Climate Change Adaptation Report* (Sept. 2011), available at [http://www.mass.gov/Eoeea/docs/eea/energy/cca/eea\\_climate\\_adaptation\\_report.pdf](http://www.mass.gov/Eoeea/docs/eea/energy/cca/eea_climate_adaptation_report.pdf).

## II. Wetlands & Estuaries

A key challenge in the Gulf of Mexico is the extensive and ongoing loss of wetlands and estuaries due to a variety of anthropogenic factors. These factors include, for example, major hydrological changes to Gulf of Mexico watersheds through the creation of levees, diversions, and channels; subsidence; dredge and fill operations to enable coastal development; oil spills; storms; and sea level rise; among others.<sup>10</sup> Eighty percent of coastal wetlands loss has occurred in Louisiana, and Louisiana is home to forty percent of the remaining coastal wetlands.<sup>11</sup>

To stem the loss of wetlands and estuaries in the U.S. broadly, and the Gulf of Mexico specifically, the U.S. and the Gulf states have passed a patchwork of laws and regulations. This section discusses these management, restoration, and protection mechanisms.

### a. Federal conservation and restoration

Much wetlands and estuary management occurs in accordance with federal laws, and therefore the federal legal and institutional framework is crucial to conservation and restoration of coastal wetlands and estuaries. The U.S. uses an extensive patchwork of federal laws to support the protection and restoration of wetlands and estuarine habitat (Table 3).

**Table 3. U.S. federal laws and institutions addressing wetland and estuarine conservation and restoration.**<sup>12</sup>

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> </ul>	<ul style="list-style-type: none"> <li>FWS</li> </ul>

<sup>10</sup> See, e.g., Claudia Copeland, *Wetlands: An Overview of Issues* (CRS Report for Congress) 17 (2010).

<sup>11</sup> *Id.* at 4.

<sup>12</sup> Excerpt from ELI & CEMDA, *GULF OF MEXICO HABITAT CONSERVATION & RESTORATION: A COMPARISON OF THE MEXICAN & U.S. LEGAL & INSTITUTIONAL FRAMEWORKS* (2011).

Mechanism	Law	Implementing Institution
	<ul style="list-style-type: none"> <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>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>

Some of the laws are regulatory and implemented by federal agencies (e.g., CWA Section 404); others are implemented in partnership with state agencies (e.g., NERRs and NEPs); while still others provide monetary and technical assistance to states (e.g., CWPPRA and CIAP). Of particular importance to the Gulf, and discussed here, are the dredge and fill requirements, agricultural incentives and disincentives, and the CWPPRA.

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>13</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 per year are required to compensate for 21,000 lost acres per year. However, many studies show that the mitigation efforts often results in a net loss of ecosystem services.<sup>14</sup>

A limitation of the dredge and fill requirements is that they do not regulate actions that drain, flood or reduce the functional value of wetlands.<sup>15</sup> Another limitation is that there are several major categories of activities that are excluded from dredge and fill requirements, including normal and ongoing farming and silviculture activities.<sup>16</sup>

Agricultural development is a major source of wetland loss, and some efforts to address this loss have focused on providing farmers with incentives for creating wetland buffers.<sup>17</sup> Another approach is the “Swampbuster” provision, which removed a farmer’s eligibility for certain federal support if the farmer engaged in wetlands alterations.<sup>18</sup>

In response to the massive loss of coastal wetlands, Congress passed the Coastal Wetlands Planning, Protection and Restoration Act in 1990. This law provides funding to Louisiana for long-term conservation and restoration of wetlands, with budgets ranging from \$30–80 million annually.<sup>19</sup>

<sup>13</sup> 33 USC § 1344; 40 CFR Part 232.3.

<sup>14</sup> Rebecca L. Kihslinger, *Success of Wetland Mitigation Projects*, 30 National Wetlands Newsletter 14 (2008).

<sup>15</sup> Copeland, *supra* note 10, at 6.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.* at 14.

<sup>18</sup> *Id.*

<sup>19</sup> See CWPPRA, *About CWPPRA*, <http://lacoast.gov/new/About/Default.aspx>.

*b. State conservation and restoration*

In addition to working within the federal framework, all Gulf states have additional legal mechanisms in place to acquire, protect, plan, and regulate activities in wetland and estuarine environments.

Acquisition programs often make up a part of a larger portfolio of efforts to protect and conserve resources. Florida has the largest acquisition program in the United States: Florida Forever, created in 2001 and replacing the Preservation 2000 program, was established by the Florida Forever Act.<sup>20</sup> As part of this program, Florida has protected 294,930 acres of functional wetlands, along with coastlines, flood plains, greenways and more.

Acquisition programs require the ability both to purchase and manage property and to acquire appropriate funding. In addition to relying on federal grants and funding programs, some states have state-based mechanisms to fund acquisition. To fund the Florida Forever program, Florida authorized \$300 million of bond revenue annually.<sup>21</sup> Despite the program's success, the Florida Forever Trust Fund will have a zero balance at the end of the 2011-12 fiscal year (for more information, see discussion in the *Protected Places* section).<sup>22</sup> To secure funding, Alabama relies on hunting license fees to support acquisition programs in accordance with the state law. It has also worked in partnership with non-governmental organizations to acquire properties. For example, in 2011, a partnership with conservation groups and public agencies led to the acquisition of 820 acres for coastal wetland habitat adjacent to the Weeks Bay NERR.<sup>23</sup> Mississippi utilizes its Tidelands Trust Fund to support acquisition, which is funded by non-mineral leases of tidelands.

Once a resource is acquired (or if already state-owned), all Gulf states have programs to provide protection to wetland and estuarine environments. For example, the Florida Aquatic Preserve Act of 1975 creates aquatic preserves with the goal of preserving in perpetuity its most exceptional underwater lands, and most of these preserves protect estuaries. FDEP's Office of Coastal and Aquatic Managed Areas (CAMA) is responsible for administering the aquatic preserves. CAMA also manages the two National Estuarine Research Reserves (NERRs) on Florida's Gulf coast: Apalachicola NERR and Rookery Bay NERR.

Mississippi provides another example of the many programs used to achieve preservation of wetlands and estuaries. The Mississippi Department of Marine Resources has used its authority under the Coastal Wetlands Protection Act to create a Coastal Preserves Program to acquire and manage sensitive coastal habitats. The Mississippi Public Trust Tidelands Act funds are distributed to local taxing authorities to replace lost ad valorem taxes, if any, and to the Commission on Marine Resources for "new and extra

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<sup>20</sup> Florida Department of Environmental Protection, Forever Florida, [http://www.dep.state.fl.us/lands/fl\\_forever.htm](http://www.dep.state.fl.us/lands/fl_forever.htm).

<sup>21</sup> For examples of restoration projects in the Northwest Water Management District, see [http://www.dep.state.fl.us/lands/files/reports/0611\\_com.pdf](http://www.dep.state.fl.us/lands/files/reports/0611_com.pdf).

<sup>22</sup> FFWCC, Status of Trust Funds as of Aug. 2011, available at [http://myfwc.com/media/1503479/13B\\_TrustFunds.pdf](http://myfwc.com/media/1503479/13B_TrustFunds.pdf) at 21-22.

<sup>23</sup> See, e.g., The Conservation Fund, 820 Acres of Southeastern Alabama Wetlands to be Protected and Restored (Jan 5, 2011), <http://www.conservationfund.org/news/alabama-weeks-bay>.

programs," including conservation, reclamation, preservation, and education programs. **The** Mississippi Scenic Streams Stewardship Act is designed to protect streams with outstanding scenic, recreational, cultural, or ecological characteristics.

All states depend on the U.S. Army Corps of Engineers to regulate dredge and fill operations while ensuring such permits are consistent with state laws. The federal government has a policy of no net loss of wetlands, which leads to compensatory mitigation and wetlands banking. In addition to federal approaches to wetland and estuary regulation, some states have specific state regulations. Florida regulates wetlands development under its environmental resource permit (ERP) program created under the Florida Environmental Reorganization Act. In a similar vein, Louisiana’s Department of Natural Resources (LDNR) regulates activities that impact wetlands in the coastal zone through the Coastal Use Permit (CUP) system.

Because of the severe loss of wetlands in the U.S. broadly, and the Gulf of Mexico specifically, substantial investment has been made in wetlands restoration. Restoration funding comes from both federal and state laws. For example, Congress initiated the Mississippi Coastal Improvements Program as part of its response to Hurricane Katrina. Under this program, the Army Corps of Engineers identified fifteen “interim” projects that received, in total, \$110 million in a one-time federal assistance program. In 2009, the Army Corps completed a comprehensive plan for Mississippi Coastal Improvements.

Despite concentrated efforts to restore damaged wetlands, the Gulf states continue to lose valuable wetland and estuarine habitats.

## SUMMARY & RECOMMENDATIONS

### SUMMARY

Substantial efforts at the federal and state levels have been made to reverse the loss of coastal wetlands. These include the imposition of the “no net loss” policy, leading to substantial mitigation efforts to offset dredge and fill projects and investment of major funding to acquire and restore coastal wetlands, among other things.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

### REGION-WIDE RECOMMENDATIONS

**Coordinate actions.** There are myriad federal and state wetlands and estuaries conservation programs. They provide many opportunities for protecting coastal wetlands. 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 better conservation efforts.

- Regional actors may wish to consider building additional coordination mechanisms under existing programs, including the Gulf of Mexico Alliance, the Gulf Coast Ecosystem Restoration Task Force, or implementation activities under the new National Ocean Policy – including the strategic action plans for protection and restoration of ocean and coastal ecosystems, water

quality, and coastal and marine spatial plans, among others.
<p><b>Consider climate change.</b> Sea level rise and storm surge combined with encroaching coastal development are particularly problematic for maintaining and restoring coastal wetlands and estuaries.</p> <ul style="list-style-type: none"> <li>• When developing projects and plans for coastal wetland and estuarine restoration and conservation, regional actors should consider approaches that adequately take into account and include adaptation strategies to address the predicted impacts of climate change.</li> </ul>
<p><b>Re-enact the Coastal Impact Assistance Program (CIAP).</b> CIAP provided substantial funds for conserving and restoring wetlands and estuaries in Alabama, Louisiana, Mississippi, and Texas. However, CIAP appropriations have statutorily sunset (although all the funds have not yet been fully expended).</p> <ul style="list-style-type: none"> <li>• Consider extending or re-enacting CIAP to allow continued ecosystem recovery in states affected by offshore oil and gas extraction.</li> </ul>
<p><b>Expand monitoring and enforcement of wetlands laws.</b></p> <ul style="list-style-type: none"> <li>• An important aspect of wetlands restoration and mitigation is knowing whether the intended outcomes were achieved. However, reports and expert interviewees both note that monitoring efforts are often inadequate.<sup>24</sup> In order to improve restoration and mitigation measures using an adaptive approach, states could take steps to improve monitoring and evaluation efforts.</li> <li>• Concerns have been expressed about capacity for enforcement of regulatory programs for protecting wetlands and estuaries. Some states depend on the Army Corps to enforce Section 404 permits, but are concerned that levels may not be sufficient to ensure compliance and may fluctuate depending on federal priorities. Others, such as Louisiana, supplement the Army Corps' actions with state enforcement efforts. States with prominent concerns about wetlands compliance may wish to develop their own state enforcement efforts.</li> </ul>
<p><b>Improve mitigation.</b></p> <ul style="list-style-type: none"> <li>• Wetlands mitigation has mixed reviews—some reports recognize the role that mitigation plays in ensuring no net loss, while other reports identify challenges in practice, including resulting lower quality wetlands, lack of enforcement, and mismatches in the ecosystem services of the destroyed versus mitigated wetlands. While some efforts have been made to improve mitigation, including a recent rule by EPA and the Army Corps,<sup>25</sup> additional efforts could be taken to ensure mitigation is as effective as possible (e.g., monitoring and evaluation, improved standards for mitigation, and better ecosystem service match requirements between mitigated and harmed wetlands).</li> </ul>
<p><b>Wetland-specific water quality standards.</b></p> <ul style="list-style-type: none"> <li>• Most Gulf states have not adopted wetland-specific water quality standards, although surface water quality standards and criteria may presumptively or explicitly apply.<sup>26</sup> <i>The Gulf states should consider the value of establishing wetland-specific water quality standards, as encouraged by EPA.</i><sup>27</sup></li> </ul>
<p><b>Beneficial use.</b> (See discussion under <i>Coastal Management</i>)</p>

<sup>24</sup> See, e.g., Copeland, *supra* note 10, at 18; see also John M. Teal & Susan Peterson, *U.S. Wetland Protection and Restoration: Have We Made a Difference?*, 29 *ECOLOGICAL RESTORATION* 22 (2011); GAO, *WETLANDS PROTECTION: CORPS OF ENGINEERS DOES NOT HAVE AN EFFECTIVE OVERSIGHT APPROACH TO ENSURE THAT COMPENSATORY MITIGATION IS OCCURRING* (2005).

<sup>25</sup> Copeland, *supra* note 10, at 20; GAO, *supra* note 24.

<sup>26</sup> Evaluations of the Gulf states wetlands programs are available at ELI, *Study of State Wetland Programs*, [http://www.eli.org/Program\\_Areas/state\\_wetlands.cfm](http://www.eli.org/Program_Areas/state_wetlands.cfm).

<sup>27</sup> EPA, *National Guidance Water Quality Standards for Wetlands* (1993). For example, EPA states that “[n]arrative criteria are particularly important in wetlands since many wetland impacts cannot be fully addressed by numeric criteria. Such impacts may result from the discharge of chemicals for which there are no numeric criteria in State standards, nonpoint sources, and activities that may affect the physical and/or biological, rather than the chemical, aspects of water quality (e.g., discharge of dredged and fill material).”



## STATE-SPECIFIC RECOMMENDATIONS

### Alabama's wetlands and estuaries.

- Wetlands water quality standards. Alabama's lack of wetland-specific water quality standards<sup>28</sup> leaves few protections for the state's important cypress wetlands and depressional wetlands. In implementing ADEM's Wetland Program Plan, *ADEM has an opportunity to use the data collected to evaluate the benefits of developing specific water quality standards designed to maintain healthy wetlands.*
- Living Shoreline Projects. Some have noted that there is a lack of clarity about boundaries between state and private lands in coastal areas, which results in case-by-case decision making and challenges with permitting living shoreline projects. *The state may wish to develop additional rules or guidance to address these challenges in order to enable wetlands and estuarine restoration.*

### Florida's wetlands and estuaries.

- New approaches to mitigation. *In addition to targeted sea grass habitat restoration, the state could allow water quality improvement projects that expand habitat range for sea grass count as a form of mitigation for sea grass impacts.*
- Pipeline permitting. Because pipeline permitting requires the approval of more than one agency, it is possible for applicants to see mixed results in the permitting process. *In order to improve the regulatory framework, the state could create an interagency permitting team or some other process to address this challenge.*<sup>29</sup>
- After-the-fact permitting. Actors sometimes fail to obtain necessary wetlands construction permits until after the construction activity takes place. *The state could focus resources on exploring additional mechanisms to promote compliance from the outset, without discouraging noncompliant actors from coming forward after-the-fact.*
- Increased capacity. The mandatory timeline for processing environmental resources permits leads to a prioritization of permitting activities over other essential implementation efforts, such as monitoring. *Consider increasing capacity to allow adequate emphasis on monitoring and enforcement of wetlands activities.*
- Aquatic Preserves. (See *Protected Places* section)

### Louisiana's wetlands & estuaries.

- Protect CWPPRA wetlands. While CWPPRA requires that restoration project areas must be managed for long-term conservation, there is no requirement that the restored areas be designated as preservation areas or have conservation easements. *To ensure long-term protection, regulations could be adopted to further characterize the elements of long-term conservation needed.*
- Mitigation. Louisiana faces many challenges implementing its wetland mitigation program in a way that ensures no net loss. A recent analysis by the state (on file with authors), provides a series of detailed recommendations for program improvement, including involving mitigation analysts early in the permitting process to ensure efficient mitigation; requiring mitigation prior to or concurrent with impacting activity to prevent temporal loss of wetlands; and increasing requirements for those conducting mitigation activities to monitor and report effectiveness.<sup>30</sup>

<sup>28</sup> ELI, STATE WETLAND PROGRAM EVALUATION: PHASE III 35-42 (2007).

<sup>29</sup> Based on a suggestion provided during a personal communication with expert.

<sup>30</sup> LDNR conducted an evaluation of Louisiana's Mitigation Program. More information about the evaluation, including the executive summary and a presentation outlining its purpose and findings, is available at LDNR, Office of Coastal Management, *Compensatory Mitigation in the Louisiana Coastal Zone*, <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=95>.

### Mississippi's wetlands & estuaries.

- Wetlands permitting. NOAA's 2010 review of Mississippi's coastal management program recommended that the Coastal Program "should consider providing additional training to commission members to keep them well-informed of wetlands permitting issues and relevant coastal management issues."<sup>31</sup>
- Coastal Preserves. Within the Department of Marine Resources, the Coastal Preserves Program works to protect sensitive coastal habitats. It uses Tidelands Trust Funds to acquire coastal areas. Although Mississippi does not have a formal, state-level wetland restoration program, when funds are available, the Program also undertakes wetlands restoration projects.<sup>32</sup>  
*Wetlands restoration aligns with natural resource damage assessment (see Accident Response section) objectives, therefore this program may be a good target recipient for restoration funds received through it and other Deepwater Horizon recovery processes.*

### Texas' wetlands and estuaries.

- State-based protection. Some experts noted that reliance on the CWA for wetlands protection leaves some coastal wetlands unprotected either because of lack of regulation or lack of enforcement. *Texas could consider the expansion of state efforts to fill the gaps in federal wetlands regulation.*
- After-the-fact permitting. Actors sometimes fail to obtain necessary wetlands construction permits until after the construction activity takes place, without penalty. *The state could focus resources on exploring additional mechanisms to promote compliance from the outset, without discouraging noncompliant actors from coming forward after-the-fact.*
- Monitoring. Experts suggested that additional monitoring efforts may help the state prevent unpermitted wetland development and ensure mitigation is undertaken.

<sup>31</sup> NOAA, OCRM, Final Evaluation Findings, Mississippi Coastal Program, *supra* note 184, at 10–15.

<sup>32</sup> ELI, STATE WETLAND PROTECTION: STATUS, TRENDS, AND MODEL APPROACHES, APPENDIX: STATE PROFILES—MISSISSIPPI (2008), available at [http://www.eli.org/program\\_areas/state\\_wetlands.cfm](http://www.eli.org/program_areas/state_wetlands.cfm).

### III. Beaches & Dunes

Subsidence, reduced sediment transport, and sea level rise all contribute to the erosion of coastal beaches and dunes.<sup>33</sup> These impacts combine with coastal development to constrain beaches and dunes from the seaward and landward sides. Sand dunes are not only important for recreation, they act as a defense against storm surge and help maintain beaches.

This section discusses management and protection mechanisms specific to beaches and dunes, separate from coastal management programs. While there are two federal laws that serve to protect beaches and dunes, the majority of beach and dune management, conservation, and restoration occurs at the state or local government level.

#### *a. Federal conservation and restoration*

First, the Coastal Barrier Resources Act (CBRA) restricts government support for construction or erosion control projects in “undeveloped coastal barriers” and adjacent wetlands, estuaries, and nearshore waters. Therefore, with a few exceptions—such as for energy extraction activities and maintenance or construction of navigation channels, roads, or Coast Guard facilities—these areas are protected from publicly funded construction activities. This requirement, however, does not restrict private or other non-federal entities from developing these areas.

The Fish and Wildlife Service maintains maps of the protected areas, designated the John H. Chafee Coastal Barrier Resources System.<sup>34</sup> Only Congress can add to the System, unless the area is federal excess property, a property owner voluntarily requests that an area be added, or during cyclic five-year reviews to accommodate natural changes.<sup>35</sup>

In addition to the permitting activities discussed below under *Coastal Management*, the Rivers and Harbors Act facilitates federal activities to study, fund, and undertake shore protection and beach nourishment. Among other things, the Act requires the Army Corps’ Coastal Engineering Research Center and Board on Coastal Engineering Research to recommend shore protection projects to Congress for matching grants; the Secretary of the Army to establish a national coastal data bank; and the Corps generally to engage in demonstration projects with engineered and vegetative shoreline erosion control methods.<sup>36</sup>

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<sup>33</sup> See, e.g., Rusty A. Feagin, Douglas J. Sherman, & William E. Grant, *Coastal Erosion, Global Sea-Level Rise, and the Loss of Sand Dune Plant Habitats*, 3 FRONTIERS IN ECOLOGY & THE ENVIRONMENT 359 (2005).

<sup>34</sup> Individual state maps are available at FWS, Coastal Barrier Resources Act, Official CBRS Maps, <http://www.fws.gov/CBRA/Maps/index.html#LocatorMaps>. At the time of the writing of this report, an online mapper tool was under development. *Id.* CBRA Mapper, <http://www.fws.gov/CBRA/Maps/Mapper.html>.

<sup>35</sup> 16 USC § 3501 *et seq.*; FWS, Coastal Barrier Resources Act, <http://www.fws.gov/CBRA>.

<sup>36</sup> 33 USC § 426e, i-2, j.

*b. Public ownership*

A key mechanism for protecting beach and dune habitat along the Gulf is public ownership. Roughly one-third of Alabama's beach and dune habitat is preserved through state or federal parks, refuges, sanctuaries, and other sites.<sup>37</sup> Florida's Park Service spans 100 miles of sandy beaches.<sup>38</sup> The majority of Mississippi's natural beach and dune habitat is under public ownership, with the most significant holdings in the Gulf Islands National Seashore.<sup>39</sup> In Louisiana, public acquisition has allowed successful conservation of some of Louisiana's remaining dunes, such as in the federal Breton National Wildlife Refuge and the state Terrebonne Barrier Islands Refuge.<sup>40</sup> A variety of mechanisms place beach and dune habitat under public ownership in Texas, including three state parks, state wildlife management areas, and the federal Padre Island National Seashore.<sup>41</sup>

*c. State regulation*

All the Gulf states have at least some provisions in place that protect beaches or dunes. Some relevant laws are not beach- or dune-specific, but rather apply to all coastal areas. For example, Mississippi's Coastal Wetlands Protection Act creates a permitting system for activities that have direct or indirect impacts to state-owned lands below the mean high tide line and their ecosystems.<sup>42</sup> Other laws apply specifically to beaches or dunes, such as Alabama's and Louisiana's prohibitions of operating motor vehicles on dunes.<sup>43</sup>

Among the state permitting systems for beach activities, Florida's program stands out for the breadth of its framework. The Florida Beach and Shore Preservation Act establishes a broad framework for coastal conservation and beach restoration. The Act creates several requirements for construction, and it generally prohibits the construction of houses, hotels, seawalls, or related structures within 50 feet of the mean high tide line, unless a waiver is obtained.<sup>44</sup> In accordance with this Act, the Florida Department of Environmental Protection also designates coastal construction control lines (CCCLs)

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<sup>37</sup> Personal communication with expert. This includes Gulf State Park, Bon Secour National Wildlife Refuge, Dauphin Island Audubon Bird Sanctuary, Fort Morgan Historical Park, and other sites.

<sup>38</sup> FDEP, Recreation and Parks, About Florida State Parks, <http://www.dep.state.fl.us/parks/default.htm>.

<sup>39</sup> NPS, <http://www.nps.gov/guis/parkmgmt/general-management-plan.htm>; NPS, Gulf Islands National Seashore, *Waterfowl Hunting Management Plan – Draft 8-22-2011*, <http://parkplanning.nps.gov/document.cfm?parkID=384&projectID=34469&documentID=42855>.

<sup>40</sup> U.S. Fish and Wildlife Service, <http://www.fws.gov/breton/>; LDWF, <http://www.wlf.louisiana.gov/refuge/terrebonne-barrier-islands-refuge>.

<sup>41</sup> TPWD, State Parks, *Gulf Coast Travel Region*, [http://www.tpwd.state.tx.us/spdest/findadest/gulf\\_coast/](http://www.tpwd.state.tx.us/spdest/findadest/gulf_coast/); TPWD, Wildlife Management Areas of Texas, *Matagorda Island (WMA)*, [http://www.tpwd.state.tx.us/huntwild/hunt/wma/find\\_a\\_wma/list/?id=48](http://www.tpwd.state.tx.us/huntwild/hunt/wma/find_a_wma/list/?id=48); U.S. National Park Service, Padre Island, *Nature and Science*, <http://www.nps.gov/pais/naturescience/index.htm>. The national seashore also protects other types of habitat, including coastal prairie, tidal flats, and a hypersaline lagoon.

<sup>42</sup> Miss. Code Ann. § 49-27-5.

<sup>43</sup> Ala. CODE § 32-1-7; La. Rev. Stat. § 49:214.5.8. Alabama's law prohibits the operation of motor vehicles on Gulf beaches and dunes, except that private landowners and their guests may park on private property. Louisiana's law prohibits willful alteration of dunes in addition to driving on them.

<sup>44</sup> FLA. STAT. § 161.042.

around areas subject to 100-year storm surges.<sup>45</sup> For projects located seaward of those lines, the Bureau of Beaches and Coastal Systems administers the CCCL Permitting Program that ensures the projects meet special siting and design requirements that protect the beach-dune system and man-made structures. The Department may impose conditions to protect sea turtle habitat, salt-resistant vegetation, and endangered plant communities.<sup>46</sup> Although the Act only gives the program authority to protect habitat for one type of animal – sea turtles – Bureau staff encourage applicants to consider shorebirds and other species in siting and timing decisions.<sup>47</sup>

Another example is Texas, which has permitting provisions that relate to dune conservation. In Texas, state and local governments determine which dunes are protected by establishing a “dune protection line” within 1,000 feet of the mean high tide line, and identifying “critical dune areas” within the broader area that are essential to protect state-owned land.<sup>48</sup> Before engaging in an activity that might harm critical dunes or dunes seaward of a dune protection line, a party must first obtain a permit from the Texas General Land Office or their municipal government.<sup>49</sup> For most activities, permits are granted only if the proposed activities will not materially weaken the dunes, or reduce their effectiveness as protection from high wind and water. The exceptions to this rule are livestock grazing, oil and gas activities, and non-vehicular recreational activities.<sup>50</sup>

#### *d. Local regulation*

In several Gulf states, beach and dune protection occurs at the local level in addition to state management. For example, the Alabama Department of Environment Management has delegated permitting responsibilities for beachfront construction to the local governments.<sup>51</sup> In Florida, the Beach and Shore Preservation Act creates a framework for planning and funding beach preservation programs at the local level, through Beach and Shore Preservation Districts.<sup>52</sup> As described above, in Texas both the state and local governments have authority to determine which dunes are protected under the permit system.

In Mississippi, the county governments are responsible for managing the man-made beaches, along with the Army Corps as part of its property protection mission. The man-made beaches, which occur primarily along the north shore of Mississippi Sound, comprise roughly 36 miles of the 80 miles of Mississippi’s coastline. This is the only habitat subtype among upland maritime and estuarine fringe

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<sup>45</sup> FLA. STAT. § 161.053. Coastal Construction Control Lines designate areas subject to 3-foot waves every 100 years. Personal communication with expert. The Department may reevaluate the boundaries of the control lines as necessary and made slight adjustments to the lines in the Panhandle in response to the 2004 and 2005 hurricane seasons.

<sup>46</sup> Fla. Stat. § 161.053(4)(c).

<sup>47</sup> Personal communication with expert.

<sup>48</sup> Tex. Nat. Res. Code §§ 63.011–.014, 63.121.

<sup>49</sup> Tex. Nat. Res. Code § 63.091.

<sup>50</sup> Tex. Nat. Res. Code § 63.052, 63.054, 63.091.

<sup>51</sup> Personal communication with expert. This delegation of permitting authority is unique within Alabama’s Coastal Area Management Program. One advantage of this system is that local enforcement authorities can monitor project sites at lower cost than would be possible under state permitting.

<sup>52</sup> FLA. STAT. ch. 161.25–161.45.

habitats that the Mississippi Comprehensive Wildlife Conservation Strategy classifies as “secure”; all barrier island and mainland beach habitats are listed as “imperiled.”<sup>53</sup>

*e. State restoration*

In addition to regulatory programs, several states have targeted beach and dune restoration programs. In Florida, the Bureau of Beaches and Coastal Systems’ Beach Erosion Control Program develops and implements comprehensive beach management planning and financial assistance to protect, preserve, and restore the state’s beach resources.<sup>54</sup> There is an increasing trend to include dune restoration in beach restoration projects. Florida’s Program is the primary state mechanism for funding dune restoration, which is a large element of the state’s beach management plan.<sup>55</sup>

Louisiana’s Office of Coastal Protection and Restoration is responsible for developing a program for barrier island and shoreline stabilization and preservation.<sup>56</sup> The state funds projects using a Barrier Island Fund, which receives money through appropriations, donations, grants, and other available sources. The primary source of funding for beach renourishment projects has been the Coastal Wetlands Planning, Protection, and Restoration Act (discussed under *Wetlands and Estuaries and Coastal Management*), but there has not been funding to carry out beach renourishment projects in all the parishes where there is interest.<sup>57</sup>

In Texas, the statutorily created Coastal Erosion Program studies coastal erosion and funds erosion response projects, such as beach nourishment, groin construction, and measures to enhance dunes and wetlands.<sup>58</sup> The Texas General Land Office must develop and maintain a coastal erosion response plan, in coordination with other state, local, and federal agencies and the general public.<sup>59</sup> Some of the mandatory concerns that must be addressed relate to habitat, such as dune revegetation and restoration.

## SUMMARY & RECOMMENDATIONS

### SUMMARY

Coastal development is a significant stressor for Gulf beach and dune ecosystems. To ensure ecosystem protection, it is critical to ensure adequate control of the impacts of coastal development and human activities. Control mechanisms must be carefully designed and balanced with the coastal

<sup>53</sup> For more information on Mississippi’s manmade beaches, see Mississippi Department of Wildlife, Fisheries, and Parks, Mississippi’s Comprehensive Wildlife Conservation Strategy 2005–2015 (2005), ch. 13.2, available at <http://www.mdwfp.com/homeLinks/More/Final/Chapter%204.%20Habitat%20Type%2013.pdf>.

<sup>54</sup> Fla. Stat. §161.101.

<sup>55</sup> For more information on Florida’s beach and dune management and suggestions for reform, see Thomas K. Ruppert, *Eroding Long-Term Prospects for Florida’s Beaches: Florida’s Coastal Construction Control Line Program*, 1 SEA GRANT L. & POL’Y J. 65 (2008).

<sup>56</sup> La. Rev. Stat. § 49:214.6.7.

<sup>57</sup> Personal communication with expert.

<sup>58</sup> Tex. Nat. Res. Code § 33.601(5).

<sup>59</sup> Tex. Nat. Res. Code § 33.602.

use economies that are vital to Gulf community livelihoods.

Beach and dune conservation and restoration occurs primarily at the state and local level, with some federal protection effectuated through project review and funding restrictions. The key issues and stressors vary across the region, but there is commonly significant emphasis placed on beach renourishment as a key type of restoration.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

#### REGION-WIDE RECOMMENDATIONS

**Public ownership.** A key regional tool is public ownership. However, there are concerns that public ownership does not always ensure long-term protection (e.g., if ownership transfers) and acquiring beach and dune habitat is expensive. *Continue efforts to obtain and maintain public ownership of important beach and dune habitats.*

**Climate change and sea level rise.** Few beach and dune management programs are designed to adapt to changes in sea level and coastlines. *Consider implementing mechanisms to account for sea level rise in permitting, management, and restoration processes, such as by establishing public ownership of beach and dune areas to allow landward migration and considering mechanisms such as rolling easements and setbacks.*<sup>60</sup>

**Beneficial use.** (See the *Coastal Management* section for further discussion.)

#### STATE-SPECIFIC RECOMMENDATIONS

##### Alabama's coastal construction.

- **Control line.** Alabama's construction control line runs parallel to the shore up to 40 feet inland from the most inland point of the beach and dune crestline. *Consider evaluating the construction control line to determine if it is adequate to protect beaches and dunes in light of development, erosion, and climate change.*

##### Florida's coastal construction.<sup>61</sup>

- **Emergency (temporary) permits.** There is an exception to the coastal construction control line permits requirement for temporary permits for emergency protection projects. However, if the project is installed without a removal plan, in practical terms it can become permanent regardless of actions taken. *Consider establishing a requirement that emergency protection projects include a removal plan.*
- **Setback.** There is no standard setback for the coastal construction control line permitting program. Rather, the setback is based on a 30-year erosion forecast, which creates uncertainty for involved parties. *Consider implementing a clear setback.*
- **Impacts on habitat.** The beach and coastal systems programs stand out for their breadth. Within the coastal construction permitting system, FDEP only has explicit authority to protect sea turtle habitat, native salt-resistant vegetation, and endangered plant communities. *Consider expanding FDEP's explicit authority to consider other types of habitat.*

<sup>60</sup> See JOHN S. JACOB & STEPHANIE SHOWALTER, *THE RESILIENT COAST: POLICY FRAMEWORKS FOR ADAPTING THE BUILT ENVIRONMENT TO CLIMATE CHANGE AND GROWTH IN COASTAL AREAS OF THE U.S. GULF OF MEXICO* (2007); see also, Pamela Rubinoff, Nathan D. Vinhateiro & Christopher Piecuch, *Summary of Coastal Program Initiatives that Address Sea Level Rise as a Result of Global Climate Change* (2007); see also StormSmart Coasts, National Network Home, <http://stormsmartcoasts.org/>.

<sup>61</sup> For more recommendations, see Ruppert, *supra* note 55.

### **Texas' coastal erosion and protection.**

- Erosion control planning. Texas' coastal erosion control efforts, under the Coastal Erosion Planning and Response Act, have been funded at substantial levels in recent years (e.g., \$17.12 million in FY2011), and past research indicates that for every dollar invested \$16 of economic benefits accrue.<sup>62</sup> *Due to the success of this program, prioritize maintaining this funding.*
- Sargassum. One controversial issue is the removal of sargassum off beaches—there is conflicting data about the potential benefits and harms by removing sargassum.<sup>63</sup> There are ongoing efforts to encourage owners and managers to put the sargassum on the dunes instead of discarding it. *The state may wish to pursue further research to better understand the potential benefits of sargassum removal and its addition to dunes.*

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<sup>62</sup> Michael Oden, Kent Butler & Robert Paterson, Preserving Texas Coastal Assets: Economic and Natural Resource Evaluation of Erosion Control Projects under the Coastal Erosion Planning and Response Act, Technical Report (2003)(prepared for the Texas General Land Office-Coastal Resource Division), *available at* [http://coastal.tamug.edu/am/tgloprojects/Economic\\_and\\_Natural\\_Resource\\_Evaluation\\_of\\_CEPR\\_A\\_Erosion\\_Control\\_Projects.pdf](http://coastal.tamug.edu/am/tgloprojects/Economic_and_Natural_Resource_Evaluation_of_CEPR_A_Erosion_Control_Projects.pdf).

<sup>63</sup> *See, e.g.,* Amy Williams & Rusty Feagin, Final Report: Sargassum and Beach Erosion: Potential Costs and Benefits for Coastal Managers, *available at* [http://ssl.tamu.edu/media/1827/06\\_019\\_final\\_report.pdf](http://ssl.tamu.edu/media/1827/06_019_final_report.pdf).



## IV. Harvested Species Habitat

The Gulf of Mexico provides important habitat for many commercially and recreationally valuable fish species, along with many other species, in the form of nurseries, breeding grounds, feeding areas and more. Several Gulf species are fully exploited or otherwise recovering from overexploitation, and impacts to species and their habitats caused by the recent *Deepwater Horizon* oil spill are far from being understood.

This section considers the role of fishery management programs in the Gulf in addressing habitat protection and restoration. Fishery management is divided among federal and state governments, which is based largely on the federal-state jurisdictional boundaries.

The federal framework for managing fish stocks located primarily in federal waters is the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).<sup>64</sup> In accordance with the Magnuson-Stevens Act, NOAA's National Marine Fisheries Service (NMFS) works with the Gulf of Mexico Fishery Management Council (Gulf Council)—the Gulf Council develops, and NMFS reviews and approves, its fishery management plans (FMPs) for harvested stocks.<sup>65</sup> FMPs are enforced by NOAA's Office of Law Enforcement (OLE), the US Coast Guard, and the states themselves through joint agreements with OLE.<sup>66</sup>

The Gulf Council has implemented FMPs for numerous stocks over the past several decades, including reef fish, shrimp, spiny lobster, corals, migratory pelagic, red drum, and aquaculture, as well as issuing cross-cutting plan amendments related to essential fish habitat.<sup>67</sup>

Coastal states manage fish stocks located primarily in state waters. Since 1949 the five Gulf states have collaborated on regional efforts through the Gulf States Marine Fisheries Commission (Gulf States Commission), and on habitat issues specifically through the Habitat Program established in 1997.<sup>68</sup> The Commission also has programs focused on, among other things, emergency disaster recovery, fisheries enforcement, and interjurisdictional fisheries management.<sup>69</sup> The Gulf States Commission has developed interjurisdictional FMPs for spotted seatrout, striped bass, flounder, oyster, Gulf sturgeon, blue crab, striped mullet, Spanish mackerel, Gulf menhaden, Gulf shrimp, and black drum, and has more in progress.<sup>70</sup>

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<sup>64</sup> 16 USC § 1801 *et seq.*

<sup>65</sup> 16 USC § 1852.

<sup>66</sup> 16 USC § 1881b, 1858–1861b.

<sup>67</sup> See Gulf of Mexico Fishery Management Council, *Fishery Management Plans & Amendments*, [http://www.gulfcouncil.org/fishery\\_management\\_plans/index.php](http://www.gulfcouncil.org/fishery_management_plans/index.php). A list of the species managed by the Council's FMPs, as of May 2010, is available at <http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/species%20managed.pdf>. The Council voted to repeal the stone crab FMP in Oct. 2011; FFWCC is now extending its management of the fishery to include federal waters. See 76 Fed. Reg. 59,064 (Sept. 23, 2011).

<sup>68</sup> See Gulf States Marine Fisheries Commission, *Habitat Program*, <http://www.gsmfc.org/#:links@5:content@4>.

<sup>69</sup> Gulf States Marine Fisheries Commission, *Programs*, <http://www.gsmfc.org/#:links@3:content@2>.

<sup>70</sup> Gulf States Marine Fisheries Commission, *Interjurisdictional Fisheries Program*, tbl. 1, <http://www.gsmfc.org/#:links@10:content@9>.

*a. Regional Collaboration*

The Gulf Council's Habitat Subcommittee and the Gulf States Commission's Habitat Program engage in collaborative efforts to protect regional fish habitat. For example, the Commission's Habitat Program reviews projects throughout the region to determine whether they will have adverse impacts on habitat, and if so, forwards them to the appropriate Council subdivisions for review or comment. The Habitat Program also assisted with development of the Council's EFH amendment for Gulf FMPs. It is currently utilizing federal funding to try to address derelict crab traps.<sup>71</sup>

The Council and Commission also cooperate through the Interjurisdictional Fisheries Management Program, pursuant to the Interjurisdictional Fisheries Act of 1986.<sup>72</sup> The Act provides a framework for states to work together to achieve purposes consistent with the Magnuson-Stevens Act, and establishes funding mechanisms for state monitoring, research, and development of interjurisdictional FMPs that the states then review and choose whether to adopt. Congress is authorized to appropriate \$900,000 annually through 2012 to the Department of Commerce to support the efforts of the Gulf States Commission and two other interstate commissions to develop interstate FMPs.<sup>73</sup> Through this program, the states determine management priorities for inshore and nearshore species, and the program has led to the development of long-term fisheries information databases.<sup>74</sup>

*b. Essential Fish Habitat*

The Magnuson-Stevens Act requires the protection of essential fish habitat (EFH), defined as habitat necessary for marine fish spawning, breeding, feeding, or growth to maturity.<sup>75</sup> The Gulf Council is required to designate EFH in relevant FMPs, and to include ways to minimize adverse effects caused by fishing to such habitat and actions to conserve and enhance it.<sup>76</sup> Particularly sensitive or important EFH may receive additional protection through designation as habitat areas of particular concern (HAPCs).<sup>77</sup>

The Gulf Council may offer comments and recommendations on state or federal actions that may affect fish habitat, including but not limited to EFH; it is also mandated to comment on actions that may affect the habitat of anadromous fish.<sup>78</sup> If NMFS receives comments that a federal or state action would lead to adverse impacts on EFH, it is required to recommend measures that the acting agency can undertake in order to conserve the habitat.<sup>79</sup> Federal agencies must respond to such recommendations, but are

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<sup>71</sup> Gulf States Marine Fisheries Commission, *Habitat Program*, <http://www.gsmfc.org/#:links@5:content@4>.

<sup>72</sup> 16 USC §§ 4101 *et seq.*

<sup>73</sup> 16 USC § 4107(c).

<sup>74</sup> Gulf States Marine Fisheries Commission, *Interjurisdictional Fisheries Program*, tbl. 1, <http://www.gsmfc.org/#:links@10:content@9>.

<sup>75</sup> 16 USC § 1855(b); 50 CFR § 600.

<sup>76</sup> 16 USC § 1855(b); 50 CFR § 600.815(a)(5).

<sup>77</sup> 50 CFR § 600.815(a)(8).

<sup>78</sup> 16 USC § 1855(b).

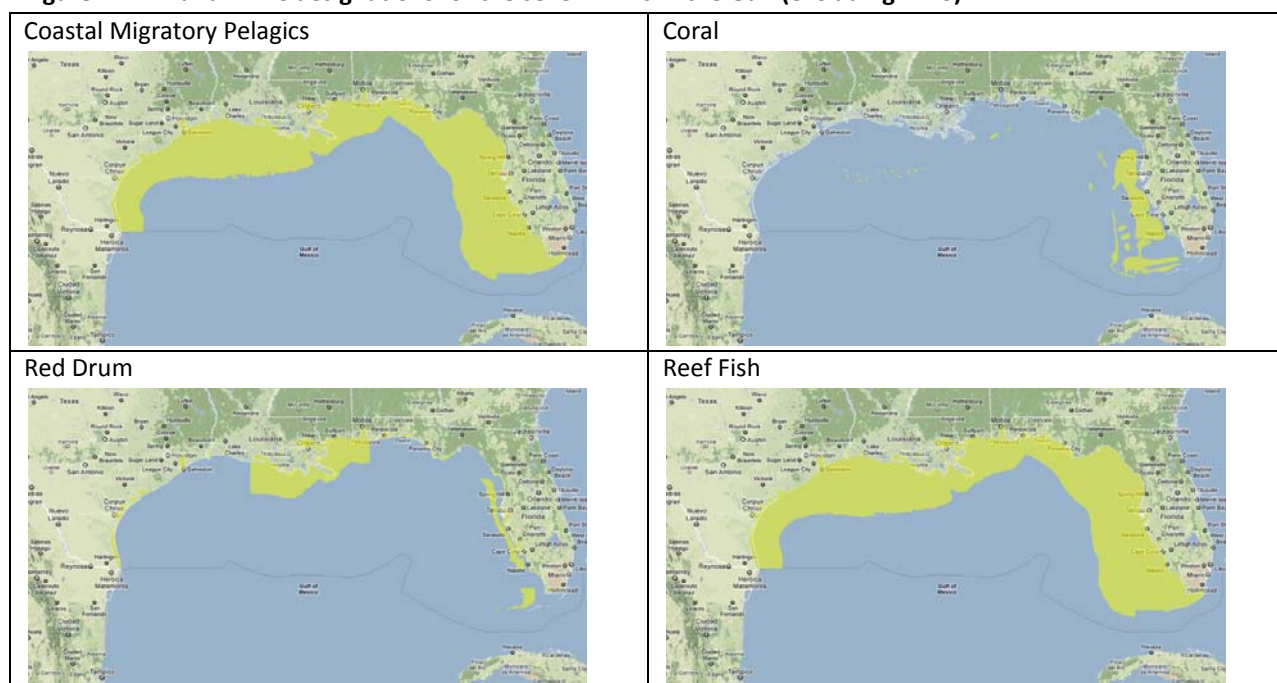
<sup>79</sup> 16 USC § 1855(b).

not required to follow the recommendations. State agencies do not have to follow the recommendations from NMFS nor are they required to respond to such recommendations.<sup>80</sup>

NMFS published a Habitat Assessment Improvement Plan (HAIP) in May of 2010. The HAIP defines NMFS' role in habitat science and assessments, and among other things supports NMFS in improving its ability to identify and assess impacts to EFH and HAPCs, satisfying Magnuson-Stevens Act mandates.<sup>81</sup>

One of the challenges with EFH is its extensive usage in all U.S. waters. Figure 1 shows that the majority of state waters have been designated as EFH for coastal migratory pelagics, reef fish, and shrimp.<sup>82</sup> This raises concerns about whether the effect of such a designation has been diluted. In contrast, there are relatively few areas identified as HAPC in the Gulf.

**Figure 1. EFH and HAPC designations for the seven FMPs in the Gulf (excluding HMS)<sup>83</sup>**

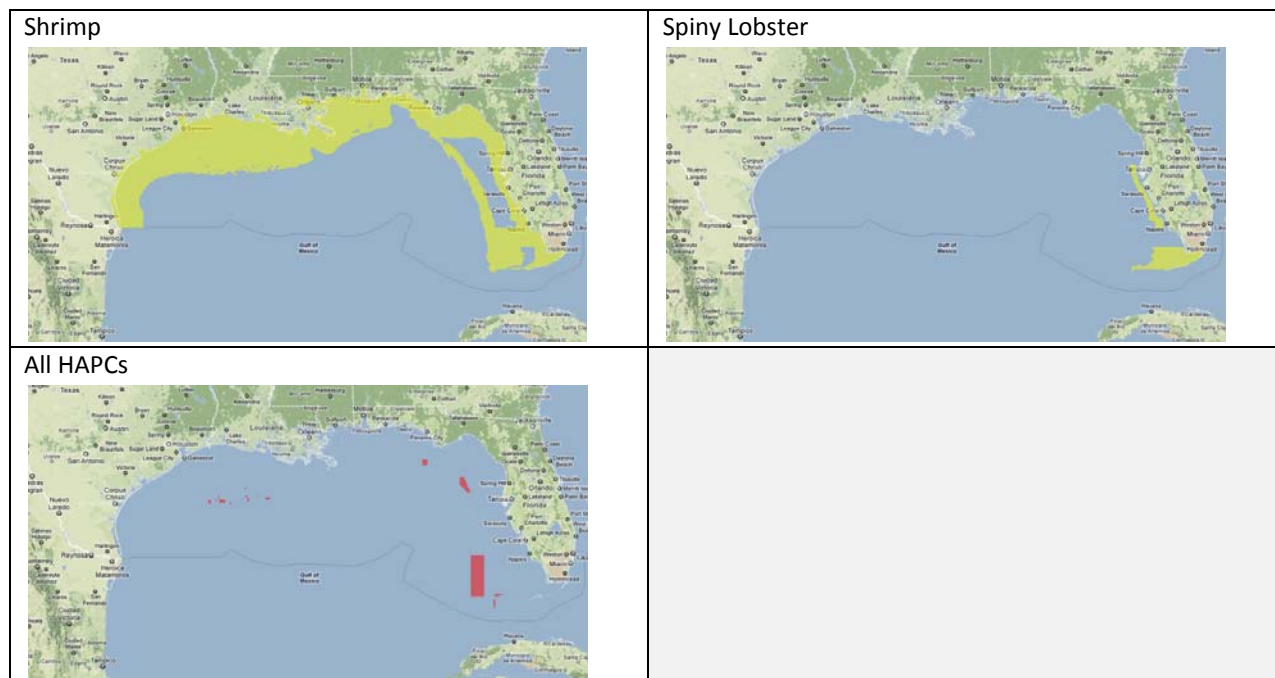


<sup>80</sup> 16 USC § 1855(b); 50 CFR § 600.

<sup>81</sup> NOAA, NMFS, Habitat Assessment Improvement Plan (May 2010), available at [http://www.st.nmfs.noaa.gov/st4/documents/habitatAssesmentImprovementPlan\\_052110.PDF](http://www.st.nmfs.noaa.gov/st4/documents/habitatAssesmentImprovementPlan_052110.PDF).

<sup>82</sup> The figure does not include the EFH designated for highly migratory species (HMS), such as tuna and sharks, as the majority of their habitats occur in the EEZ, outside of state waters. However, some HMS have EFH designated in state waters, such as numerous shark species including Atlantic Sharpnose, Blacktip, and Bull. NOAA's EFH mapper, [http://sharpfin.nmfs.noaa.gov/website/EFH\\_Mapper/map.aspx](http://sharpfin.nmfs.noaa.gov/website/EFH_Mapper/map.aspx). For more information on HMS EFH, see NMFS, Consolidated Atlantic Highly Migratory Species Fishery Management Plan (July 2006, as amended), available at [http://www.nmfs.noaa.gov/sfa/hms/FMP/Consolidated\\_FMP.htm](http://www.nmfs.noaa.gov/sfa/hms/FMP/Consolidated_FMP.htm).

<sup>83</sup> NOAA's EFH mapper, *supra* note 82; see also Gulf of Mexico Fishery Management Council, *Generic Amendment Number 3 for Addressing Essential Fish Habitat Requirements, Habitat Areas of Particular Concern, and Adverse Effects of Fishing* (Mar. 2005), available at [http://www.gulfcouncil.org/Beta/GMFCWeb/downloads/FINAL3\\_EFH\\_Amendment.pdf#page=16](http://www.gulfcouncil.org/Beta/GMFCWeb/downloads/FINAL3_EFH_Amendment.pdf#page=16).



c. *Other Mechanisms for Conserving and Restoring Habitat*

Artificial Reefs

All of the Gulf states engage in artificial reef management and development. Each state except Alabama has an artificial reef plan in place.<sup>84</sup> The states fund artificial reef planning and development through various mechanisms. For example, Florida has used a combination of federal, state, local, and private funds to support artificial reef activities, with over \$17.59 million distributed over the past 28 years.<sup>85</sup> The Gulf States have rigs-to-reef programs, through which decommissioned rigs are sunk as artificial reefs, and the states receive 50% of the predicted decommissioning costs to support artificial reef programs.<sup>86</sup>

<sup>84</sup> Texas Artificial Reef Plan (1990), available at [http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd\\_pl\\_v3400\\_0332.pdf](http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_v3400_0332.pdf); Artificial Reef Development Plan for the State of Mississippi (1999), available at <http://www.dmr.ms.gov/Fisheries/Reefs/artificial-reef-development.pdf>; Florida Artificial Reef Strategic Plan (2003), available at <http://myfwc.com/media/131588/FLARStrategicPlan2.pdf>; Louisiana Artificial Reef Plan (1987), available at [http://www.wlf.louisiana.gov/sites/default/files/pdf/page\\_fishing/32430-Artificial%20Reef%20Program/louisiana\\_artificial\\_reef\\_plan\\_with\\_amendments\\_0.pdf](http://www.wlf.louisiana.gov/sites/default/files/pdf/page_fishing/32430-Artificial%20Reef%20Program/louisiana_artificial_reef_plan_with_amendments_0.pdf); *but see* Alabama Dep't of Conservation and Natural Resources, *Alabama's Artificial Reef Program*, <http://www.outdooralabama.com/fishing/saltwater/where/artificial-reefs/>.

<sup>85</sup> Florida Fish and Wildlife Conservation Commission, *Artificial Reef Program*, <http://myfwc.com/conservation/saltwater/artificial-reefs/ar-program/>.

<sup>86</sup> Bureau of Ocean Energy Management, Regulation, and Enforcement, *Artificial Reefs: Oases for Marine Life in the Gulf*, <http://www.gomr.boemre.gov/homepg/regulate/envIRON/rigs-to-reefs/artificial-reefs.html>.

Many states issue permits for artificial reefs. Alabama's artificial reef general permit area covers 1,200 square miles of waters.<sup>87</sup> Although private actors are required to obtain permits, they do not always do so.<sup>88</sup> In Florida, local government can develop reefs and hold permits for those activities.<sup>89</sup> This allows fishing clubs, nonprofits, and individuals to provide input and fund artificial reefs by working through their local governments.

### *Oyster reefs*

Oyster reef restoration is a major Gulf activity. Mississippi and Alabama both engage in oyster reef enhancement efforts and transplant oysters from reefs that are too thick to reefs that are too thin.<sup>90</sup> The Alabama Department of Conservation and Natural Resources collects fees from oyster dealers that can be used for rebuilding, cultivating, and redistributing oysters.<sup>91</sup> Altered salinity is a major challenge to oyster reef development; for example, increased salinity led to an oyster drill infestation in Alabama's coastal waters that contributed to a crash in state oyster harvests in 2008.<sup>92</sup>

### *Sanctuaries*

The wildlife management agencies in several states have authority to designate and/or manage various types of sanctuaries for harvested fisheries. For example, the Alabama Department of Conservation and Natural Resources has used its authority to regulate where shrimp may be taken to create targeted shrimp nursery areas where shrimp harvesting is prohibited.<sup>93</sup> However, this authority is not always used. In Texas, the Parks and Wildlife Commission has the authority to proclaim fish sanctuaries, but there are currently no fish sanctuaries in the state.<sup>94</sup> In Mississippi, the Commission on Marine Resources is responsible for establishing sanctuaries, as well as nursery grounds in estuaries and bays, to protect the state's fisheries resources. The Mississippi Commission must support prudent fisheries management, research, and the overall public interest; however, no sanctuaries have been established under this authority to date.<sup>95</sup>

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<sup>87</sup> Personal communication with expert; Alabama DCNR, Artificial Reefs, <http://www.outdooralabama.com/fishing/saltwater/where/artificial-reefs/>. For a map of the general permit areas, see Alabama DCNR, Reef Zone Map, <http://www.outdooralabama.com/fishing/saltwater/where/artificial-reefs/reefmap.cfm>.

<sup>88</sup> Personal communication with expert.

<sup>89</sup> FWCC, Artificial Reefs, <http://myfwc.com/conservation/saltwater/artificial-reefs/>.

<sup>90</sup> Miss. Code Ann. § 49-15-37; Ala. Code § 9-12-35.

<sup>91</sup> ALA. CODE § 9-12-42.

<sup>92</sup> Personal communication with expert; *see also* David Rainer, ADCNR, *Oyster Relay Works to Revive Reefs*, <http://www.outdooralabama.com/oaonline/oysterrelay10.cfm>; Bill Walton, Mississippi-Alabama Sea Grant Consortium, *Predators Drill Holes in Oyster Profits*, Aug. 20, 2009, <http://www.masgc.org/page.asp?id=437>.

<sup>93</sup> *See* Ala. Admin. Code r. § 220-3-.01(3); Ala. Code § 9-2-4(f).

<sup>94</sup> Tex. Parks & Wild Code § 81.206.

<sup>95</sup> Miss. Code Ann. §§ 49-15-321.

## Gear restrictions

Most states give managing agencies the authority to place restrictions on allowable gear. For example, both Mississippi<sup>96</sup> and Florida<sup>97</sup> implement restrictions on certain types of potentially harmful fishing gear. However, while the Louisiana Wildlife and Fisheries Commission can establish fishing seasons, it does not have authority to regulate fishing gear.<sup>98</sup>

## SUMMARY & RECOMMENDATIONS

### SUMMARY

Finfish and shellfish harvesting is a vital industry in the Gulf coast region. The Magnuson-Stevens Act establishes the basic framework for managing fisheries in federal waters, including those that extend into state waters, and provides authority to the Gulf of Mexico Fishery Management Council. Under this Act, the Council and NMFS have established EFH and HAPCs in many Gulf state waters. The five Gulf states have primary jurisdiction over the fishery resources in their waters. Each has established statutory and regulatory frameworks that offer varying levels of habitat protection, from gear restrictions to area closures and sanctuaries. These authorities should be used to the maximum extent possibly to ensure sustainable use of the resources and maintenance of the dependent industries.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

### REGION-WIDE RECOMMENDATIONS

**Essential fish habitat (EFH).** EFH designations in the Gulf of Mexico cover the majority of coastal waters; there are relatively few HAPCs.

- In addition to raising questions of EFH effectiveness in achieving stated objectives, their breadth taxes NMFS' limited capacity to comment on Gulf Council designations and regulations, and to engage in implementation and consultation. As a recent NMFS report states, "[o]ur lack of information on species-habitat associations, coupled with this single-species approach, has resulted in the designation of so much EFH in some cases that the original purpose of identifying areas that deserve focused attention and protection (i.e. truly essential habitats) has not been realized."<sup>99</sup> *Consider increasing NMFS resources directed to EFH and HAPC management and protection, and consider ways to constrain EFH to ensure it is an effective designation.*
- NMFS may provide recommendations regarding proposed state or federal project impacts on EFH and possible conservation measures. However, federal agencies are not required to adhere to the recommendations, provided they submit written explanations, and state agencies are not required to consult with the agency nor bound by its recommendations. *States could consider establishing EFH and consultation requirements for EFH in state waters, and establish procedures to voluntarily consult with NMFS for activities that could affect them.*

**Coordination and leveraging.** With limited resources, coordinating and leveraging projects is an important approach. Alabama provides an example with its shrimp nursery areas. The Department of

<sup>96</sup> Miss. Code Ann. §§ 49-15-95; 49-15-100.

<sup>97</sup> FLA. STA. §§ 379.2401 *et seq.*

<sup>98</sup> Personal communication with expert.

<sup>99</sup> NMFS, Habitat Assessment Improvement Plan (2010), available at <http://spo.nwr.noaa.gov/tm/TM108.pdf>.

Conservation and Natural Resources designates the areas; and the Marine Resources Division has worked with the State Lands Division to try to coordinate nursery areas with conservation acquisition efforts funded by the Forever Wild program, thereby leveraging the effects of the designations. *States could consider other ways to build from and leverage fisheries activities with other restoration and conservation efforts.*

**Oyster reef restoration.** Each of the Gulf states facilitates oyster harvesting through a variety of mechanisms—both public and private.<sup>100</sup> Some expert comments indicate that challenges exist with nongovernmental liability related to oyster reef restoration projects, as well as challenges related to mechanisms designed to ensure protection of non-commercial values related to oyster reefs. *States could evaluate the oyster leasing and management frameworks to ensure that oysters remain a sustainable fishery and provide key habitat for myriad Gulf coast species.*

#### STATE-SPECIFIC RECOMMENDATIONS

##### **Alabama artificial reefs.**

- There is some concern that private parties are developing unpermitted artificial reefs, resulting in unmarked and unmanaged artificial reefs.<sup>101</sup> *Assess effectiveness of permit program and enforcement efforts to determine how to stop unpermitted artificial reef development.*

##### **Mississippi fish sanctuaries and nursery grounds.**

- The Department of Marine Resources has used some of its authority to establish protected areas and preserves.<sup>102</sup> However, it has additional authority to establish sanctuaries, and nursery grounds in estuaries and bays, to protect the state's fisheries resources. There are currently no such sanctuaries. *This authority is a possible mechanism for protecting harvested species habitat.*

##### **Texas fish sanctuaries.**

- In addition to state authority to designate wildlife management areas and coastal preserves,<sup>103</sup> the Texas Parks and Wildlife Commission has authority to designate fish sanctuaries. There are currently no such sanctuaries. *This authority is a possible mechanism for protecting harvested species habitat.*

<sup>100</sup> For additional information on oyster reef management and conservation, see Beck et al., *Oyster Reefs at Risk and Recommendations for Conservation, Restoration, and Management*, 61 *BIOSCIENCE* 107 (Feb. 2011), available at <http://www.aibs.org/bioscience-press-releases/resources/Beck.pdf>.

<sup>101</sup> Personal communication with expert; see also, John Phillips, *Fish Cops: The Watchdog of the Marine Resources*, NIGHT HAWK PUBLICATIONS, <http://www.nighthawkpublications.com/journal/journal251-3.htm>.

<sup>102</sup> Marine Protected Areas in the Gulf of Mexico: A Survey 97-118 (Stephanie Showalter & Lisa C. Schiavinato eds), available at <http://masglp.olemiss.edu/Marine%20Protected%20Areas/index.htm>.

<sup>103</sup> *Id.* at 119-157.

## V. Protected Species Habitat

### a. Federal protections

The Endangered Species Act (ESA) governs efforts to protect and recover threatened and endangered species. The Fish and Wildlife Service (FWS) oversees management of terrestrial and some marine species, and the National Marine Fisheries Service (NMFS) (collectively, the Services) oversees management of most marine and anadromous species. Once listed, any “take” of a species – which includes habitat modification that results in actual injury or death to a species – is prohibited unless the agency has issued either an individual or general incidental take permit (ITP). Obtaining an incidental ITP requires submission of an accompanying conservation plan.<sup>104</sup>

In addition to listing and managing species, the Services are responsible for designating and managing “critical habitat” that is necessary for the species’ conservation.<sup>105</sup> Once a critical habitat is designated, federal agencies may not undertake or permit any activity that would destroy or adversely modify such habitat, except in specific circumstances.<sup>106</sup> FWS is specifically required to use its authority to acquire land to conserve listed species habitat.<sup>107</sup> States may also develop conservation programs for listing species and receive federal funding to support implementation.<sup>108</sup> Figure 2 shows the extent of key critical habitat that has been designated in the Gulf of Mexico.

FWS operates a safe harbor program for nonfederal landowners. A Safe Harbor Agreement provides that if a landowner complies with certain endangered species conservation measures, they are shielded from ESA liability. FWS states that over three million acres are currently covered by Safe Harbor Agreements.<sup>109</sup> Across the Gulf there are several state Safe Harbor Agreements as well. For example, Alabama, Florida, Louisiana, and Texas all have statewide Safe Harbor Agreements with FWS in place to protect the red-cockaded woodpecker; Mississippi has agreements for specific areas.<sup>110</sup>

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<sup>104</sup> 16 USC §§ 1532 (definitions), 1538 (prohibitions), 1539 (exceptions, permits, and plans); see also *Babbitt v. Sweet Home Chapter of Cmty. for a Great Or.*, 515 US 687 (1995).

<sup>105</sup> 16 USC §§ 1532–33.

<sup>106</sup> 16 USC § 1536. The prohibition applies unless an interagency committee determines that the action is one of regional or national significance, there are no reasonable and prudent alternatives, the benefits outweigh those of another action, and an irretrievable or irreversible commitment of resources has not occurred.

<sup>107</sup> 16 USC § 1534 (citing the Fish and Wildlife Act, Fish and Wildlife Coordination Act, Migratory Bird Conservation Act, and Land and Water Conservation Fund Act).

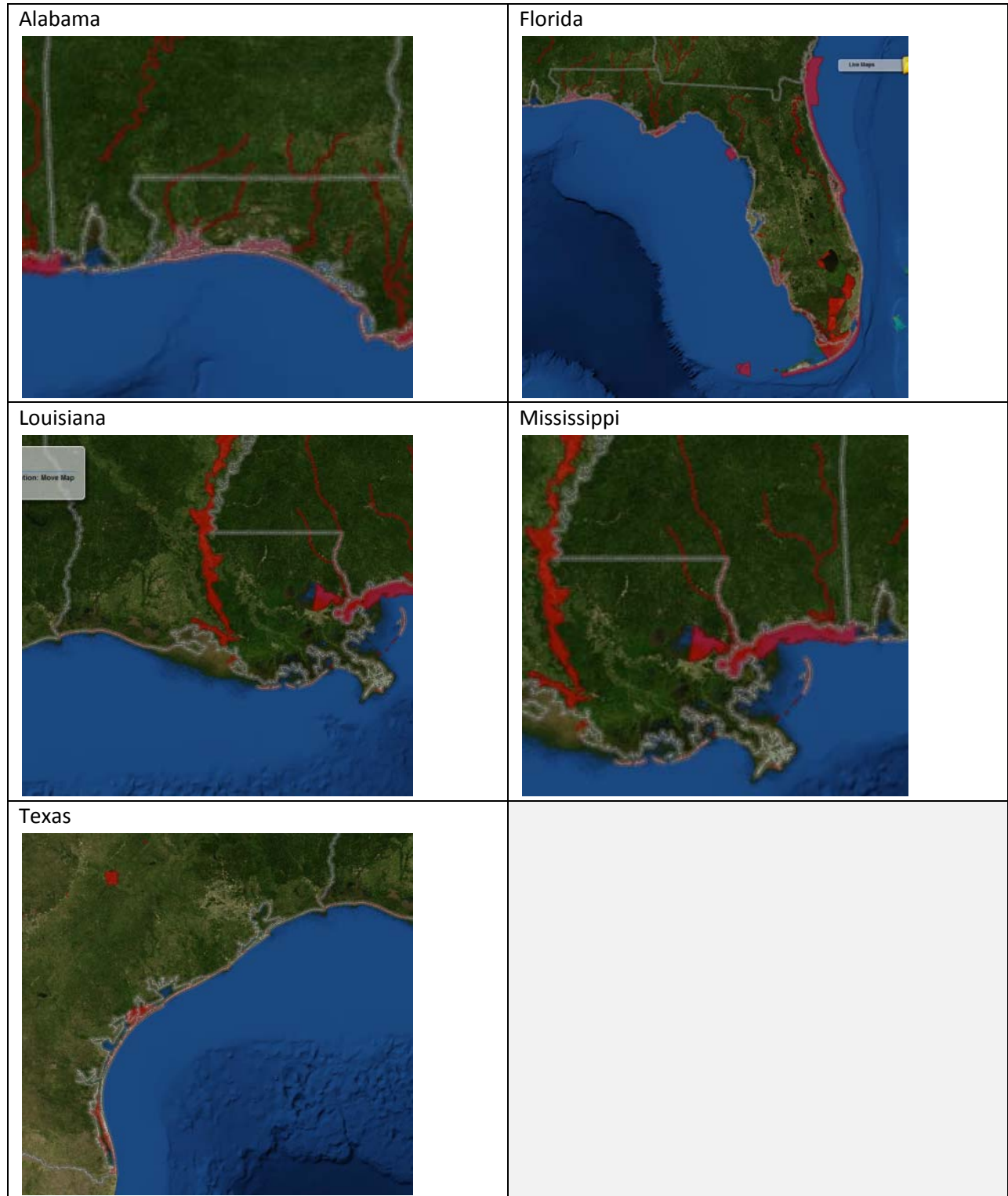
<sup>108</sup> 16 USC § 1535.

<sup>109</sup> See FWS, *Endangered Species Permits, Safe Harbor Agreements*, <http://www.fws.gov/midwest/endangered/permits/enhancement/sha/index.html> (last updated Feb. 2011).

<sup>110</sup> See FFWCC, *Safe Harbor: Red-Cockaded Woodpecker*, <http://myfwc.com/conservation/terrestrial/rcw/>; FWS, Alabama Ecological Field Services Field Office, *Red-Cockaded Woodpecker Alabama State-wide Safe Harbor Program*, <http://www.fws.gov/daphne/RCW/RCW-SafeHarbor.html>; LDWF, Wildlife, *The Louisiana Statewide Red-cockaded Woodpecker Safe Harbor Program*, <http://www.wlf.louisiana.gov/wildlife/louisiana-statewide-red-cockaded-woodpecker-safe-harbor-program>; FWS, Species Profile, *Red-Cockaded Woodpecker*, <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B04F>.



Figure 2. Critical habitat designations in the Gulf of Mexico, for Gulf sturgeon, West Indian manatee, Elkhorn and Staghorn coral, Smalltooth sawfish, Piping plover, Alabama beach mouse, and Perdido Key beach mouse.<sup>111</sup>



<sup>111</sup> FWS, Critical Habitat Mapper, <http://criticalhabitat.fws.gov/crithab/flex/crithabMapper.jsp>. The image is a screen shot showing the *Critical Habitat* and *Political* layers on Oct. 18, 2011.

The Marine Mammal Protection Act (MMPA) prohibits killing, harming, or harassing any marine mammal. In addition to MMPA protection, some marine mammals also are listed (or candidates for listing) as threatened or endangered. There are 29 marine mammals that may be encountered in the Gulf of Mexico; 28 are managed by NMFS, while the West Indian manatee is managed by FWS (see Table 4). As under the ESA, FWS and NMFS may issue ITPs for takes of marine mammals in some circumstances. When an ITP is issued, the agencies must include several activity criteria, such as the acceptable means of conduct and practical measures to reduce impacts to habitat.<sup>112</sup> The MMPA also encourages the agencies to designate “essential habitat” for marine mammals.<sup>113</sup> Finally, the agencies may establish conservation plans for specific stocks. To date plans have been established for Cook Inlet Beluga Whales and the Eastern Pacific Stock of Northern Fur Seal.<sup>114</sup>

**Table 4. MMPA species in the Gulf of Mexico<sup>115</sup>**

Species Covered by MMPA that Appear in the Gulf of Mexico <sup>116</sup>	
Atlantic Spotted Dolphin	Minke Whale
Bryde’s Whale	North Atlantic Right Whale
Blainville’s Beaked Whale	Pantropical Spotted Dolphin
Blue Whale*	Pygmy Killer Whale
Bottlenose Dolphin	Pygmy Sperm Whale
Clymene Dolphin	Risso’s Dolphin
Cuvier’s Beaked Whale	Rough-toothed Dolphin
Dwarf Sperm Whale	Sei Whale*
False Killer Whale	Short-finned Pilot Whale
Fin Whale*	Sperm Whale*
Fraser’s Dolphin	Spinner Dolphin (Long-snouted)
Gervais’ Beaked Whale	Striped Dolphin
Humpback Whale*	Sowerby’s Beaked Whale
Killer Whale	West Indian Manatee**
Melon-headed Whale	

\*Also listed as threatened or endangered under the ESA

\*\* Managed by FWS; all others managed by NMFS

The Migratory Bird Treaty Act prohibits the pursuit, hunt, take, capture, kill, possession, sale, and other of a listed migratory bird or any part of the animal or its nest or eggs.<sup>117</sup> The Bald and Golden Eagle Protection Act establishes similar provisions regarding those raptor species.<sup>118</sup>

The Coral Reef Protection Act seeks to promote coral reef ecosystem research, restoration, conservation, and sustainable use. Pursuant to the Act, NOAA maintains a national coral reef action

<sup>112</sup> 16 USC § 1371.

<sup>113</sup> 16 USC § 1361(2).

<sup>114</sup> The plans are available at NOAA, NMFS, Office of Protected Resources, *Marine Mammal Conservation Plans*, <http://www.nmfs.noaa.gov/pr/species/mammals/conservation.htm>.

<sup>115</sup> NOAA Fisheries Service, Southeast Regional Office, Protected Resources Division, *An Overview of Protected Species Commonly Found in the Gulf of Mexico* (presentation revised Dec. 2006), available at

<http://www.offshoreoperators.com/marinedebris/Protected-Species-In-GOM-NOAA.pdf>.

<sup>116</sup> The Gulf of Mexico’s Marine Mammals, <http://sci.tamucc.edu/tmmsn/29Species/marine.html>.

<sup>117</sup> 16 USC § 703(a).

<sup>118</sup> 16 UC § 668.

strategy and provides grants to a variety of state, local, and nongovernmental entities for projects that promote the purposes of the Act.<sup>119</sup> Coral reef protection is also promoted by Executive Order 13,089, which directs federal agencies to identify how their activities may affect coral reefs and minimize harm to them, and to protect and enhance the reefs as possible within their existing authority.<sup>120</sup> The Order also established the U.S. Coral Reef Task Force, which oversees and coordinates implementation. The Task Force adopted a long-term national action plan for coral reef conservation in 2000, and a national action strategy for further implementing it in 2002.<sup>121</sup>

The federal coral management framework is augmented by state efforts. In the Gulf, Florida is the only state with coral reefs in state waters. The Florida Department of Environmental Protection Coral Reef Conservation Program led the development of a local action strategy that involves dozens of agencies, nongovernmental organizations, stakeholder organizations, and others. This Southeast Florida Coral Reef Initiative works to advance coral reef conservation in the state.<sup>122</sup> The state has also implemented legislation to protect coral reefs in state waters. The Florida Coral Reef Protection Act holds parties responsible for any damages caused to coral reefs, including the cost of restoration or replacement.<sup>123</sup> The Florida Fish and Wildlife Conservation Commission conducts research through the Fish and Wildlife Research Institute, including the Coral Reef Evaluation and Monitoring Project, which has monitored sites in the Florida Keys since 1996.<sup>124</sup>

#### *b. Funding species conservation*

Section 6 of the ESA enables the Services to provide financial assistance to states to develop and implement species conservation programs (Table 5). Grants require a 25% non-federal match of estimated program costs if there is a single state applicant, or a 10% non-federal match when two or more states or territories propose a joint project. Each Gulf state has a program for protecting threatened and endangered species, and has entered into cooperative agreements with NMFS to manage listed marine species.<sup>125</sup>

Under the Wildlife and Sport Fish Restoration Act, and within its Wildlife and Sport Fish Restoration Program, FWS administers several grant programs to support wildlife restoration. Among others, these programs include the State and Tribal Wildlife Grants Programs. Each Gulf state has a wildlife action

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<sup>119</sup> 16 USC §§ 6401 *et seq.*

<sup>120</sup> Ex. Order No. 13,089, 63 Fed. Reg. 32,701 (June 16, 1998).

<sup>121</sup> US Coral Reef Task Force, The National Action Plan to Conserve Coral Reefs (Mar. 2000), available at <http://www.coralreef.gov/about/CRTFAxnPlan9.pdf>; US Coral Reef Task Force, A National Coral Reef Action Strategy (June 2002), [http://coris.noaa.gov/activities/actionstrategy/action\\_reef\\_final.pdf](http://coris.noaa.gov/activities/actionstrategy/action_reef_final.pdf).

<sup>122</sup> US Coral Reef Task Force, Coral Reef Local Action Strategies Fact Sheets, *Florida*, available at <http://www.coralreef.gov/las/lasfactsheets2009/las09/lasflorida.pdf>; Southeast Florida Coral Reef Initiative, *About Us*, <http://www.southeastfloridareefs.net/about-us/what-is-sefcrl/>.

<sup>123</sup> FLA. STAT. § 403.93345.

<sup>124</sup> FWCC, Fish and Wildlife Research Institute, Coral Reefs, <http://myfwc.com/research/habitat/coral/>.

<sup>125</sup> NOAA, NMFS, Office of Protected Resources, *Funded Species Recovery Grants to States*, <http://www.nmfs.noaa.gov/pr/conservation/states/funded.htm>; FWS, Annual Cooperative Endangered Species Conservation Fund Grant Awards Listings, available for 2003–2010 at <http://www.fws.gov/endangered/esa-library/index.html#grants>.

plan in place, and thus is eligible to receive state wildlife grants to implement them for the benefit of wildlife species and their habitat. This also includes the Wildlife Restoration Program, created by the Federal Aid to Wildlife Restoration Act, which uses funds from the Wildlife Restoration Account that originate from excise taxes on weapons. In addition, every year \$6 million (\$3 million from the Sport Fish Restoration and Boating Trust Fund and \$3 million from the Wildlife Restoration Account) is directed toward the Multistate Conservation Grant Program, which can include funding for projects for multistate habitat needs assessments.<sup>126</sup>

**Table 6. 2011 funding for the State Wildlife Grant Program and Wildlife Restoration Program.**<sup>127</sup>

	State Wildlife Grant Funds (Total: 5720 and 5620)*	Wildlife Restoration Grant Funds
Alabama	\$ 0.72 million	\$ 7.65 million
Florida	\$ 2.10 million	\$ 4.51 million
Louisiana	\$ 0.68 million	\$ 5.32 million
Mississippi	\$ 0.53 million	\$ 4.51 million
Texas	\$ 2.34 million	\$ 15.24 million

\* Subject to varying match requirements.

Several states have established additional mechanisms for funding actions to preserve protected species.

Alabama DCNR funds enforcement of the state corollary to the Marine Mammal Protection Act through the state Seafood Fund, which receives any penalties collected. Although the intent of the state law includes striving “to protect the rookeries, mating grounds and areas of similar significance . . . from the adverse effect of man’s actions,” ADCNR has not used its authority to regulate activities in marine mammal habitat.<sup>128</sup> In Texas, TPWD administers a Nongame and Endangered Species Conservation Account, which receives funds from donations, grants, wildlife art sales, and certain fees, and may be used for a variety of activities to benefit protected species, including habitat enhancement or acquisition.<sup>129</sup>

The Mississippi Commission on Wildlife, Fisheries, and Parks is required to carry out endangered species management programs, which may include land or habitat acquisition, but the state does not have a dedicated source of funding or mechanism for raising state funds for such efforts. However, the

<sup>126</sup> For information on the programs and explanations of their relationship, see FWS, *Wildlife & Sport Fish Restoration Program*, <http://wsfrprograms.fws.gov/Subpages/AboutUs/AboutUs1.htm>; see also

<sup>127</sup> FWS, *Apportionment of State Wildlife Grants for Fiscal Year 2011 – CFDA: 15.634* (May 20, 2011), available at <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/SWG/SWG2011Apportionment.pdf>; FWS, *Certificate of Apportionment of \$384,318,790 of the Appropriation for Pittman-Robertson Wildlife Restoration (CFDA No. 15.611) to the States, the Commonwealth of Puerto Rico, Guam, the U.S. Virgin Islands, American Samoa, and the Commonwealth of the Northern Mariana Islands for Fiscal Year 2011* (Feb. 10, 2011), available at <http://wsfrprograms.fws.gov/Subpages/GrantPrograms/WR/WRFinalApportionment2011.pdf>.

<sup>128</sup> Ala. Code § 9-11-390 *et seq.*

<sup>129</sup> Tex. Parks & Wild Code §§ 11.051–11.056.

nonprofit organization Foundation for Mississippi Wildlife, Fisheries, and Parks seeks to assist state wildlife conservation efforts by providing financial support for MDWFP projects.<sup>130</sup>

Florida has multiple stages and systems for raising support for species protection. First, the Wildlife Legacy Initiative targets for acquisition habitats identified by the Fish and Wildlife Research Institute as necessary for species at risk of becoming threatened. The Initiative primarily uses the Nongame Wildlife Trust Fund to finance these acquisitions, and the Fund receives the majority of its revenue from vehicle title fees.<sup>131</sup> Second, the Land Acquisition Trust Fund holds monies collected from wildlife mitigation fees, donations, and state appropriations, and uses the funds to acquire and manage important fish and wildlife conservation lands.<sup>132</sup>

All of the Gulf states have at least some specialty license plates that potentially provide funds for conservation and restoration (Table 7); Florida’s program appears to be the most robust. For example, the FFWCC Marine Turtle Management Program is supported entirely by revenue from the sea turtle license plate; that license plate generated \$1.486 million in FY 2009–2010, and the funds are divided between the Marine Resources Conservation Trust Fund and the FFWCC.<sup>133</sup> Other specialty plates generate revenue to support conservation of wild dolphins (\$1.257 million), manatees (\$1.239 million), reefs (\$0.878 million), the seas (\$0.723 million), wildlife generally (\$0.482 million), whales (\$0.408 million), and Tampa Bay Estuary (\$0.121 million).<sup>134</sup>

**Table 7. Gulf state specialty plates that potentially provide funding for coastal habitat.**

	Specialty Plate	Recipient of All/Some Fees Collected
<b>Alabama</b> <sup>135</sup>	Cahaba River	Cahaba River Society
	Ducks Unlimited	Alabama Ducks Unlimited, Inc.
	Forever Wild	State Lands Division for the Forever Wild Land Acquisition Program
	Saltwater Fishing	Saltwater conservation efforts
	Wildlife Federation	Alabama Wildlife Federation
<b>Florida</b> <sup>136</sup>	Conserve Wildlife	Wildlife Foundation of Florida & FFWCC
	Protect Florida Whales	Harbor Branch Oceanographic Institute, Inc.
	Protect Our Reefs	Mote Marine Laboratory
	Protect Wild Dolphins	Harbor Branch Oceanographic Institute, Inc.
	Save Our Seas	Harbor Branch Oceanographic Institute, Inc.
	Save the Manatee	Save the Manatee Trust Fund
	Sea Turtle	Marine Resources Conservation Trust Fund & FFWCC
	Tampa Bay Estuary	Tampa Bay Estuary Program

<sup>130</sup> Miss. Code Ann. § 49-5-111; Foundation for Mississippi Wildlife, Fisheries, and Parks, *Mission*, <http://www.foundationmwfp.com/mission.aspx>.

<sup>131</sup> FFWCC, Status of Trust Funds as of August 2011, at 7–8, available at [http://myfwc.com/media/1503479/13B\\_TrustFunds.pdf](http://myfwc.com/media/1503479/13B_TrustFunds.pdf).

<sup>132</sup> Fla. Stat. § 379.208, 379.212; FFWCC, Status of Trust Funds, *supra* note 131, at 2.

<sup>133</sup> Personal communication with expert; Florida Dep’t of Highway Safety and Motor Vehicles Revenue Report July 2009 Thru June 2010, at 11, available at [http://www.flhsmv.gov/html/revpub/revpub\\_july08\\_june09.pdf](http://www.flhsmv.gov/html/revpub/revpub_july08_june09.pdf).

<sup>134</sup> Florida Dep’t of Highway Safety and Motor Vehicles Revenue Report, *supra* note 132, at 11.

<sup>135</sup> Alabama, *Specialty License Plates*, <http://www.ador.state.al.us/motorvehicle/specialty.html>.

<sup>136</sup> Florida, *Specialty License Plates Index*, <http://www.flhsmv.gov/dmv/specialtytags/>.

<b>Louisiana</b> <sup>137</sup>	Coastal Conservation	--
	Ducks Unlimited	--
	Largemouth Bass	--
	Protect Wild Dolphins	--
<b>Mississippi</b> <sup>138</sup>	Delta Waterfowl Foundation	Delta Waterfowl Foundation
	Dolphins	Institute for Marine Mammal Studies
	Ducks Unlimited	Ducks Unlimited, Inc.
	Wildlife Federation	Mississippi Wildlife Federation
	Wildlife, Fisheries & Parks (8)	Wildlife Heritage Fund
	Wildlife, Fisheries & Parks: Speckled Trout	Seafood Fund
<b>Texas</b> <sup>139</sup>	Adopt-A-Beach	TGLO Adopt-A-Beach Program
	Coastal Conservation	TPWD to support Coastal Conservation Association Texas
	Ducks Unlimited (2)	TPWD to support Ducks Unlimited, Inc. (wetlands, etc.)
	Marine Mammal Recovery	TPWD to support Texas Marine Mammal Stranding Network

*c. Other protections*

In addition to the federal systems and state corollaries specifically designed to protect threatened and endangered species, marine mammals, and bald and golden eagles, there are other mechanisms that can provide protection to such species. The framework for managing harvested species includes measures designed to protect vulnerable species from fishing activities. Place-based conservation mechanisms such as parks, refuges, and wildlife management areas often support for protected species, or even prioritize areas or efforts that will benefit them.

**SUMMARY & RECOMMENDATIONS**

<b>SUMMARY</b>
<p>There are myriad federal laws and programs focused on protecting habitat for certain fish and wildlife species. Some, such as the ESA, focus on preventing species extinctions, while others, such as the Federal Aid to Wildlife Restoration Act, focus more broadly on protecting wildlife habitat. In addition, the Gulf states have established numerous programs to supplement and expand the federal efforts to conserve vulnerable, game, and/or nongame species. These programs provide important sources of funding for habitat assessment, planning, acquisition, and enhancement.</p>

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

<sup>137</sup> Louisiana, *Louisiana Special Plates*, [http://omv.dps.state.la.us/Special%20Plates/SpecialPlates\\_display.asp](http://omv.dps.state.la.us/Special%20Plates/SpecialPlates_display.asp).

<sup>138</sup> Mississippi, *Special Tag Fee Distribution*, <http://www.dor.ms.gov/mvl/SpecialtyTagFeeDistribution.html>.

<sup>139</sup> Texas, *Vehicle Title and Registration Services*, <https://rts.texasonline.state.tx.us/NASApp/txdotrts/SpecialPlateOrderServlet?grpId=60&pltid=92>.

## REGION-WIDE RECOMMENDATIONS

**Ecosystem-based listings and designations.** While the federal and state frameworks for protecting threatened and endangered species are relatively robust, issues such as the large number of species on the candidate species list suggest that the responsible agencies are constrained in their capacity to implement all aspects of the programs. *One possible mechanism for increasing efficiency in the processes is to adopt an ecosystem approach, including jointly listing related species, collectively designating critical habitat for species with overlapping needs, and approaching conservation plan development from an ecological standpoint.*<sup>140</sup>

**Federal funding.** ESA Section 6 grants provide funding for developing and implementing vulnerable species conservation programs. Among other things, these funds can be used to establish habitat conservation plans and to acquire habitat. When multiple states jointly apply for a grant, the nonfederal match requirement decreases from 25% to 10%. *Since many marine species' habitats are often transboundary, regional actors may wish to consider increasing multistate grant applications for ESA Section 6 financial assistance to expand state ability to engage in habitat planning and acquisition for vulnerable species.*<sup>141</sup>

**State funding.** Florida has realized significant success raising funds for various conservation and restoration activities through their specialty license plate sales (in addition to other vehicle-related fees; see, for example, Table 6). *Due to public appeal, states may wish to continue and expand nontraditional sources of raising funds to support protected species habitat conservation.*

## STATE-SPECIFIC RECOMMENDATIONS

**Florida's coral reefs.** Florida's coral reef protection efforts focus on corals offshore of southeast Florida. However, the reef habitat extends beyond the Keys as far north as Tarpon Springs in central Florida.<sup>142</sup> *The state may wish to consider expanding coral reef efforts to include research, monitoring, and protection of corals outside of ideal conditions.*

**Louisiana sea turtle regulations.** State law prohibits the Louisiana Department of Wildlife and Fisheries from inspecting turtle excluder devices (TEDs) in fishing gear and enforcing federal laws related to TEDs for recreational or commercial fishermen. The statute states the policy will continue until sufficient information is provided to satisfy questions about efficacy, efficiency, and effects on harvesting.<sup>143</sup> *State actors may consider investing additional research to answer the statutorily posed questions about TEDS to overcome this hurdle and ensure protection of vulnerable sea turtles.*

**Texas local habitat conservation plans.** The Texas legislature has authorized local governments to create regional habitat conservation plans that meet federal ESA requirements, and to enact protective regulations if necessary to implement them. However, the process is impeded by the requirement that voters must pre-approve bonds to fund all acquisitions for habitat preserves contained in the plan before any federal permits (i.e., Section 7 or 10(a) permits) can be accepted. *Consider amending this requirement to allow implementation of regional habitat conservation plans, and receipt of relevant federal permits, without voter-approved financing for all acquisitions identified in the plan.*

<sup>140</sup> See, e.g., Lynn Scarlett, *Reshaping the Endangered Species Act: A Holistic Approach Needed?*, Resources for the Future Issue Brief (June 2010), at 7, available at <http://www.rff.org/RFF/Documents/RFF-IB-10-15.pdf>.

<sup>141</sup> Also, the U.S. Commission on Ocean Policy recommended that USFWS and NOAA expand their Section 6 cooperative agreements with states to enhance research, monitoring, management and public information. USCOP, *supra* note 8, at 308.

<sup>142</sup> STEVEN O. ROHMANN & MARK E. MONACO, MAPPING SOUTHERN FLORIDA'S SHALLOW-WATER CORAL ECOSYSTEMS: AN IMPLEMENTATION PLAN (2005), available at <http://ccma.nos.noaa.gov/publications/biogeography/FloridaTm19.pdf>.

<sup>143</sup> As stated by the U.S. Commission on Ocean Policy, "Gear modifications, such as turtle excluder devices, used in the shrimp trawl fishery since the late 1980s, have saved tens of thousands of sea turtles in U.S. waters and other areas where the gear is required, such as Australia. Nevertheless, sea turtle bycatch in global shrimp fleets remains very high." USCOP, *supra* note 8, at 311.

## VI. Protected Places

There are numerous area-based conservation and restoration mechanisms. Some only apply to federal lands and waters; others apply to both state and federal lands and waters; and still others are incentive-based programs to work with private landowners.

### a. Federal protected places

Federal laws target both ecosystem and archaeological or historic place-based protection. Ecologically-targeted approaches include the following:

- The National Marine Sanctuaries Act (NMSA) establishes a framework for protecting, restoring, and studying marine areas of national significance.<sup>144</sup> The two sanctuaries in the Gulf of Mexico are Flower Garden Banks, which is offshore of Texas and Louisiana, and Florida Keys, which is offshore of southern Florida.
- Under the Antiquities Act, the President has the authority to establish as national monuments areas of historic or scientific interest or significance.<sup>145</sup> NOAA and FWS jointly manage the largest U.S. marine national monument, which the President established in 2006 in the Hawaiian Islands;<sup>146</sup> no marine national monuments have been established in the Gulf of Mexico to date.
- The National Wildlife Refuge System is a network of areas devoted to fish and wildlife conservation, which FWS manages using comprehensive plans.<sup>147</sup> There are numerous refuges located along the Gulf coast.<sup>148</sup>
- The National Park System is a network of natural areas set aside for conservation for future generations, with park management priorities set by Congress;<sup>149</sup> along the Gulf, national parks include the Padre Islands and Gulf Islands National Seashores, among others. Like wildlife refuges, there are no national parks that exist exclusively in the marine environment—i.e., all are linked to land.

Funding for refuge and park (as well as forest system) acquisitions can come from the Land and Water Conservation Fund. States may also use monies from this Fund, although they must have a comprehensive statewide outdoor recreation plan in place, provide a 50% match, and use the funding within three years.<sup>150</sup>

In addition to place-based statutes designed to protect ecosystems, two other statutes protect historic and archaeological resources: the Archaeological Resources Protection Act (ARPA) and National Historic

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<sup>144</sup> 16 USC §§ 1431 *et seq.*

<sup>145</sup> 16 USC § 431.

<sup>146</sup> See Papahānaumokuākea Marine National Monument, *About Us*, <http://www.papahānaumokuākea.gov/about/welcome.html>.

<sup>147</sup> 16 USC § 668dd.

<sup>148</sup> For a map of the National Wildlife Refuge System, see [http://www.fws.gov/refuges/pdfs/refugeMap0930\\_2008.pdf](http://www.fws.gov/refuges/pdfs/refugeMap0930_2008.pdf).

<sup>149</sup> 16 USC § 1.

<sup>150</sup> 16 USC § 460I-4–460I-11.



Preservation Act (NHPA). ARPA protects archeological resources on public lands and state waters,<sup>151</sup> while NHPA protects historic sites in all waters including the exclusive economic zone. In state waters, states can seek approval for their own State Historic Preservation Program.<sup>152</sup>

*b. State protected places*

All the Gulf states have area-based conservation mechanisms in place for wildlife management areas, parks, refuges, sanctuaries, preserves, and/or scientific areas. The amount of land conserved varies from state to state. For example, over 9.9 million acres are under federal or state conservation programs in Florida, amounting to over 25% of the state's total area,<sup>153</sup> while only approximately 5% of land is targeted for conservation in Texas.<sup>154</sup>

One of the greatest challenges is identifying consistent and adequate funding for the acquisition of conservation lands. Two programs stand out as highly lauded and effective acquisition frameworks. Established in 1992 by amendment of the Alabama constitution, the state's Forever Wild program has been the primary mechanism for acquiring state conservation lands, and has shaped the state's participation in federal programs by providing a source of matching funds for federal grants.<sup>155</sup> A Board of Trustees makes acquisition decisions, and then the Alabama Department of Conservation and Natural Resources takes the lead in managing acquired areas. Through 2012 the Forever Wild Land Trust receives 10% of the income earned from the Alabama Trust Fund, which receives the state's offshore oil and gas leasing revenue.<sup>156</sup> An initiative to extend Forever Wild without significant amendment will appear on the November 2012 ballot.<sup>157</sup>

Florida Forever is also praised for its conservation acquisitions. Of the roughly 9.9 million acres targeted for conservation in the state, over 2.4 million acres were purchased under Florida Forever and the precursor Florida Preservation 2000 program.<sup>158</sup> Starting in 2001, the Florida Forever Act authorized \$300 million of bond revenue annually, which is divided among the interagency Acquisition and Restoration Council, the water management districts for the Save Our Rivers program, the Florida

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<sup>151</sup> 16 USC § 470aa.

<sup>152</sup> 16 USC § 470, 470a; *see also* BOEM, Environmental Compliance, Branch of Environmental Assessment, National Historic Preservation Act, <http://www.boemre.gov/eppd/compliance/nhpa/index.htm>.

<sup>153</sup> Florida Natural Resources Inventory, Summary of Florida Conservation Lands (Feb. 2011), available at [http://www.fnai.org/PDF/Maacres\\_201102\\_FCL\\_plus\\_LTF.pdf](http://www.fnai.org/PDF/Maacres_201102_FCL_plus_LTF.pdf); Florida Highway Patrol, Florida Facts, <http://www.flhsmv.gov/fhp/html/floridafacts.html>. Using (1) a measure of Florida's total land area as 54,153 square miles, and (2) the conversion of 9.9 million acres to approximately 15,469 square miles, results in estimate that 28% of Florida's land area is under conservation.

<sup>154</sup> Texas Land Conservancy, *About TLC*, [http://www.texaslandconservancy.org/index.php?option=com\\_content&view=article&id=213&Itemid=34](http://www.texaslandconservancy.org/index.php?option=com_content&view=article&id=213&Itemid=34).

<sup>155</sup> Constitutional Amendment 543, codified at Ala. Const. Art. XI, Sec. 219.07.

<sup>156</sup> *Id.* During 2001-2006, the annual funding for Forever Wild was about \$10.6 million annually. Conservation Almanac, <http://www.conservationalmanac.org/secure/almanac/southeast/al/programs.html>.

<sup>157</sup> Senate Bill 471 (2011).

<sup>158</sup> FDEP, Division of State Lands, [http://www.dep.state.fl.us/lands/statelands\\_cont.htm](http://www.dep.state.fl.us/lands/statelands_cont.htm).

Communities Trust for grants for local government and NGO acquisitions, and others.<sup>159</sup> Despite the program’s success, however, the Florida Forever Trust Fund will have a zero balance at the end of the 2011-12 fiscal year.<sup>160</sup>

The Trust for Public Land has compiled statistics about conservation achieved using public funds (local, state, and federal) between 1998 and 2008.

**Table 8. Land conservation achieved using local, state, and federal funding 2004–2008.**<sup>161</sup>

		2008	2007	2006	2005	2004
Alabama	Expenditures (millions)	<i>Data not available</i>	<i>Data not available</i>	<i>Data not available</i>	\$ 3.33	\$ 14.77
	Acres Conserved				4,287	18,575
Florida	Expenditures (millions)	\$ 490.84	\$ 596.94	\$ 835.83	\$ 292.66	\$ 241.26
	Acres Conserved	55,744	94,806	157,160	121,821	74,554
Louisiana	Expenditures (millions)	<i>Data not available</i>	<i>Data not available</i>	<i>Data not available</i>	\$ 6.08	\$ 6.54
	Acres Conserved				8,842	7,715
Mississippi	Expenditures (millions)	<i>Data not available</i>	<i>Data not available</i>	<i>Data not available</i>	2.42	\$ 0.22
	Acres Conserved				1,093	101
Texas	Expenditures (millions)	\$ 41.51	\$ 81.64	\$ 19.40	\$ 69.05	\$ 27.18
	Acres Conserved	44,839	23,041	13,117	58,910	13,799

*c. Conservation and restoration on private land*

Along with federally protected public land and water, there also are federal programs that target conservation of private land. The US Department of Agriculture (USDA) administers the following:

- the Conservation Reserve Program, which purchases 10–15 year easements on highly erodible or marginal agricultural lands,
- the Wetlands Reserve Program, which buys easements on or shares the costs of wetlands restoration on farmed lands,
- the Conservation Stewardship Program, which creates offsets for partial costs of implementing conservation measures that protect wildlife, among other things,
- the Environmental Quality Incentives Program, which enables cost-sharing conservation plan implementation on agricultural lands, and
- the Wildlife Habitat Incentive Program, which pays up to 90% of the cost of installing conservation practices on agriculture lands.<sup>162</sup>

<sup>159</sup> For examples of restoration projects in the Northwest Water Management District, see [http://www.dep.state.fl.us/lands/files/reports/0611\\_com.pdf](http://www.dep.state.fl.us/lands/files/reports/0611_com.pdf).

<sup>160</sup> FFWCC, Status of Trust Funds as of August 2011, at 21–22, available at [http://myfwc.com/media/1503479/13B\\_TrustFunds.pdf](http://myfwc.com/media/1503479/13B_TrustFunds.pdf).

<sup>161</sup> The Trust for Public Land, Conservation Almanac, *Land Conservation in Alabama*; The Trust for Public Land, Conservation Almanac, *Land Conservation in Florida*; The Trust for Public Land, Conservation Almanac, *Land Conservation in Louisiana*; The Trust for Public Land, Conservation Almanac, *Land Conservation in Mississippi*; The Trust for Public Land, Conservation Almanac, *Land Conservation in Texas*, <http://www.conservationalmanac.org/secure/almanac/southwest/tx/tx.html>.

<sup>162</sup> 16 USC §§ 3831(b), 3837, 3838d–g, 3839aa, 3839bb-1.

The Fish and Wildlife Service (FWS) provides technical and financial assistance to private landowners (and technical assistance to other public and private entities) through the Partners for Fish and Wildlife Program, to encourage voluntary habitat restoration and enhancement.<sup>163</sup> FWS also provides grants to states for state-administered Landowner Incentive Programs that are designed to benefit at-risk species and/or to provide technical and financial assistance for private landowner habitat protection and restoration. The federal Land and Water Conservation Fund provides funds to all Gulf states.<sup>164</sup>

A 2011 report from the Land Trust Alliance analyzed and provided recommendations for increasing private landowner restoration and conservation in the region. The report includes, among others, targeted recommendations for improving federal private land conservation programs.<sup>165</sup> It also summarized workshop participant responses, including a query about the greatest challenges or limitations to private land protection, restoration, and conservation in the Gulf coastal region. The top responses were: (i) funding—private, (ii) funding—government, (iii) capacity, (iv) lack of awareness of existing programs, and (v) match or cost-share requirements.<sup>166</sup>

## SUMMARY & RECOMMENDATIONS

### SUMMARY

Federal and state laws, policies, and programs establish area-based protections for important habitats that hold cultural, recreational, natural, historic, and other values. Various authorities exist for designating such areas, and the mechanisms vary in their scope of protection. A spectrum of programs are available to public and private land and water owners and managers. One of the greatest challenges with acquiring conservation land and water is identifying adequate financial resources.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

### REGION-WIDE RECOMMENDATIONS<sup>167</sup>

**Marine protected areas (MPAs).** Overall, the Gulf of Mexico has few areas that are protected as reserves—only 0.5% of the Gulf is designated as “no take.”<sup>168</sup> In considering potential expansion of MPAs, the MPA Federal Advisory Committee identified the following priority actions as those that should be first in line for implementation, including (1) natural heritage objectives: critical habitat of threatened and endangered species, reproductive areas and nursery grounds, and biogenic habitat to achieve natural; (2) cultural heritage objectives: resources listed or eligible for listing on National Register of Historic Places and cultural sites that are paramount to a culture’s identity and/or survival;

<sup>163</sup> 16 USC § 3771 *et seq.*

<sup>164</sup> FWS, Landowner Incentive Program, Grant List, <http://faims.fws.gov/DrillDown/grantSummary.do?includeInactive=no>.

<sup>165</sup> LAND TRUST ALLIANCE, ANALYSIS AND RECOMMENDATIONS FOR INCREASING RESTORATION AND CONSERVATION ON PRIVATE LANDS IN THE GULF OF MEXICO REGION (Apr. 2011), available at [http://www.gulfofmexicoalliance.org/working/restoration/policy\\_changes/pdfs/Private\\_Lands\\_Analysis\\_May2011\\_final\\_report.pdf](http://www.gulfofmexicoalliance.org/working/restoration/policy_changes/pdfs/Private_Lands_Analysis_May2011_final_report.pdf).

<sup>166</sup> *Id.* at 26.

<sup>167</sup> For additional recommendations, see also the *Protected Species Habitat* and *Harvested Species Habitat* sections.

<sup>168</sup> National Marine Protected Areas Center, Snapshot of Gulf of Mexico MPAs (2011), available at [http://www.mpa.gov/pdf/helpful-resources/gom\\_mpas\\_snapshot.pdf](http://www.mpa.gov/pdf/helpful-resources/gom_mpas_snapshot.pdf).

and (3) sustainable production objectives: reproductive areas and nursery grounds and areas important for conservation of natural age and sex structure of important harvested species.<sup>169</sup> *The Gulf states could adopt these priorities in order to prioritize MPA development and expansion.*

**Private ownership.** The extent of private ownership varies across the Gulf. In Texas, 95% of land is privately owned, whereas approximately 70% of Florida's undeveloped areas are privately owned. Because of the extent of private ownership, it is critical to engage in efforts to make ownership of sensitive habitats an asset, rather than a liability. Several federal and state entities have established private landowner incentive programs to encourage and facilitate voluntary conservation measures. *Across the region, decision-makers should consider continuing and expanding the development and implementation of private landownership conservation incentive programs, such as FWS' Partners for Fish and Wildlife program.*

**Protection versus restoration.** Throughout the Gulf (and most of the country) there is concern that habitat efforts emphasize restoration instead of protection. Such an approach focuses on conserving already degraded habitat rather than preserving healthy habitat.<sup>170</sup> *Changing to a proactive, rather than reactive, system requires public and private education to increase support for conservation efforts.*

**Acquisition.** Large-scale land and water planning and acquisition programs enable coordinated and systematic area-based conservation that can achieve cumulative benefits and maximize the value of resources used. Two widely praised programs are Alabama's Forever Wild program and Florida's Florida Forever program:

- Forever Wild was created by voter-approved constitutional amendment. It provides a model of publicly supported, large-scale conservation, and a practical source of federal matching funds. An initiative to extend the program will appear on the November 2012 ballot.
- Replacing its predecessor program, Florida Forever enabled bond-financed land acquisition, enhancement, and management. It was tremendously successful and publicly popular due to its emphasis on public access. However, the enacting legislation only authorized appropriations for 10 years, and the Trust Fund will be depleted at the end of FY 2011–12.

*In addition to continuing these programs, the other Gulf states could consider taking similar approaches.*

## STATE-SPECIFIC RECOMMENDATIONS

**Florida's aquatic preserves.** The Florida Aquatic Preserves Program has been lauded as an example of conservation success. Recent state budget cuts, however, resulted in the closure of four offices, leaving 11 aquatic preserves largely unmanaged. FDEP noted that the four offices were chosen because they would be easiest to reopen.<sup>171</sup> *To avoid habitat degradation and loss of restoration progress, the state should renew its commitment to this program.*

**Mississippi acquisitions.** Mississippi does not have significant sources of dedicated funding for acquiring land and water for conservation (although the Coastal Preserves Program has been quite successful with coastal wetlands acquisition). *"OCRM encourages DMR to implement a competitive CELCP project selection process as laid out in the draft Mississippi CELCP plan."*<sup>172</sup>

**Texas funding.** (See discussion of funding for acquisitions under *Protected Species Habitat.*)

<sup>169</sup> MPA Federal Advisory Committee, *Toward a National System of Marine Protected Areas* (2008), available at [http://www.mpa.gov/pdf/fac/fac\\_recmd\\_06\\_07.pdf](http://www.mpa.gov/pdf/fac/fac_recmd_06_07.pdf).

<sup>170</sup> See, e.g., Craig R. Groves, *Drafting a Conservation Blueprint* (2003) stating that "[a]s a number of authors have indicated, ecological restoration is expensive, and as a science, it is in its infancy. The results of restoration are enveloped with uncertainty, and at least one restoration ecologist has noted that it is 'always a poor second choice to preservation of original habitats.'"

<sup>171</sup> FDEP, *CAMA Office Closures*, [http://www.dep.state.fl.us/coastal/office\\_closures.htm](http://www.dep.state.fl.us/coastal/office_closures.htm). The four offices were: Tampa Bay, Milton/Northwest Florida, Central Panhandle/St. Joseph Bay, and Jacksonville/Northeast Florida.

<sup>172</sup> NOAA, OCRM, *Final Evaluation Findings, Mississippi Coastal Program*, *supra* note 184, at 10–15.

## VII. Coastal Management

States have primary authority over the submerged lands and natural resources underlying the navigable waters within their coastal zones.<sup>173</sup> For Alabama, Louisiana, and Mississippi, this zone extends out to 3 nautical miles (roughly 3.3 statute miles) from shore, while off the Gulf coast of Florida and the entire state of Texas, the zone extends out to nine nautical miles (roughly 9.9 statute miles).<sup>174</sup>

### a. Coastal management programs

The overarching federal framework that supports states' management of these coastal areas is established by the Coastal Zone Management Act (CZMA). Through the incentives of federal consistency review authority and federal funding eligibility, the CZMA encourages states to implement comprehensive programs for managing their coastal zones. Pursuant to the CZMA, NOAA administers several matching grants programs, including the Coastal Resource Improvement Program,<sup>175</sup> Coastal and Estuarine Land Conservation Program,<sup>176</sup> National Estuarine Research Reserves,<sup>177</sup> and Coastal Zone Enhancement Grants.<sup>178</sup>

Each Gulf state has enacted a coastal management program (Table 9), which has been approved by NOAA's Office of Ocean and Coastal Resource Management.<sup>179</sup>

**Table 9. Summary information about the five Gulf states' coastal management programs.**

	COVERAGE <sup>180</sup>			INLAND AND OFFSHORE BOUNDARIES <sup>181</sup>		AUTHORITY <sup>182</sup>
	General Coast	Tidal Shorelines	Coastal Population	Inland Boundary	Offshore Boundary	Responsible Agency
<b>Alabama</b>	53 miles	607 miles	540,258	Continuous 10-foot elevation contour in Baldwin and Mobile Counties	3 nautical miles	ADCNR (planning) & ADEM (permitting, enforcement)
<b>Florida</b>	770 miles (Gulf)	5,095 miles (Gulf only)	15,982,378	Entire state, with two tiers: coastal management funds are only provided to Gulf and Atlantic	<i>Gulf</i> : 9 nautical miles	FDEP

<sup>173</sup> Submerged Lands Act, 43 USC §§ 1311–12.

<sup>174</sup> NOAA, OCRM, State Coastal Zone Boundaries (July 1, 2011), available at <http://coastalmanagement.noaa.gov/mystate/docs/StateCZBoundaries.pdf>.

<sup>175</sup> 16 USC § 1456a.

<sup>176</sup> 16 USC § 1456-1.

<sup>177</sup> 16 USC § 1461.

<sup>178</sup> 16 USC § 1456b.

<sup>179</sup> State coastal management program profiles are available at NOAA, OCRM, *State and Territories Working with NOAA on Ocean and Coastal Management*, <http://coastalmanagement.noaa.gov/mystate/welcome.html>.

<sup>180</sup> NOAA, *The Coastline of the United States*, NOAA/PA 71406 (1975), available at [http://www.nauticalcharts.noaa.gov/hsd/docs/CSE\\_library\\_Coastline\\_of\\_the\\_US\\_1975.pdf](http://www.nauticalcharts.noaa.gov/hsd/docs/CSE_library_Coastline_of_the_US_1975.pdf); NOAA, OCRM, *States and Territories OCM*, *supra* note 179.

<sup>181</sup> NOAA, OCRM, State Coastal Zone Boundaries (July 1, 2011), available at <http://coastalmanagement.noaa.gov/mystate/docs/StateCZBoundaries.pdf>.

<sup>182</sup> State coastal management program profiles available at NOAA, OCRM, *States and Territories OCM*, *supra* note 179.

	COVERAGE <sup>180</sup>			INLAND AND OFFSHORE BOUNDARIES <sup>181</sup>		AUTHORITY <sup>182</sup>
	General Coast	Tidal Shorelines	Coastal Population	Inland Boundary	Offshore Boundary	Responsible Agency
	only)			coastal cities and counties contiguous to state water bodies where marine species of vegetation are the dominant plant community	Atlantic: 3 nautical miles	
Louisiana	397 miles	7,721 miles	2,044,910	Varies from 16-32 miles inland from the Gulf coast (includes Lake Pontchartrain)	3 nautical miles	LDNR
Mississippi	44 miles	359 miles	363,988	Includes the 3 counties adjacent to the coast, as well as all adjacent coastal waters and barrier islands	3 nautical miles	MDMR
Texas	367 miles	3,359 miles	5,211,014	Area seaward of the Texas coastal facility designation line, which roughly follows roads parallel to coastal waters and wetlands typically within one mile of tidal rivers	9 nautical miles	TGLO

NOAA periodically reviews state coastal management programs, assessing their accomplishments and providing necessary or voluntary suggestions for improving the program (Table 10). Each state must have a program document that provides a guide to the state coastal management program and its enforceable policies. However, there is significant variation in how current and comprehensive the documents are. For example, the Florida Department of Environmental Protection just updated its guide to the Florida Coastal Management Program in March 2011.<sup>183</sup> Conversely, the last NOAA program evaluations for Mississippi (2010) and Alabama (2008) indicated that the states' coastal program documents were out of date, and recommended updating them.<sup>184</sup> Texas has not updated its program document recently either, and its evaluation (2007) suggested exploring ways to educate the public about the program.<sup>185</sup> Louisiana has adopted an alternative approach. The state relies upon the program's Final Environmental Impact Statement, published in 1980, as its official program document. However, it also provides an up-to-date guide, *A Coastal User's Guide to the Louisiana Coastal Resources Program*, which walks a prospective applicant through the coastal permitting process and provides information on public lands projects.<sup>186</sup>

<sup>183</sup> FDEP, Florida Coastal Management Program, Florida Coastal Management Program Guide: A Guide to the Federally Approved Florida Coastal Management Program (updated Mar. 2011).

<sup>184</sup> NOAA, OCRM, Final Evaluation Findings, Mississippi Coastal Program, Jan. 2005–Mar. 2009 (Apr. 2010), at 19–20, available at <http://coastalmanagement.noaa.gov/mystate/docs/mscp2010.pdf>; NOAA, OCRM, FINAL Evaluation Findings – Alabama Coastal Area Management Program, Dec. 2003 through Nov. 2007 (Aug. 2008), at 10–11, available at <http://coastalmanagement.noaa.gov/mystate/docs/alabamacmp2008.pdf>.

<sup>185</sup> NOAA, OCRM & State of Texas, Combined Coastal Management Program and Final Environmental Impact Statement for the State of Texas (Aug. 1996), available at [http://www.glo.texas.gov/what-we-do/caring-for-the-coast/\\_documents/grants-funding/cmp/cmp-feis-statement1996.pdf](http://www.glo.texas.gov/what-we-do/caring-for-the-coast/_documents/grants-funding/cmp/cmp-feis-statement1996.pdf); NOAA, OCRM, FINAL Evaluation Findings, Texas Coastal Management Program, Apr. 2004 through Dec. 2006 (2007), at 9–10, available at <http://coastalmanagement.noaa.gov/mystate/docs/TexasCMP2007.pdf>. The evaluation noted that “The TCMP should develop ways to educate eligible grant applicants and recipients about the no-funding related activities, roles, and functions of the TCMP.” *Id.* at 10.

<sup>186</sup> La. Dep't of Natural Resources, *A Coastal User's Guide to the Louisiana Coastal Resources Program* (prepared by Applied Technology Research Corp., under NOAA Award No. NA470Z0223) (updated Sept. 2011), available at

**Table 10. Excerpts of NOAA’s evaluation of Gulf coastal management program accomplishments and suggestions for improvement related to coastal habitat.**

	<b>Relevant Program Accomplishments &amp; Suggestions: Coastal Habitat (AL, FL, MS, TX) &amp; Natural Resources Protection (LA)</b>
<b>Alabama (2008)</b> <sup>187</sup>	<p><b>COASTAL HABITAT</b>  <b>Suggestion:</b> “The ACAMP should continue to look for linkages and mechanisms for the translation of scientific research it funds to management applications for coastal managers and local decision-makers.”</p>
<b>Florida (2008)</b> <sup>188</sup>	<p><b>COASTAL HABITAT—CELCP</b>  <b>Accomplishment:</b> “In collaboration with its partners, FCMP prepared and submitted Florida’s draft CELCP Plan to OCRM.”</p>
<b>Louisiana (2005)</b> <sup>189</sup>	<p><b>NATURAL RESOURCE PROTECTION—WETLANDS MITIGATION</b>  <b>Suggestion:</b> “NOAA encourages the [LDNR Coastal Management Division (CMD)] to complete mitigation rule revision development and to closely coordinate the revision development with the Corps of Engineers, the Coastal Restoration Division, and the Local Coastal Programs [(LCPs)]. In particular, the CMD should make drafts of the rule revisions available to the LCPs, [Coastal Resources Division], and other appropriate agencies before the revisions are made available to the public for comment.”</p> <p><b>NATURAL RESOURCE PROTECTION—COASTAL FORESTS</b>  <b>Accomplishment:</b> “The CMD has adopted a policy to address its jurisdiction with regard to activities associated with the harvesting of coastal wetland forests. Such associated activities are deemed to be uses of state concern and require a coastal use permit.”  <b>Suggestion:</b> “The LCRP should consider using the Section 309 assessment and strategy to develop and implement mechanisms to address the issue of coastal forest logging. The CMD could also develop a Coastal and Estuarine Land Conservation Plan that identifies sensitive (non-sustainable) coastal forests as one of the priority areas for acquisition or purchase of easements.”</p>
<b>Mississippi (2010)</b> <sup>190</sup>	<p><b>COASTAL HABITAT—WETLANDS PERMITTING</b>  <b>Accomplishment:</b> “The MSCP has improved the effectiveness of the Wetlands Permitting Program through the adoption of new regulations, improved staff retention, and training through GBNERR.”  <b>Suggestion:</b> “The DMR and MSCP must complete the digitization of the wetlands maps and submit them to OCRM as a program change by October 2011.”  <b>Suggestion:</b> “The MSCP should consider providing additional training to commission members to keep them well-informed of wetlands permitting issues and relevant coastal management issues.”</p> <p><b>COASTAL HABITAT—HABITAT RESTORATION AND STORM DEBRIS</b>  <b>Accomplishment:</b> “MSCP worked with numerous partners to remove enormous amounts of debris from coastal preserves and contain the spread of invasive species after Hurricane Katrina.”  <b>Accomplishment:</b> “The MSCP developed site specific restoration plans for eight sites within the Coastal Preserve System.”</p> <p><b>COASTAL HABITAT—LAND ACQUISITION AND CELCP</b>  <b>Suggestion:</b> “OCRM encourages DMR to implement a competitive CELCP project selection process as laid out in the draft Mississippi CELCP plan.”</p>
<b>Texas (2007)</b> <sup>191</sup>	<p><b>COASTAL HABITAT</b>  <b>Accomplishment:</b> “The TCMP and GLO have effectively coordinated multiple partners and multiple funding sources to achieve protection or restoration of significant coastal habitats. In addition, other goals such as erosion response and enhanced public access have been achieved through many of the projects.”</p>

[http://dnr.louisiana.gov/assets/OCM/OCM/FinalUsersGuide\\_2011.pdf](http://dnr.louisiana.gov/assets/OCM/OCM/FinalUsersGuide_2011.pdf); see also NOAA & La. Dep’t of Natural Resources, Louisiana Coastal Resources Program, Final Environmental Impact Statement (1980), available at <http://dnr.louisiana.gov/assets/docs/coastal/LCRPFEIS.pdf>.

<sup>187</sup> NOAA, OCRM, FINAL Evaluation Findings – Alabama, *supra* note 184, at 13–14.

<sup>188</sup> NOAA, OCRM, Final Evaluation Findings – Florida Coastal Management Program, June 2004 through Aug. 2007 (2008), at 13–14, available at <http://coastalmanagement.noaa.gov/mystate/docs/floridacmp2008.pdf>.

<sup>189</sup> NOAA, OCRM, Evaluation Findings for the Louisiana Coastal Resources Program, *supra* note 186, at 16–17.

<sup>190</sup> NOAA, OCRM, Final Evaluation Findings, Mississippi Coastal Program, *supra* note 184, at 10–15.

<sup>191</sup> NOAA, OCRM, FINAL Evaluation Findings, Texas Coastal Management Program, *supra* note 185, at 19.

*b. State grants*

The CZMA establishes three mechanisms for state grants. First, Section 306 of the CZMA gives NOAA authority to issue grants to help states administer their coastal management programs. The grants require a 1:1 match from the state.<sup>192</sup> Second, Section 306A enables NOAA to provide state grants for coastal resource improvement. Eligible improvements include preserving or restoring specific coastal areas or coastal resources, redeveloping urban waterfronts and ports of particular concern, providing public access to beaches and other coastal areas, and developing coordinated interagency aquaculture management processes.<sup>193</sup> The grants also require a 1:1 match from the state. The grants may be used to meet federal match requirements for other funding programs.<sup>194</sup> In FY 2009, the Gulf states received the following Section 306/306A grants: Alabama—\$1.280 million, Florida—\$1.995 million, Louisiana—\$1.995 million, Mississippi—\$1.050 million, and Texas—\$1.995 million.<sup>195</sup>

Third, under Section 309, NOAA may provide grants to states for voluntary enhancement of their coastal management programs.<sup>196</sup> The funds are used for development and submission for approval of program changes that achieve specified objectives, such as the protection, restoration, or enhancement of coastal wetlands.<sup>197</sup> The grants also may be used for developing the state's Section 309 assessment and strategy. Section 309 grants do not require a state match. All five Gulf states have received Section 309 grants, and all have current FY2011–2015 assessment and strategies reports in place (see Table 11).

NOAA uses weighted factors, including the states' proportionate shares of the tidal shoreline (60%) and the coastal population (40%), to establish base-level allocations for each state. Annual funding is then determined by the base-level allocation and OCRM's evaluation of the state's assessment and strategy report.<sup>198</sup> NOAA's current Section 309 guidance states that, starting in FY2012, 10% of the grant monies will support Projects of Special Merit (PSMs), which are "innovative projects that further approved enhancement area strategies and focus on national coastal priorities. Regional projects can be submitted as PSM, but must support an approved enhancement area strategy for each program involved."<sup>199</sup>

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<sup>192</sup> 16 USC § 1455. The federal-state match ratio is higher during the first three years of a state coastal management program, but from the fourth year forward the ratio remains constant at 1:1.

<sup>193</sup> 16 USC §1455a. The federal-state ratio has remained constant at 1:1 since FY 1989.

<sup>194</sup> NOAA, OCRM, CZMA Section 306A Guidance (Feb. 1999), at 11, available at <http://coastalmanagement.noaa.gov/backmatter/media/guide306a.pdf>.

<sup>195</sup> Memorandum on FY 2009 Final Funding Guidance and Allocations, Coastal Zone Management Act Sections 306/306A, 309, and 310, from John R. King, Chief, Coastal Programs Division, NOAA, to Commonwealth, State, and Territorial Coastal Program Managers (Mar. 31, 2009), att. 1, available at <http://coastalmanagement.noaa.gov/backmatter/media/fy09finalguide.pdf>.

<sup>196</sup> 16 USC § 1456b.

<sup>197</sup> 16 USC § 1456b(a)-(b). The nine enhancement areas are (1) wetlands, (2) coastal hazards, (3) public access, (4) marine debris, (5) cumulative and secondary impacts, (6) special area management planning, (7) ocean/Great Lakes resources, (8) energy and government facility siting, and (9) aquaculture.

<sup>198</sup> 15 CFR § 923.121; NOAA, OCRM, Final Coastal Zone Management Act, Section 309 Program Guidance (July 2009), available at <http://coastalmanagement.noaa.gov/backmatter/media/guidancefy11309.pdf>.

<sup>199</sup> Section 309 Program Guidance, *supra* note 198, at 5–8. PSMs should not exceed 18 months.



**Table 11. Gulf CMP strategies, as included in the 2011–2015 CZMA Section 309 reports.<sup>200</sup>**

	Strategies	Expense
Alabama	Coastal Area and Marine Spatial Planning Program	\$368,400
	Integrated Coastal Alabama Comprehensive Habitat Restoration Program	\$100,000
	Next Section 309 Five-Year Strategy	\$10,000
	<b>Total:</b>	<b>\$478,400</b>
Florida	Community Resiliency: Planning for Sea Level Rise	\$899,245
	Coordinate Coral and Hardbottom Ecosystem Mapping, Monitoring, and Management Program	\$707,092
	Florida Estuarine Habitat Restoration: Creating and Testing Statewide Planning and Guidance	\$283,956
	Special Area Management Planning for [Florida Fish and Wildlife Conservation Commission]’s Critical Wildlife Areas	\$209,000
	Marine Debris and Aquaculture Use Zones	\$180,322
	Aquatic Preserve Management Plan Updates	\$185,985
	<b>Total:</b>	<b>\$2,465,600</b>
Louisiana	Implementing an Updated Inland Boundary for Louisiana’s Coastal Zone	\$80,000
	Implementation of Previously Revised Federal Consistency Procedures to Improve Beneficial Use of Dredged Material	\$74,800
	New Mitigation Regulations for Unavoidable Impacts due to Permitted Activities in Coastal Louisiana	\$641,200
	Addressing Risk and Hazards through the LCP Component of the LCRP	\$679,800
	New Permit Procedures for Avoiding and Mitigating Oil and Gas Facility Siting Conflicts	\$491,200
	Improved Decision-making Regarding Water Management	\$411,200
	Next Section 309 Five-Year Strategy	\$87,400
	<b>Total:</b>	<b>\$2,465,600</b>
Mississippi	Alternative Shoreline Management and Policy Development	\$222,900
	Analysis of Erosion and Wetlands Loss Related to Boat Wake and Human Activities on Islands in Bayous, Rivers, and Bays	\$160,700
	Next Section 309 Five-Year Strategy	\$35,000
	<b>Total:</b>	<b>\$418,600</b>
Texas	<i>Overarching Strategy – A Vision for Our Texas Coast: Framework Development for Coast-wide Planning</i>	
	Administration	\$200,000
	Coastal Resources Information Gathering and Assessment: Data Inventory, Characterization, and Compilation	\$330,000
	Coastal Resources Information Gathering and Assessment: Identify Data Gaps	\$182,000
	Coastal Resources Information Gathering and Assessment: Identify Data Needs and Collect Missing Data Sets	\$113,800
	Data Serving, Visualization, and Collaboration Tools for CMSP	\$300,000
	Coastal Management Program Change Analysis	\$375,000
	Framework Development for Future Coastal and Marine Spatial Planning Efforts	\$492,400
	Public Input and Preparing for the Implementation of Framework to Conduct CMSP	\$472,400
	<b>Total:</b>	<b>\$2,465,600</b>

<sup>200</sup> Ala. Dep’t of Conservation & Natural Resources, Alabama Coastal Area Management Program: Section 309 Enhancement Grant Program, Assessment & Strategy (Feb. 1, 2010); Fl. Coastal Management Program, Final Assessment and Strategies, FY 2011–FY 2015, prepared in accordance with Section 309 of the Coastal Zone Management Act (Jan. 2011); La. Dep’t of Natural Resources, Louisiana Coastal Management Program, Assessment and Strategy 2011–2015; Miss. Dep’t of Marine Resources, CZMA Section 309 Assessment & Strategy 2011–2015 (Final); Harte Research Institute, Tex. Coastal Management Program Section 309 Assessment and Strategies Report, 2011–2015 (prepared for the Texas General Land Office). All reports are available by selecting the appropriate state at <http://coastalmanagement.noaa.gov/mystate/welcome.html>.

In 2010, NOAA published a summary of the state Section 309 assessments and strategies from 2001–2010. The summary facilitates comparison of the state’s relative funding priorities (Table 12). Of all the funding priorities identified, *coastal hazards* and *wetlands* garnered the most concern—states consider these to be either “high” or “medium” funding priority issues. Alabama, Mississippi, and Texas made *cumulative and secondary impacts* a “high” funding priority, while Florida and Louisiana made it a “low” priority. Florida is the only Gulf state that considers *ocean resources* a “high” funding priority; Mississippi is the only state to make *marine debris* a “high” funding priority. Mississippi and Texas placed “high” priority on funding *public access*.

**Table 12. State priorities for Section 309 funding priorities, based on 2001–2005 and 2006–2010 assessments and strategies.**<sup>201</sup>

SECTION 309 OBJECTIVE	Alabama	Florida	Louisiana	Mississippi	Texas
Coastal Hazards	High	Medium	High	High	High
Cumulative & Secondary Impacts	High	Low	Low	High	High
Wetlands	High	Medium	High	High	High
Ocean and Great Lakes Resources	Medium	High	Low	Medium	Low
Energy and Government Facility Siting	Low	Low	Low	Low	Medium
Marine and Lake Debris	Low	Low	Low	High	Low
Special Area Management Planning	Low	High	Low	Low	Low
Public Access	Low	Low	Medium	High	High
Aquaculture	Low	Medium	Low	Low	Medium

*c. Permitting coastal activities*

The role played by permitting varies in each state. Some of the strengths and weaknesses of each state include the following:

- **In Alabama**, ADEM reviews the Army Corps’ permits for dredge and fill activities to ensure consistency with the state’s enforceable coastal policies. However, a programmatic challenge is that applicants commonly fail to submit applications to both agencies, and the Army Corps does not have a standardized system for alerting ADEM when it receives an application. In addition, ADEM’s certification signifies that a project complies with all of its own regulations, but the agency generally does not coordinate with ADCNR to ascertain whether the project complies with submerged lands regulations.<sup>202</sup>
- **In Florida**, a network of offices and districts implements the Florida Coastal Management Program. A state clearinghouse coordinates consistency review of federal offshore activities, and runs the Coastal Partnership Initiative Grants Program.<sup>203</sup> One challenge in managing

<sup>201</sup> NOAA’s national summary of the state coastal management programs’ reports (2001-2005 assessments and 2006-2010 strategies) includes individual summaries for each of the nine Section 309 enhancement objectives. NOAA, OCRM, Past Program Enhancement National Summaries, <http://coastalmanagement.noaa.gov/nationalsummary.html>.

<sup>202</sup> Personal communication with experts.

<sup>203</sup> NOAA, Final Evaluation Findings, Florida Coastal Management Program, June 2004 through August 2007, available at <http://coastalmanagement.noaa.gov/mystate/docs/floridacmp2008.pdf>.

Florida's long coastline, however, is the lack of a central clearinghouse for research, conservation, and restoration activities for the more than 400 local governments.<sup>204</sup> Although field staff from state agencies that have active programs often work together closely, coordination does not necessarily extend throughout the chain of command.<sup>205</sup>

- **In Louisiana**, a Coastal Use Permit (CUP) is required for coastal zone activities that directly and significantly affect coastal waters. Permitting for local activities has been delegated to the ten (of twenty-one) coastal parishes that have developed local coastal programs.<sup>206</sup> The Department of Natural Resources Office of Coastal Management reviews federal activities. It has found that the Army Corps' sediment management practices do not comply with the state coastal program regulations that require beneficial use of dredged materials "to the maximum extent practicable."<sup>207</sup>
- **In Mississippi**, the Department of Marine Resources, Department of Environmental Quality, and Army Corps have successfully adopted a joint permit system for activities in coastal wetlands. The system is not statutorily limited to wetlands, but they are the only subject of joint permits as they are the only habitat types with overlapping jurisdiction. Although generally successful, it has been noted that it is relatively easy to obtain permit variances, there is insufficient data available to understand cumulative impacts, there is not a good system for avoiding piecemeal permitting decisions, and there is insufficient enforcement capacity.<sup>208</sup>
- **In Texas**, the Coastal Management Program is viewed as a beneficial grant program, but not as a stringent regulatory tool.<sup>209</sup>

#### d. *Coordination*

An important component of effective coastal management is coordination among the myriad entities with relevant authority. Some of the states have structural efforts in place to maintain and improve coordination among different state agencies, entities, and actors. In Florida, the state passed the Ocean and Coastal Resources Act in 2005, which established an interagency Oceans and Coastal Council, headed by FDEP. The Council leads efforts to promote ecosystem-based management, coastal and ocean habitat conservation and restoration, and other goals. However, it has only received a single year of appropriations since its inception.<sup>210</sup>

<sup>204</sup> Personal communication with expert.

<sup>205</sup> Personal communication with expert.

<sup>206</sup> La. Rev. Stat. § 49:214.28; LDNR,

<http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=111&pnid=192&nid=194>.

<sup>207</sup> See, e.g., Letter regarding Coastal Zone Consistency, Office of Coastal Management, LDNR, Nov. 23, 2009, available at <http://dnr.louisiana.gov/assets/docs/news/2009/20091203-state-denial.pdf>; personal communication with expert.

<sup>208</sup> Personal communication with expert.

<sup>209</sup> Personal communication with experts; see also NOAA, OCRM, FINAL Evaluation Findings, Texas Coastal Management Program, *supra* note 185, at 9–10.

<sup>210</sup> Fla. Stat. § 161.72–161.75; Florida Oceans and Coastal Council, <http://ocean.floridamarine.org/focc/overview.cfm>; personal communication with expert.

In Louisiana, entities within the Governor's office serve a coordinating function. The Coastal Protection and Restoration Authority (CPRA) is a recently created interagency body that directs major coastal policy planning efforts in the state, including a "comprehensive coastal protection master plan" that contains a strategy for conserving, enhancing, and restoring coastal areas.<sup>211</sup> The Office of Coastal Activities provides leadership and support to CPRA, and directs plan and policy coordination and implementation. The Office of Coastal Protection and Restoration (OCPR) implements the master plan, and oversees the design and construction of hurricane protection and flood control projects, along with an inspection program for existing infrastructure.<sup>212</sup> When OCPR was first established, it joined staff from the various agencies that had previously contributed to coastal restoration, resulting in a concentrated center of the state's restoration science and engineering capacity.<sup>213</sup> The Governor also receives input from the Advisory Commission on Coastal Protection, Restoration, and Conservation, which consists of members from government, academia, and private stakeholder groups.<sup>214</sup>

In 2001, the Texas Coastal Coordination Act created a Coastal Coordination Council responsible for ensuring that state and local agency actions complied with the state coastal management program, issuing rules governing their compliance, and investigating when Council recommendations were not adopted.<sup>215</sup> In February 2011, the Texas Sunset Advisory Commission issued a report finding that while the Council's *functions* were still needed, the Council *itself* was not. The report still recommended improved coordination in the state.<sup>216</sup> Effective September 1, 2011, the Coastal Coordination Council ceased to exist pursuant to the Texas Sunset Law, and its duties were transferred to the Texas General Land Office Commissioner.<sup>217</sup> Now, TGLO is advised by a Coastal Coordination Advisory Committee on matters related to the coastal program.<sup>218</sup>

*e. Other federal coastal protection mechanisms*

In addition to the CZMA, several other federal statutes seek to protect coastal resources. The Watershed Protection and Flood Protection Act is focused on protecting human life and property from flood events, but allows the USDA to provide technical assistance and matching grants for flood control and

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<sup>211</sup> La. Rev. Stat. § 49:214.5.2. The membership of the 21-person committee is governed by La. R.S. 49:214.5.1. The original master plan was published in 2007, and is available at <http://coastal.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&nid=24&pnid=0&pid=28&fmid=0&catid=0&elid=0>. CPRA plans to release an updated version in 2012. See Louisiana 2012 Coastal Master Plan, <http://coastal.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&nid=150&pnid=0&pid=172&catid=0&elid=0>.

<sup>212</sup> La. Rev. Stat. §§ 49:214.5.2(A)(5), 49:214.6.1, 49:214.6.3.

<sup>213</sup> The agencies' placement within the Governor's office is partially due to Louisiana's constitutional limit on the permitted number of state agencies. La. Const. Art. IV, § 1(B) ("Except for the offices of governor and lieutenant governor, all offices, agencies, and other instrumentalities of the executive branch and their functions, powers, duties, and responsibilities shall be allocated according to function within not more than twenty departments.").

<sup>214</sup> La. Rev. Stat. § 49:214.4.1.

<sup>215</sup> Tex. Nat. Res. Code §§ 33.204, 33.205, 33.208.

<sup>216</sup> Texas Sunset Advisory Commission, Coastal Coordination Council (Feb. 2011), available at [http://www.sunset.state.tx.us/82ndreports/ccc/CCC\\_RL.pdf](http://www.sunset.state.tx.us/82ndreports/ccc/CCC_RL.pdf). The Commission recommended that the Council be abolished, the Council's functions be transferred to TGLO, and a Coastal Coordination Advisory Committee be established to focus on interagency coordination.

<sup>217</sup> S.B. 656, 82nd Leg., Reg. Session, effective Sept. 1, 2011; Tex. Nat. Res. Code §§ 33.201 *et seq.*

<sup>218</sup> Tex. Nat. Res. Code § 33.2041.

conservation projects that may include acquiring easements to help ensure the areas remain able to hold floodwaters, improve water quality, and provide wildlife habitat in perpetuity.<sup>219</sup> Under the Fish and Wildlife Conservation Act, the Department of the Interior may support or reimburse state efforts to develop and implement nongame species conservation plans. The plans must inventory, identify threats to, and seek to conserve significant habitats.<sup>220</sup>

## SUMMARY & RECOMMENDATIONS

### SUMMARY

The federal Coastal Zone Management (CZM) Program and the state coastal management programs are intended to provide a comprehensive approach to protecting U.S. coastal regions. The programs typically perform a variety of functions, including coastal zone planning, permitting of coastal development and other activities, reviewing federal activities for consistency with state policies, and conserving and restoring coastal lands and waters. The NOAA CZM Program provides states with funding to support coastal zone management. In the Gulf, the state programs vary significantly, from their structure and systems to their focal points and priorities.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

### REGION-WIDE RECOMMENDATIONS

**Climate change.** As discussed previously, one of the most significant long-term challenges that coastal managers will face is being able to adapt to the effects of climate change, such as sea level rise and changing flood and storm cycles.

- **Boundaries.** One of the questions that arises centers on the definition and location of state coastal zone boundaries. Currently, some state coastal zone boundaries are defined by landmarks or physical features (e.g., Texas' boundary roughly follows roads parallel to coastal waters and wetlands), while others are defined by distance from the sea (e.g., Alabama's boundary is the 10' elevation line).<sup>221</sup> *States should carefully consider the advantages of adaptive boundaries, which adjust with changes in sea level rise and may allow most effective ecological management, as opposed to stationary boundaries that will result in shrinking coastal zones.* Louisiana is currently updating their coastal zone boundary.
- **Managed retreat.** Texas' rolling easement has been a model for managed retreat that allows for automatic adaptation to physical and ecological changes.<sup>222</sup> *Whether states decide to adopt a similar mechanism or rely on other tools, it is important for states to develop approaches that enable coastal communities to adapt to sea level rise and create certainty about ownership.*

**Coastal management program funding.** The federal Coastal Zone Management Program has been a valuable source of funding for developing, implementing, and enhancing coastal management programs. Section 306/306A grants require a 1:1 nonfederal match; Section 309 grants do not require a match.

- **Section 309 projects of special merit.** Starting in FY2012, 10% of the funds devoted to Section 309 grants will be used to support Projects of Special Merit. *Gulf states should consider jointly*

<sup>219</sup> 16 § 1003-03a.

<sup>220</sup> 16 USC § 2901 *et seq.*

<sup>221</sup> See Nichols & Carl Bruch, *New Frameworks for Managing Dynamic Coasts*, *supra* note 9.

<sup>222</sup> JAMES TITUS, ROLLING EASEMENTS: A PRIMER (2011); see also, Richard J. McLaughlin, *Rolling Easements in Coastal Texas and Their Possible Application in Other Gulf States* (presentation), available at <http://masglp.olemiss.edu/GOM/McLaughlin%20FSU.pdf>.

applying for regionally-focused “innovate” projects that “focus on national coastal priorities,” and which support approved enhancement strategies for each state.

**Beneficial use of dredged material.** (See *Water Quality* section)

**Marine debris.** (See *Water Quality* section)

#### STATE-SPECIFIC RECOMMENDATIONS

##### Alabama’s permitting system.

- Review of Army Corps permits. ADEM conducts consistency review of the Army Corps’ permits for dredge and fill activities. Only roughly one-third of applicants submit applications to both the Army Corps and ADEM, so ADEM is not always aware that review is needed. *In addition to efforts to increase applicant awareness about the need to submit to both agencies, establish a protocol for the Army Corps to notify ADEM when it receives permit applications subject to review. The Army Corps sends a notice of receipt to the applicant. One possibility: the Army Corps currently sends a notice of receipt to the applicant; consider implementing a protocol for the Army Corps to send two notices of receipt, one to the applicant and one to ADEM.*
- ADEM certification. Although ADEM’s certification of Army Corps permits signifies that the project complies with its regulations, ADEM does not typically coordinate with ADCNR to determine compliance with the state’s submerged lands regulations. *Implement a legal requirement or programmatic system to seek and incorporate ADCNR input on certification reviews.*

##### Alabama’s coastal program.

- Coastal program update. *In its 2008 program evaluation, NOAA noted that Alabama’s coastal program document was out of date and recommended updating it.*<sup>223</sup>

##### Florida’s coastal coordination.

- Coordinating FDEP. *Within FDEP, the coastal zone management and coastal and aquatic management areas divisions could be integrated to create flexibility to manage budget cuts during economically stressed times.*
- Coordinating multiple state entities. Responsibility for and regulation of coastal activities is separated between FDEP, FFWCC, the Florida Department of Agriculture and Consumer Services, and others. *Although field staff often work together, higher-level coordination and a watershed-wide perspective is needed.*
- Oceans and Coastal Council funding. The Oceans and Coastal Council was statutorily created in 2005 to review existing ocean and coastal resources research initiatives, develop a research plan to guide the state legislature’s funding decisions, and assess the health and uses of ocean and coastal resources. However, the Council has only received one year of appropriations to fund research projects. *Prioritize appropriations to the Council, and use it to support interagency coordination and provide funding for necessary research.*

##### Mississippi’s coastal program.

- Coastal program update. *In its 2010 program evaluation, NOAA noted that Mississippi’s coastal program document was out of date and recommended updating it.*<sup>224</sup>
- Permitting. The generally successful permitting system has raised some questions about whether (i) the process for obtaining variances could be more stringent, (ii) the process loosens in the wake of disasters, and (iii) there is a way to avoid piecemeal permitting decisions.

<sup>223</sup> NOAA, OCRM, FINAL Evaluation Findings – Alabama Coastal Area Management Program, Dec. 2003 through Nov. 2007 (Aug. 2008), at 10–11, available at <http://coastalmanagement.noaa.gov/mystate/docs/alabamacmp2008.pdf>.

<sup>224</sup> NOAA, OCRM, Final Evaluation Findings, Mississippi Coastal Program, Jan. 2005–Mar. 2009 (Apr. 2010), at 19–20, available at <http://coastalmanagement.noaa.gov/mystate/docs/mscp2010.pdf>.

- Enforcement. There is perception that *additional enforcement capacity may be needed to ensure effective implementation of the program.*

**Texas' coastal program.**

- Without the Coastal Coordination Council. The Council no longer exists. However, the February 2011 Texas Sunset Advisory Commission report that concluded the Council was no longer necessary also stated that its functions were still needed, including needing to improve coastal coordination in the state. *In the absence of the Council, TGLO and other state agencies should be careful to monitor and ensure their functions are adequately implemented by TGLO.*
- CIAP administration. *There is a perceived opportunity to increase stakeholder involvement in the design of CIAP-funded projects.* While CIAP funding is dwindling, this lesson may be transferred to future similar programs.

## VIII. Accident Response

Accidental discharges and injuries can be major sources of habitat damage, as the *Deepwater Horizon* oil spill has demonstrated. Several federal and state laws create mechanisms to restore resources damaged by accidental injuries, through a process known as natural resource damage assessment (NRDA). A responsible party may be liable for natural resource damages under one or more of the following federal laws: the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Clean Water Act (CWA), the Oil Pollution Act (OPA), the Park System Resources Protection Act (PSRPA), or the National Marine Sanctuaries Act (NMSA), depending on the source of the injury and the location (Table 13).<sup>225</sup>

**Table 13. NRDA Statutory Authority**<sup>226</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 Department of Interior	Secretary of Commerce

With all of these laws, government trustees are tasked with assessing an injury, developing a restoration plan, and implementing the plan. Depending on the law, trustees can include federal agencies, states, and/or tribes (Table 13). The NRDA process can include collaboration with a responsible party, as is seen with BP in the *Deepwater Horizon* oil spill restoration process.

CERCLA and OPA are mutually exclusive: CERCLA is available only for hazardous waste, excluding oil, and OPA is available only for injuries due to oil. It is possible that an incident could occur that would involve the discharge of both oil and hazardous waste, in which case both statutes would apply.

PSRPA and NMSA are place-based laws and apply to any injuries. For example, if a barge collides with a reef that is designated as a National Marine Sanctuary, the NOAA could seek damages under the NMSA.

<sup>225</sup> Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601 et seq. (2000); Federal Water Pollution Control Act, 33 U.S.C. §§ 1251 et seq. (2000); Oil Pollution Act, 33 U.S.C. §§ 2701 et seq. (1990); Park System Resource Protection Act, 16 U.S.C. § 19jj (2000); National Marine Sanctuaries Act, 33 U.S.C. §§ 1401 et seq. (2000)

<sup>226</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).



In addition to the authorizing laws, several additional executive orders and federal, state and local laws and regulations affect the NRD restoration process.<sup>227</sup>

The NMSA provisions are particularly important in the Florida Keys National Marine Sanctuary, where more than 600 vessel groundings are reported each year.<sup>228</sup> To enable quick restoration actions in the case of small but relevant impacts, the Sanctuary and the State of Florida developed the Mini-312 Program. This Program allows the trustees to pursue and recover damages from small vessel groundings that impact sea grass beds without having to conduct an environmental impact assessment for each restoration action.<sup>229</sup> Records from 2000-2005 indicate that the trustees recovered on average \$18,656 from thirty-seven vessel groundings.<sup>230</sup>

#### **BP Deepwater Horizon Oil Spill<sup>231</sup>**

In April 2010, the Gulf of Mexico suffered the largest unintentional marine oil release in history. The BP *Deepwater Horizon* disaster affected resources throughout the Gulf, and it will likely take decades to fully understand the impacts. To ensure adequate restoration, it is critical that the public trustees' NRDA processes evaluate 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). To finance a broader restoration effort beyond the NRDA process, the U.S. federal government is seeking to levy penalties against the responsible parties under the Clean Water Act. Per-barrel civil penalties could total billions of dollars. How these funds are used, however, is up to 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 Gulf restoration broadly, the President has created and tasked the Gulf Coast Ecosystem Restoration Task Force with the responsibility of developing a comprehensive restoration strategy. The Task Force may provide a vehicle for integrating the disparate state and federal Gulf restoration efforts. However, it is important to note that at present, there is no funding mechanism for Task Force strategy implementation. It is possible that the Clean Water Act penalty monies will be applied.

Finally, the public momentum and attention generated by the *Deepwater Horizon* disaster can be capitalized upon to raise domestic education about Gulf of Mexico habitats and the myriad challenges and threats they face. Citizen

<sup>227</sup> These include, for example: Anadromous Fish Conservation Act, 16 U.S.C. §§ 757a et seq. (2002); Coastal Zone Management Act, 16 U.S.C. §§ 1451, et seq. (1990); Endangered Species Act, 16 U.S.C. §§ 1531, et seq. (1988); Executive Order 11,988 (Floodplain Management), 42 Fed. Reg. 26,951 (May 24, 1977), amended by, Executive Order 12,898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), 44 Fed. Reg. 43,239 (Feb. 11, 1994); Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661, et seq. (1934); National Environmental Policy Act, 42 U.S.C.

<sup>228</sup> DARRP, *Mini-312 Seagrass Restoration Program*, <http://www.darrp.noaa.gov/partner/mini312/index.html>.

<sup>229</sup> NOAA has established a categorical exclusion for small-scale seagrass bed restoration activities that fall under the Mini-312 program.

<sup>230</sup> Records on file with authors.

<sup>231</sup> Adapted from ELI & CEMDA, *GULF OF MEXICO HABITAT CONSERVATION & RESTORATION: A COMPARISON OF THE MEXICAN & U.S. LEGAL & INSTITUTIONAL FRAMEWORKS* (2011).

engagement is critical to public support for and buy-in to long-term restoration and conservation efforts, programs, and projects.

As stated previously, the Gulf states can and do act as trustees in accordance with CERCLA and OPA. In addition to the *Deepwater Horizon* oil spill, many other NRDA restoration activities have occurred. Table 14 provides examples of past NRDA settlements valued at \$1,000,000 or from the Gulf region.

**Table 14. High Value NRDA Cases in the Gulf of Mexico (1992-2005)<sup>232</sup>**

Year Settled	State	Site	Problem	Law	Fed Trustees	State Trustees	Responsible Parties	Value
2000	FL	Biscayne National Park	grounding	NMSA	DOI-NPS	none	M/V Igloo Moon	\$1,000,000
1999	FL	<i>Contship Houston (M/V Oaxaca)</i>	coral reef grounding	NMSA	NOAA	FL	Atlas Shipping Ltd & Transportation Maritima Mexicana	\$5,738,000
2000	FL	<i>Great Lakes Dredge and Dock</i>	injury to NMS resources	NMSA	NOAA	FL	Great Lakes Dredge and Dock Co & Coastal Marine Towing	\$1,000,000
1999	FL	Tampa Bay	oil spill	OPA	NOAA, DOI	FL	Tsacaba Shipping Co et al	\$4,000,000
2001	FL	Biscayne Nat'l Park	grounding	PSRPA	DOI-NPS	none	Tug Allie-B Inc	\$1,000,000
1991	FL	<i>M/V Alec Owen Maitland</i>	Vessel Grounding	NMSA	NOAA	none	M/V Alec Owen Maitland and Maitland Brothers Construction Co.	\$1,080,000
1997	FL	<i>R/V Columbus Iselin</i>	vessel grounding injures reef	NMSA 312, 307	NOAA	none	University of Miami	\$3,207,968
1991	FL	<i>M/V Elpis</i>	coral reef destruction & habitat loss due to grounding	NMSA	NOAA	none	M/V Elpis et al	\$1,660,000
2002	FL	Mulberry (aka Alafia River)	hazmat spill	CERCLA	NOAA	none	Mulberry Phosphates Inc	\$3,656,119
1999	FL	Viking Princess	oil spill	Oil 311	DOI-FWS	FL	Tsacaba Shipping Co	\$8,000,000
1993	LA	Greenhill Marsh, LA	oil spill	OPA	NOAA, DOI	LA	Greenhill Petroleum Corporation	\$1,906,089
2006	LA	Lake Grande Ecaille	oil spill (well blowout)	OPA	DOI-FWS, NOAA	LA	Elysium Energy LLC	\$1,200,000
1994	TX	Apex Galveston	700,000 gallons of catalytic feed oil	CWA, TX law	DOI, NOAA	TX	Shinoussa Shipping Co., M/T Shinoussa, Golney Barge Co., Apex R.E. & T. Inc, Barges Apex 3417, 3503, 3510, Tug Chandy N., Fidelis Shipping Co., M/V Hellespont Faith	\$1,312,962
2005	TX	Brio Refining Site	haz mat	CERCLA 107	DOI-FWS, NOAA	TX	BP Amoco Chemical Company	\$8,347,304
1996	TX	Mobil Gypsum, TX	45 million gallons of a 3 percent phosphoric acid and hydrated gypsum mixture	CERCLA	NOAA	TX	Mobil Mining and Minerals Co.	\$2,325,000
2005	TX	Port Arthur	oil and chemical releases from refinery	CERCLA, OPA	DOI (FWS), NOAA	TX	Chevron U.S.A. Inc., Chevron Environmental Management Co. and Chevron Phillips Chemical Co.	\$5,212,670
1999	TX	Skaubay/ Berge Banker Oil Spill	oil spill	OPA	DOI-NPS, DOI-FWS	TX	Bulk Transfer Ltd of Bermuda	\$2,268,077
2000	TX	Tex-Tin Superfund Site	haz mat	CERCLA 107	DOI-FWS, NOAA	TX	Alpha Metals Inc, USGSA	\$3,200,850

<sup>232</sup> Details on file with authors.

All Gulf states participate in NRDA processes under federal law, but some are more active than others. In addition to acting as trustees under federal laws like CERCLA and OPA, Florida, Mississippi, Louisiana, and Texas have state laws to address natural resource damages.<sup>233</sup> Florida, Louisiana, and Texas have the most comprehensive NRDA programs and have dedicated staff or programs that actively engage in NRDA processes.<sup>234</sup>

In Florida, the Department of the Environment serves as the trustee, with different divisions that handle different types of cases. The Bureau of Emergency Response addresses coastal oil spills, and the Division of Waste Management handles hazardous waste discharges. Florida has actively pursued NRDA claims—the Bureau of Emergency Response has settled more than 2,500 cases.<sup>235</sup>

Louisiana has the most comprehensive state program for addressing oil spills, with a Louisiana Oil Spill Coordinator's Office (LOSCO) that is responsible for implementing the Oil Spill Prevention and Response Act.<sup>236</sup> In partnership with NOAA, Louisiana has created a Regional Response Program that divides the state into nine restoration planning regions, and will develop response plans for each of the nine regions.<sup>237</sup> The goal of the program is to reduce NRDA assessment costs and time; create consistency in the NRDA processes; and increase restoration of damaged resources. The LOSCO is known for effectively handling frequent small spills, and often relies on contractors to support its efforts.<sup>238</sup>

In 1991, Texas enacted a law to address oil spill prevention and response.<sup>239</sup> This law is used in conjunction with the federal accident liability laws to help restore injuries to habitat and natural resources. The General Land Office is the lead agency for accident response, but it relies on the Texas Commission on Environmental Quality to provide technical expertise. As stated by the TCEQ, the state has “increased the scope and value of its restoration projects through partnering to obtain matching or in-kind funding worth approximately \$3.24 million” over the lifetime of the program.<sup>240</sup>

With the exception of specific protected areas or resources, accident liability frameworks are limited to accidental discharges of oil and hazardous wastes. In other words, when beyond specific protected areas or specific protected resources, there is little to no liability for other accidental physical destruction of ocean and coastal habitats.

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<sup>233</sup> BRIAN D. ISRAEL, STATE-BY-STATE GUIDE TO NRD PROGRAMS IN ALL 50 STATES (2006), *available at* [http://www.mass.gov/Eoeea/docs/eea/nrd/nrd\\_state\\_by\\_state.pdf](http://www.mass.gov/Eoeea/docs/eea/nrd/nrd_state_by_state.pdf)

<sup>234</sup> *Id.*

<sup>235</sup> *Id.*

<sup>236</sup> Louisiana Oil Spill Coordinator's Office, Programs and Services, [http://www.losco.state.la.us/ps\\_rrpprogram.htm](http://www.losco.state.la.us/ps_rrpprogram.htm); La. Rev. Stat. § 30:2452..

<sup>237</sup> *Id.*

<sup>238</sup> Personal communication with expert.

<sup>239</sup> Codified at Tex. Nat. Res. Code § 40.101et seq.

<sup>240</sup> TCEQ, *About the Natural Resource Trustee Program: NRTP Restoration Accomplishments*, <http://www.tceq.state.tx.us/remediation/nrtp/nrtp.html>.

## SUMMARY & RECOMMENDATIONS

### SUMMARY

Accidental spills and other injuries negatively impact coastal resources. The *Deepwater Horizon* oil spill is the largest unintentional spill in history and is driving a renewed interest in Gulf Coast restoration. Several federal and state laws create mechanisms to restore resources damaged by accidental injuries. Government trustees vary according to law, but can include federal agencies, state agencies, and tribes. The trustees are tasked with assessing an injury, developing a restoration plan, and implementing the plan. This process can include collaboration with a responsible party.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

### REGION-WIDE RECOMMENDATIONS

**Build from existing plans.** While restoration under an accidental injury liability framework must be used to address injured resources, it is possible to target damages to both recover injured resources and contribute to larger restoration needs.

- To the extent possible, states should consider the use of accident response funding to augment other restoration activities where appropriate.<sup>241</sup>

**Small cases.** As the Florida Keys NMS example indicates, many small-scale impacts—e.g., 600 vessel groundings per year—can cumulatively cause significant impacts. Developing mechanisms for efficient and rapid restoration in small-scale incidents could add needed restoration dollars to recover damaged habitats.

- Therefore, in addition to pursuing large-scale incidents, states could more actively pursue liability actions in cases of small scale accidents to ensure that the polluter pays for the impacts to state resources.

**Public participation.** One of the major challenges with NRDA is the lack of stakeholder participation in the assessment and planning processes. To overcome this challenge in the *Exxon Valdez* oil spill, the trustees created a Public Advisory Council, and later Congress established a Regional Citizen Advisory Council.<sup>242</sup>

- To build from the expertise of local communities and ensure robust public participation in a fairly opaque legal process, states could develop citizen advisory councils, either on a spill-by-spill basis or as permanent bodies to participate in accident liability decision-making.

### STATE-SPECIFIC RECOMMENDATIONS

No state specific recommendations identified.

<sup>241</sup> See, e.g., ELI, MITIGATION OF IMPACTS TO FISH AND WILDLIFE HABITAT: ESTIMATING COSTS AND IDENTIFYING OPPORTUNITIES (2007).

<sup>242</sup> See, e.g., ELI, Interviews from the Trenches: Jim Ayers (2011), available at [http://www.eli.org/Program\\_Areas/ocean\\_gulfofmexico\\_interviews.cfm](http://www.eli.org/Program_Areas/ocean_gulfofmexico_interviews.cfm).

## IX. Water Quality Management

Managing water quality in the Gulf of Mexico is critical to maintaining healthy habitats. It is also one of the greatest challenges. The Gulf receives an extensive pollutant load from land-based sources of pollution. Particularly problematic is pollution from the Mississippi River watershed. For example, the nutrient delivery from the watershed creates an annual summer dead zone in the Gulf. Most recently, in 2011 the dead zone was 6,765 square miles (larger than the size of Connecticut).<sup>243</sup>

The federal framework for managing water quality throughout the country is the Clean Water Act. The CWA establishes stringent mechanisms for regulating point source pollution, as well as programs that attempt to regulate nonpoint sources of pollution.<sup>244</sup>

### a. Point Source Pollution

Each Gulf of Mexico state has enacted state legislation that seeks to manage the quality of water bodies within its jurisdiction, and has obtained delegated CWA permitting responsibilities from the federal government.<sup>245</sup>

First, EPA oversees each state's establishment of water quality standards (WQSs) within state waters. If a water body fails to meet a set WQS, then the state must develop a total maximum daily load (TMDL) that limits point and nonpoint source inputs so that the impaired water can recover.<sup>246</sup> Each state must review federal actions to certify that they will not violate state WQS.<sup>247</sup>

Second, the CWA prohibits any discharge of a pollutant from a point source into state or federal waters absent a National Pollutant Discharge Elimination System (NPDES) permit. The state manages permits within state waters, and EPA manages permits in federal waters.<sup>248</sup> The NPDES permit must comply with EPA's guidelines for determining if a permit would unreasonably degrade marine waters, known as ocean discharge criteria.<sup>249</sup> However, the current criteria are minimal and have not been updated in over twenty years. As an overarching matter, the further one travels from the coastline out to sea, the less the water quality protection, in terms of both inherent structure and implementation.<sup>250</sup>

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<sup>243</sup> Mississippi River Gulf of Mexico Watershed Nutrient Task Force, *Hypoxia in the News*, <http://water.epa.gov/type/watersheds/named/msbasin/gulfnews.cfm>.

<sup>244</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>245</sup> 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>246</sup> 33 USC § 1313(d).

<sup>247</sup> 33 USC § 1341.

<sup>248</sup> 33 USC §§ 1342(a), 1343(b).

<sup>249</sup> 33 USC § 1343(a).

<sup>250</sup> See, e.g., ELI, Public Comments: National Ocean Council Strategic Action Plan for Water Quality and Sustainable Practices on Land (Apr. 2011), fig. 1, available at [http://www.eli.org/pdf/ocean/nop\\_cmisp\\_comments/water\\_quality\\_sap\\_eli\\_comments.pdf](http://www.eli.org/pdf/ocean/nop_cmisp_comments/water_quality_sap_eli_comments.pdf).

Some of the state laws, such as Mississippi's, restrict the states from enacting regulations or standards that are any *more* strict than the federal standards.<sup>251</sup> Others, like Florida's, require that the state standards must be *at least as* strict as the federal ones, and provide the option of enacting stricter standards if the responsible agency conducts a study of economic and environmental costs and benefits before doing so.<sup>252</sup>

Florida provides a notable example of water restoration and management authority. The state Water Resources Restoration and Preservation Act (WRRPA) and Surface Water Improvement and Management Act (SWIM) create a framework for the Florida Department of Environmental Protection and the state Water Management Districts to engage in management and restoration of state waterbodies. WRRPA requires FDEP to allocate federal and state funding for waterbody restoration and conservation based on its degree of degradation, potential public uses, and ecological value, among other things. SWIM authorizes the five Water Management Districts to maintain lists of priority water bodies and to create plans for managing and improving them. The SWIM program is not without weaknesses, whether the requirement of a 50% District match for state-appropriated funds or the fact that it has at times resulted in the creation of wetlands in important upland habitats. Nonetheless, it provides an additional, practical mechanism for managing and restoring priority surface waters.

#### *b. Nonpoint Source Pollution*

Nonpoint source pollution is a tremendous problem in the Gulf of Mexico region, which impairs important ocean and coastal habitats. Nonpoint source pollution comes from a variety of activities, from forestry and agriculture to development and hydromodification. The impacts of nonpoint source pollution include decreased water quality, loss of species and diversity, and increased public health risks.<sup>253</sup> NOAA's Office of Ocean and Coastal Resource Management and EPA's Office of Wetlands, Oceans, and Watersheds jointly administer the Coastal Nonpoint Pollution Control Program. The general Nonpoint Pollution Control Program was established by the Clean Water Act; then the Coastal Nonpoint Pollution Control Program was created by the 1990 amendments to the Coastal Zone Management Act.<sup>254</sup> The program is intended to reduce nonpoint pollution by implementing management measures for controlling polluted runoff. The Coastal Nonpoint Program emphasizes the importance of proactively preventing pollution.<sup>255</sup> However, the Program funding was originally envisioned to support program development, with the anticipation that other programs' funding mechanisms would provide implementation support. While the latter is not the case (the coastal

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<sup>251</sup> See Miss. Code Ann. § 49-17-34(2).

<sup>252</sup> See Fla. Stat. § 403.804.

<sup>253</sup> NOAA, NOAA Magazine, Perspective on the Coastal Nonpoint Program, Sept. 29, 2003, available at <http://www.magazine.noaa.gov/stories/mag112.htm>.

<sup>254</sup> 16 USC § 1455b; 33 USC § 1329.

<sup>255</sup> NOAA, OCRM, *The Coastal Nonpoint Pollution Control Program*, <http://coastalmanagement.noaa.gov/nonpoint/welcome.html>; EPA, Office of Wetlands, Oceans, and Watersheds, Polluted Runoff, [http://www.epa.gov/owow/\\_keep/NPS/index.html](http://www.epa.gov/owow/_keep/NPS/index.html).

nonpoint source programs have little funding and are poorly implemented), the Program currently has no funding (Table 15).

**Table 15. NOAA Coastal Nonpoint Source Funding History, 1992-2010 (in millions).**<sup>256</sup>

Fiscal Year	Pres. Request	Appropriation	Fiscal Year	Pres. Request	Appropriation
FY 92	0 M	2.0 M	FY02 <sup>1</sup>	10 M	10 M
FY 93	2.0 M	1.9 M	FY03 <sup>1</sup>	10 M	10 M
FY 94	1.9 M	4.0 M	FY04 <sup>1</sup>	10 M	9.5 M
FY 95	4.0 M	5.0 M	FY05 <sup>1</sup>	0 M	3.0 M
FY 96	8.0 M	0 M	FY06 <sup>1</sup>	0 M	3.0 M
FY 97	2.6 M	0 M	FY07 <sup>1</sup>	0 M	0 M
FY 98	1.0 M	1.0 M	FY08 <sup>1</sup>	0 M	3.9 M
FY 99	6.0 M	4.0 M	FY09 <sup>1</sup>	0 M	3.9 M
FY 00	6.0 M	2.5 M	FY10 <sup>1</sup>	0 M	0 M
FY 01 <sup>1</sup>	4.5 M	10 M			

All states that participate in the federal Coastal Zone Management Program – including all five Gulf states – must establish Coastal Nonpoint Programs to address such runoff. Between 1997 and 2003, all of the Gulf states received conditional approvals of their Coastal Nonpoint Programs. However, Florida is the only state that has addressed all of the conditions implemented and received a full approval decision document.<sup>257</sup>

EPA provides state program funding through Clean Water Act Section 319(h) grants. These grants are available for all nonpoint pollution control efforts, not just coastal programs. Over the past two decades 319(h) funding has grown from under \$40 million to roughly \$200 million annually (see Table 16). In FY 2009, the Gulf states received the following amounts: Alabama—\$63,000, Florida—\$121,200, Louisiana—\$75,000, Mississippi—\$62,000, and Texas—\$75,000.<sup>258</sup>

**Table 16. Clean Water Act Section 319(h) Nationwide Grant Funding History, 1990–2009 (in millions).**<sup>259</sup>

FY	Grant Total	FY	Grant Total	FY	Grant Total	FY	Grant Total
1990	\$ 37	1995	\$ 100	2000	\$ 200	2005	\$ 207.3 *
1991	\$ 51	1996	\$ 100	2001	\$ 237.5 *	2006	\$ 204.3 *
1992	\$ 52.5	1997	\$ 100	2002	\$ 237.5 *	2007	\$ 199.3 *
1993	\$ 50	1998	\$ 105	2003	\$ 238.5 *	2008	\$ 200.9 *
1994	\$ 80	1999	\$ 200	2004	\$ 237 *	2009	\$ 200.9 *

\* Rounded

<sup>256</sup> Source: NOAA. Information on file with authors.

<sup>257</sup> NOAA, OCRM, *Coastal Nonpoint Program Approval Findings*, [http://coastalmanagement.noaa.gov/nonpoint/pro\\_approve.html](http://coastalmanagement.noaa.gov/nonpoint/pro_approve.html).

<sup>258</sup> Memorandum on FY 2009 Final Funding Guidance and Allocations, *supra* note 195. In addition to its standard allocation of \$75,000, Florida received an additional \$46,200 because its program was fully approved. Any state with a fully approved program would have received the same.

<sup>259</sup> EPA, *Clean Water Act Section 319(h) Grant Funds History*, <http://water.epa.gov/polwaste/nps/319hhistory.cfm>.

c. *Beneficial Use of Dredged Material*

Sediment management is a significant issue that impacts habitat protection and restoration in the Gulf of Mexico region. In the United States, the Army Corps is responsible for maintenance of navigation for more than 11,930 miles of waterways. This task requires the dredging of more than 300 million cubic yards of sediment annually, 90 million of which come from coastal Louisiana, resulting in the need for methods to evaluate and determine environmentally and economically sound management alternatives for the dredged material.<sup>260</sup> Recent years have seen a shift from the historical view of dredged material as waste to a focus on its potential as a manageable and beneficial resource.<sup>261</sup>

The Louisiana-Mississippi Gulf Coast Ecosystem Restoration Working Group articulated the problem in its *Roadmap for Restoring Ecosystem Resiliency and Sustainability*.<sup>262</sup> It cited improving sediment management as a short-term objective:

The wise management of sediments for wetland creation, enhancement, and sustainability is of critical importance to the region, especially given the high rate of subsidence and the potential future impacts of climate change. To successfully sustain and enhance coastal ecosystems, a broad sediment management effort is needed that may include large scale diversions, supplemented by dedicated (sediment) dredging, the beneficial use of material dredged for channel maintenance, and other means of capturing all available sediment resources. However, since any new, large-scale diversion project is realistically still several years away, in the near-term sediment will be returned to the system primarily through the beneficial use of dredged material or dedicated dredging. . . . Beneficial use of dredged material is strongly supported by both the Federal and State Governments, but remains an issue primarily because of the related expense and cost share implications.<sup>263</sup>

The Water Resources Development Act (WRDA), as frequently amended, provides authorities and funding to promote beneficial use, particularly habitat restoration projects.<sup>264</sup> Broadly speaking, the Army Corps may engage in beneficial uses of dredged materials, such as reducing storm damage to property; protecting, restoring, and creating aquatic and ecologically related habitats; and transporting and placing suitable sediment. For all projects, the Secretary of the Army must find that “the environmental, economic, and social benefits of the project, both monetary and nonmonetary, justify the cost of the project.”<sup>265</sup> When it comes to selecting a disposal option, the Secretary may choose a

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<sup>260</sup> Dennis L. Brandon & Richard A. Price, *Summary of Available Guidance and Best Practices for Determining Suitability of Dredged Material for Beneficial Uses*, ENVIRONMENTAL LABORATORY TR-07-27, 1 (Nov. 2007) at [http://www.nautismequebec.com/doc/55\\_1.pdf](http://www.nautismequebec.com/doc/55_1.pdf).

<sup>261</sup> See Brandon & Price, *supra* note 1, at 2.

<sup>262</sup> LOUISIANA-MISSISSIPPI GULF COAST ECOSYSTEM RESTORATION WORKING GROUP, ROADMAP FOR RESTORING ECOSYSTEM RESILIENCY AND SUSTAINABILITY 13 (Mar. 2010), available at <http://www.whitehouse.gov/sites/default/files/microsites/ceq/100303-gulf-coast-roadmap.pdf>. The working group was formed by President Obama in 2009 to coordinate federal actions in the region and to work with states to develop a collaborative approach to restoration.

<sup>263</sup> *Id.*

<sup>264</sup> US Army Corps of Engineers, *Identifying, Planning and Financing Beneficial Use Projects Using Dredged Materials: Beneficial use planning manual*, US EPA Website Water: Dredged Material Management, p. 1 (Oct. 2007) at [http://www.epa.gov/owow/oceans/ndt/publications/pdf/2007\\_beneficial\\_use\\_manual.pdf](http://www.epa.gov/owow/oceans/ndt/publications/pdf/2007_beneficial_use_manual.pdf) (hereinafter Planning Manual).

<sup>265</sup> 33 USC § 2326(a)–(b).



more expensive method if he “determines that the incremental costs of the disposal method are reasonable in relation to the environmental benefits, including the benefits to the aquatic environment to be derived from the creation of wetland sand control of shoreline erosion.”<sup>266</sup> However, the additional cost of beneficial use projects, i.e., the cost above that of the least expensive option, often must be shared between federal and non-federal sources (Table 17).<sup>267</sup>

**Table 17. Non-federal cost shares for the incremental costs of beneficial use projects.**<sup>268</sup>

	Statutory Authority	Primary Uses	Federal Share	Non-Federal Share	Appropriations Cap
<i>Improvement of the Quality of the Environment</i>	WRDA 1986 § 1135	Modifications to water resources projects, primarily flood control and navigation	75%	25%	\$ 25 million annually
<i>Protection, Restoration, or Creation of Aquatic and Related Habitats</i>	WRDA 1992 § 204	Ecologically beneficial projects connected to dredging for navigation	75%	25%	\$ 15 million annually
<i>Placement of Dredged Materials on Beaches</i>	WRDA 1976 § 145	Nourishment projects are typically used for storm damage control purposes	65%	35%	Programmatic
<i>Achieving Environmental Benefits</i>	WRDA 1996 § 207	Not using the federal standard disposal method, to achieve environmental benefits	75%	25%	Project by project

All the Gulf states have taken action to promote the beneficial use of dredged material, through a variety of policies, programs, and requirements. Two efforts are highlighted below.

In Mississippi, the Department of Marine Resources administers the Beneficial Use of Dredged Material Program. A *Long-Term Comprehensive Master Plan for Beneficial Uses of Dredged Material Along Coastal Mississippi* was developed in 2002, and updated in May 2011.<sup>269</sup> A 2010 state law delineates when participation in the program is discretionary and when it is mandatory, based on the size and extent of the proposed project. Participation in the program exempts parties from fees associated with their actions, so long as the dredged material is “suitable” for beneficial use and there is an “available” site.<sup>270</sup> The Department of Marine Resources and an outside consulting organization also recently released a revised draft *Master Plan for the Beneficial Use of Dredged Material for Coastal Mississippi*.

<sup>266</sup> *Id.* (d).

<sup>267</sup> *Id.* (c); US ARMY CORPS OF ENGINEERS & US ENVIRONMENTAL PROTECTION AGENCY, THE ROLE OF THE FEDERAL STANDARD IN THE BENEFICIAL USE OF DREDGED MATERIALS FROM U.S. ARMY CORPS OF ENGINEERS NEW AND MAINTENANCE NAVIGATION PROJECTS, DOC. EPA842-B-07-002 (Oct. 2007), at 2, available at [http://water.epa.gov/type/oceb/oceandumping/dredgedmaterial/upload/2009\\_02\\_27\\_oceans\\_ndt\\_publications\\_2007\\_fed\\_standard.pdf](http://water.epa.gov/type/oceb/oceandumping/dredgedmaterial/upload/2009_02_27_oceans_ndt_publications_2007_fed_standard.pdf) [hereinafter *ROLE OF THE FEDERAL STANDARD*].

<sup>268</sup> Adapted from *ROLE OF THE FEDERAL STANDARD*, *supra* note 267, box 3.

<sup>269</sup> CH2M Hill & MDMR, *Master Plan for the Beneficial Use of Dredged Material for Coastal Mississippi* (May 2011), available at [http://www.gulfmex.org/wp-content/uploads/2011/04/HCRT\\_beneficial\\_use\\_of\\_dredged\\_material\\_for\\_coastal\\_mississippi.pdf](http://www.gulfmex.org/wp-content/uploads/2011/04/HCRT_beneficial_use_of_dredged_material_for_coastal_mississippi.pdf).

<sup>270</sup> Miss. Code Ann. § 49-27-61 (eff. July 1, 2010).

In Louisiana, beneficial use regulations apply to projects that require coastal use permits, are intended to facilitate the movement or mooring of vessels, and include dredging at least 25,000 cubic yards of sediment. The applicant can choose between engaging in beneficial use, giving the dredged material to an approved coastal restoration project or using it at another location that results in equal benefit, or voluntarily contributing to the Coastal Resources Trust Fund in an amount proportionate to the dredging activities.<sup>271</sup> In March 2011, the Department of Natural Resources reported that updated regulations had led to 100% of sediment being used to support coastal efforts, whether by contributing material or funding.<sup>272</sup> In addition, WRDA 2006 authorized the Louisiana Coastal Beneficial Use of Dredged Material Program (BUDMAT), which will provide \$100 million over 10 years to increase beneficial use projects related to federally maintained waterways.<sup>273</sup>

#### d. Marine debris

There are several federal laws directed at preventing pollution and discharges from vessels, including the Clean Vessels Act, Clean Boating Act, Act to Prevent Pollution from Ships, Shore Protection Act, and Ocean Dumping Act. The Marine Debris Research, Prevention, and Reduction Act specifically directs NOAA to research, map, and develop a strategy for preventing and removing marine debris from U.S. waters.<sup>274</sup> There are numerous sources of marine debris in the Gulf of Mexico, from fishing and crabbing activities that result in derelict fishing gear to trash that enters the water from land-based sources.

NOAA's Marine Debris Program works with the Gulf states to implement marine debris removal and restoration projects. This includes engaging in partnerships and providing grants to support marine debris removal and related habitat enhancement, with targeted efforts to address old, abandoned, or derelict fishing gear.<sup>275</sup> The program works collaboratively with the states to target marine debris in state waters, including, if necessary, finding ways to work around a lack of state statutory authority (such as using rolling area closures to facilitate debris removal).<sup>276</sup> The Gulf of Mexico Marine Debris Project focused on conducting surveys and establishing maps of marine debris created by Hurricanes Katrina and Rita offshore of Louisiana, Mississippi, and Alabama.<sup>277</sup> In addition to federal prohibitions

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<sup>271</sup> 43 LA. ADMIN. CODE § 723(H).

<sup>272</sup> LDNR, *Beneficial Use Regulations Maximize Resources Dedicated to Coastal Protection*, Mar. 7, 2011, <http://dnr.louisiana.gov/index.cfm?md=newsroom&tmp=detail&aid=840>.

<sup>273</sup> US Army Corps of Engineers, *Beneficial Use of Dredged Materials (BUDMAT) Program: Louisiana Coastal Area* (presentation dated May 3, 2011), available at <http://140.194.100.31/od/BUDMAT%20Envr%20Dredging%20Conf%20May11.pdf>; US Army Corps of Engineers & Louisiana Office of Coastal Protection and Restoration, *Beneficial Use of Dredged Material Program Study: Louisiana Coastal Area (LCA) Project Fact Sheet* (Jan. 2010), available at <http://www.lca.gov/Studies/budmat.aspx>.

<sup>274</sup> 33 U.S.C. § 1952.

<sup>275</sup> For more information on NOAA's current marine debris programs and funding opportunities, see NOAA, Office of Response and Restoration, *Marine Debris Program*, <http://marinedebris.noaa.gov/funding/welcome.html>. Information on grants provided through a partnership with the National Fish and Wildlife Foundation is available at NFWF, *Fishing for Energy*, <http://www.nfwf.org/fishingforenergy>. Information on grants distributed through NOAA's Restoration Center is available at NOAA, Habitat Conservation, *Marine Debris*, <http://www.habitat.noaa.gov/funding/marinedebris.html>.

<sup>276</sup> Personal communication with expert. Such tools have been used offshore Louisiana and the Atlantic coast of Florida.

<sup>277</sup> See Gulf of Mexico Marine Debris Project, <http://gulfofmexico.marinedebris.noaa.gov/>.

on dumping of garbage and other debris in U.S. waters, some states have explicit corollaries—such as Mississippi’s Marine Litter Act, which makes it a crime to dump garbage in state waters.<sup>278</sup>

*e. Nonindigenous aquatic species*

Introductions of nonindigenous aquatic species can occur through a variety of vectors, including intentional or accidental releases by private actors, aquariums, or public actors, and carriage by vessels in their ballast tanks or on their hulls. At the federal level, there are two primary control mechanisms: the Clean Water Act and the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA). The Clean Water Act prohibition on discharges of pollutants from point sources without a permit includes vessel discharges of greywater and biological material.<sup>279</sup> Such discharges are largely regulated by an EPA vessel general permit, with exemptions for small recreational vessels.<sup>280</sup>

NANPCA provides a framework for managing, researching, and planning for invasive aquatic species, including providing grants for such activities.<sup>281</sup> The Gulf State Marine Fisheries Commission oversees the Gulf and South Atlantic Regional Panel on Aquatic Invasive Species, which has developed a regional inventory of information on nonindigenous species, and participates in the National Aquatic Nuisance Species Task Force.<sup>282</sup> Regional efforts recognize the importance of monitoring, early detection, and rapid response.<sup>283</sup> A list from September 2000 identifies over 60 current and potential future priority invasive aquatic and semi-aquatic plant and animal species in the five Gulf states.<sup>284</sup> Each state has management and research mechanisms in place to address various nonindigenous species.<sup>285</sup>

## SUMMARY & RECOMMENDATIONS

### SUMMARY

The CWA provides the overarching structure for protecting the quality of U.S. waters. The Gulf states have enacted additional state protections and been delegated CWA permitting authority. In general, the legal protection that state and federal laws offer to marine waters decreases the further one moves from shore, whether due to varying authority or implementation.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

<sup>278</sup> MISS. CODE ANN. § 51-2-3.

<sup>279</sup> 33 USC §§ 1311(a), 1362; *Nw. Env'tl. Advocates v. EPA*, 537 F.3d 106 (9th Cir. 2008).

<sup>280</sup> See EPA, Office of Water, Vessel General Permit, <http://cfpub.epa.gov/npdes/vessels/vgpermit.cfm>.

<sup>281</sup> 16 USC §§ 3839–3839d. NANPCA was amended by the National Invasive Species Act of 1996. Pub. L. 104-332 (Oct. 26, 1996).

<sup>282</sup> Gulf States Marine Fisheries Commission, *Programs*, <http://www.gsmfc.org/#:links@3:content@2>; Gulf and South Atlantic Regional Panel on Aquatic Invasive Species, <http://www.gsap.org/#:content@1:links@2>.

<sup>283</sup> See, e.g., Gulf of Mexico Regional Panel on Aquatic Invasive Species, Rapid Response Plan for the Gulf of Mexico Region (Dec. 2004), available at <http://www.gsap.org/pubs/Regional%20Rapid%20Response%20Plan.pdf>.

<sup>284</sup> EPA, GULF OF MEXICO PROGRAM, INVASIVE SPECIES FOCUS TEAM, AN INITIAL SURVEY OF AQUATIC INVASIVE SPECIES ISSUES IN THE GULF OF MEXICO REGION v4.0, Doc. 855-R-00-003 (Sept. 2000), tbls. 10–11, available at <http://nis.gsmfc.org/pubs/Initial%20Survey%20of%20Invasive%20Species.pdf>.

<sup>285</sup> See the individual state profiles for summaries of their individual laws, programs, and efforts.

## REGION-WIDE RECOMMENDATIONS

### Coastal water quality management.

- TMDLs provide a mechanism to assess the full suite of pollutant load sources in order to develop targeted ways to address excess loads. Also, the EPA Section 319 funding program targets TMDL water bodies. However, few TMDLs target coastal waters. To enable Section 319 funding for coastal water bodies and diminish pollutant loads to coastal waters, *consider developing total maximum daily loads that include coastal waters to fully understand and develop a plan for the reduction of pollutant loads.*<sup>286</sup>
- Louisiana charges an additional fee for pollution in areas where there is concentrated shellfish harvesting activity. *Louisiana’s approach is a potential model for raising revenue to support shellfish habitat conservation and restoration.*

### Coastal water quality management funding.

- The 2003 EPA guidance and grant guidelines for Section 319 emphasize a watershed-based approach to planning for and restoration of impaired waters.<sup>287</sup> *The Gulf states should continue or initiate watershed-based approaches to water planning and ensure that impaired coastal waters are appropriately designated.* For example, Mississippi divides the state into nine basins for water quality management planning, with state employees coordinating the development of water quality plans by associated watershed groups.
- The Coastal Nonpoint Source Program currently has no funding. *States could consider advocating for expansion of this federal program to address ongoing coastal water quality problems.*

### Coastal water quality monitoring.

- General. There is perception that there is insufficient monitoring of coastal water quality in the region. *States could prioritize and increase capacity for coastal water quality monitoring and enforcement in each of the Gulf states.*
- Freshwater inflows. Shellfish harvesting is an important part of the Gulf economy. One of the threats to healthy oyster populations is fluctuating freshwater inflows, which alter salinity and may affect species health and increase predation. (See the *Water Quantity* section and discussion of inflow management for recommendations.)

**Beneficial use of dredged material.** As mentioned in the Introduction, increasing the beneficial use of dredged material is a critical and complex issue that is the focus of many regional entities. For example, there are many questions surrounding the federal standard, from how it might be amended to facilitate beneficial use to how state and local entities can satisfy the nonfederal matching fund requirements. *Continued efforts to improve beneficial use approaches should be maintained for as long as necessary to implement effective programs throughout the region.*

- Efforts could include adopting additional laws and regulations that incentivize (e.g., waiving disposal fees) or require (e.g., to the maximum extent possible) beneficial use of dredged materials.
- In addition, efforts could include finding solutions to challenges faced in the working relationships of some state agencies and corresponding Army Corps divisions.

### Marine debris.

- The majority of the Gulf states rate marine debris removal as a “low” priority for their coastal management programs (see *Coastal Management* section, Table 12), with the exception of

<sup>286</sup> For more discussion, see ELI, *Water Quality and Sustainable Practices on Land—Strategic Action Plan Comment* (Apr. 2011), at 7–8, available at [http://www.eli.org/Program\\_Areas/ocean.cfm](http://www.eli.org/Program_Areas/ocean.cfm).

<sup>287</sup> For more discussion, see *id.* at 8–10; see also EPA, *Nonpoint Source Program and Grants Guidelines for States and Territories* (2003), available at [http://www.epa.gov/owow\\_keep/NPS/cwact.html](http://www.epa.gov/owow_keep/NPS/cwact.html).

Mississippi. *States may consider establishing explicit statutory authority to facilitate marine debris prevention and removal efforts, in coordination with NOAA’s Marine Debris Program; in the absence of explicit authority, state and local agencies should still coordinate with federal efforts to the maximum extent possible.*

- *More information is needed on the efficacy and appropriateness of tools to prevent and remove marine debris, such as the utility of plastic bag bans, whether waste management practices are preventing entrance of debris into marine waters, and whether additional enforcement and implementation is needed for existing mechanisms, such as regulation of derelict vessels.*

**Invasive Species.**

- *The ability to detect and rapidly respond to introductions of invasive aquatic species depends on the availability and sharing of adequate information. The Gulf and South Atlantic Regional Panel on Aquatic Invasive Species is working to enable information sharing. The five states may consider assessing whether there is sufficient capacity available to enable states to effectively monitor, detect, and rapidly respond to introductions of invasive species.*

**STATE-SPECIFIC RECOMMENDATIONS**

**Alabama’s water quality management.**

- *To improve coastal water permit consistency reviews, ADEM may consider identifying a single engineer to specialize in coastal water quality issues.*
- *Alabama’s coastal nonpoint pollution control management program has not been fully approved. Amend the program to satisfy approval requirements, including establishing enforceable policies, and implement measures to protect vital offshore resources from runoff.*

**Florida’s water quality management.**

- *One perceived programmatic challenge is coastal outfalls that have been grandfathered into the permitting systems. FDEP and the FWMDs may benefit from clearer legal authority to address such sources, such as during beach renourishment permitting decisions.*

**Louisiana’s water quality management.**

- *Louisiana’s coastal nonpoint pollution control management program has not been fully approved. Amend the program to satisfy approval requirements, including establishing enforceable policies, and implement measures to protect vital offshore resources from runoff.*

**Mississippi’s water quality management.**

- *Mississippi state law prohibits the state from enacting standards that are stricter than the federal standards. Consider revising this authority to allow for more stringent control standards for coastal waters.*
- *Mississippi’s coastal nonpoint pollution control management program has not been fully approved. Amend the program to satisfy approval requirements, including establishing enforceable policies, and implement measures to protect vital offshore resources from runoff.*

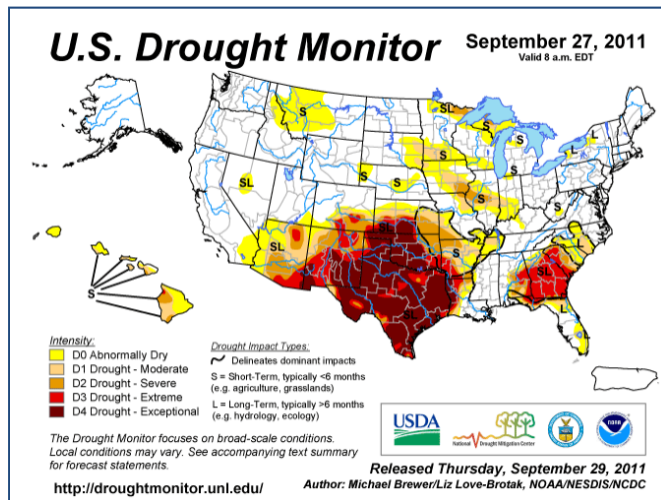
**Texas’ water quality management.**

- *Texas’ coastal nonpoint pollution control management program has not been fully approved. Amend the program to satisfy approval requirements, including establishing enforceable policies, and implement measures to protect vital offshore resources from runoff.*
- *There is a perceived lack of sufficient enforcement of boat sewage regulations. Consider increasing resources and capacity to engage in adequate water quality enforcement.*

## X. Water Quantity Management

Water availability and planning is a critical issue in the Gulf region generally. Changes in water availability can affect coastal flora and fauna as well as supporting habitats. For example, changes in freshwater inflows can significantly alter estuarine systems and potentially threaten their health and productivity.<sup>288</sup> Managing water consumption and availability is increasingly important in the face of growing populations and changing water cycles due to climate change. Figure 3 shows drought conditions in the United States in September 2011.

Figure 3. Drought conditions in the United States as of 8am EDT on September 27, 2011.<sup>289</sup>

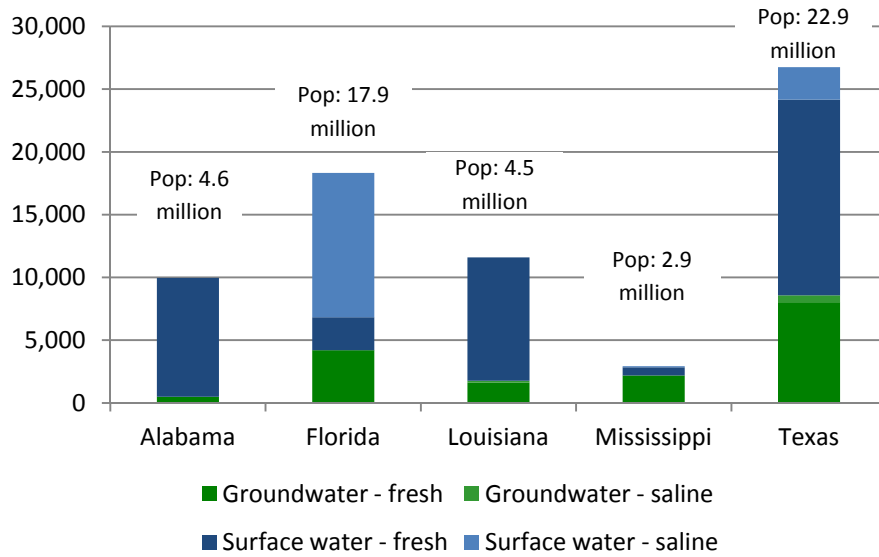


Water quantity is primarily managed at the state level. Each Gulf state has established its own system for allocating and managing resources and uses. Figures 4a–4b summarizes each state’s 2005 water withdrawals, by source and as calculated per capita. Table 18 summarizes the five state water quantity management systems.

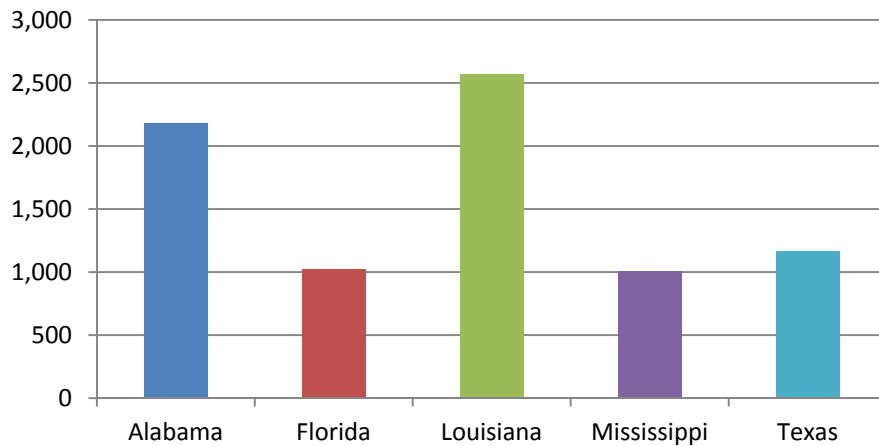
<sup>288</sup> For a discussion of the importance of freshwater inflows to estuaries, and potential impacts on estuary functions and human impacts, see USAID, THE NATURE CONSERVANCY, & UNIVERSITY OF RHODE ISLAND COASTAL RESOURCES CENTER, MANAGING FRESHWATER INFLOWS TO ESTUARIES: A METHODS GUIDE, available at [http://pdf.usaid.gov/pdf\\_docs/PNADH650.pdf](http://pdf.usaid.gov/pdf_docs/PNADH650.pdf).

<sup>289</sup> Michael Brewer & Liz Love-Brotak, NOAA/NESDIS/NCDC, *Current U.S. Drought Monitor* (valid 8 a.m. EDT, Sept. 27, 2011), available at <http://droughtmonitor.unl.edu/>.

**Figure 4a. Estimated Total Water Withdrawals by State in 2005 (millions of gallons/day).<sup>290</sup>**



**Figure 4b. Water Withdrawals Per Capita in 2005 (gallons/day).<sup>291</sup>**



<sup>290</sup> USGS, Estimated Use of Water in the United States in 2005, cir. 1344 (2009), available at <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>.

<sup>291</sup> USGS, Estimated Use of Water in the United States in 2005, cir. 1344 (2009), available at <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>. These figures are a simple calculation of the total water withdrawals divided by the total state population. They do not account for any specific uses.

**Table 18. The basic water quantity management structures of the Gulf states.**

	Allocation System	Responsible Agency	Regulatory System <sup>292</sup>
Alabama <sup>293</sup>	Riparian	ADECA-Office of Water Resources	<ul style="list-style-type: none"> <li>- Declarations of Beneficial Use must be filed by anyone diverting state waters; if approved, user receives a Certificate of Use for 5–10 years</li> <li>- Certificates of Use contain water use reporting requirements</li> <li>- Water use reporting required for all public water system users, and non-public and irrigation water users with capacity of 100,000 gpd or more</li> </ul>
Florida <sup>294</sup>	Riparian	Five Water Management Districts (WMDs)	<ul style="list-style-type: none"> <li>- WMDs grants consumptive use permits (for surface and groundwater withdrawals), well construction permits, and environmental resource permits (preventing stormwater pollution)</li> <li>- Permitting and reporting requirements vary among the five districts, but generally permits are required for all users with capacity greater than 1,000,000 gpd</li> </ul>
Louisiana <sup>295</sup>	Riparian	LDNR-Office of Conservation (groundwater only)	<ul style="list-style-type: none"> <li>- Groundwater withdrawals registration with exceptions (including water used in oil and gas production)</li> <li>- State collects information on both groundwater (statutory) and surface water (non-statutory) withdrawals</li> <li>- Non-statutory quarterly reporting for withdrawals above 1,000,000 gpd; other facilities receive questionnaires every 5 years</li> </ul>
Mississippi <sup>296</sup>	Riparian	MDEQ-Office of Land and Water Resources	<ul style="list-style-type: none"> <li>- Permits required for all withdrawals of surface or ground water, with exceptions</li> <li>- Commission may designate water use caution areas, which may trigger additional requirements and limitations</li> <li>- Non-statutory reporting</li> </ul>
Texas <sup>297</sup>	Dual-doctrine	TCEQ-Office of Water, Water Supply Division (surface water)	<ul style="list-style-type: none"> <li>- Surface water belongs to the state, and permits accord with prior appropriation doctrine</li> <li>- Groundwater belongs to the landowner, pursuant to riparian doctrine (selective permitting)</li> </ul>

<sup>292</sup> National Conference of State Legislatures, State Water Withdrawal Regulations, <http://www.ncsl.org/?tabid=18031>.

<sup>293</sup> Alabama Water Resources Act, Ala. Code §§ 9-10B-1 *et seq.*; Ala. Admin. Code. rev. § 305-7-1–12; Alabama Dept. of Economic and Community Affairs, Office of Water Resources, <http://www.adeca.state.al.us/owr/default.aspx>.

<sup>294</sup> Fla. Stat. ch. 373; Water Management Admin. Code, Fla. Admin. Code Ann. rev. 40A–E; Florida Water Management Districts, Permitting Portal, <http://flwaterpermits.com/>.

<sup>295</sup> La. Rev. Stat. Ann. §§ 38.3091–3097; La Admin. Code tit. 43, part 6; La. Admin. Code tit. 56; Louisiana Department of Natural Resources, Office of Conservation, Ground Water Resources, <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=455>.

<sup>296</sup> Miss. Code Ann. §§ 51-3-1 *et seq.*; Surface Water and Groundwater Use and Protection, Miss. Code rev. § LW-2; Mississippi Department of Environmental Quality, Office of Land and Water Resources, [http://www.deq.state.ms.us/mdeq.nsf/page/l&w\\_home](http://www.deq.state.ms.us/mdeq.nsf/page/l&w_home).

<sup>297</sup> Texas Water Rights, 2 Tex. Water Code Ann. §§ 11.021, 35.001, 36.002; 31 Tex. Admin. Code ch. 356; 30 Tex. Admin. Code ch. 297; Texas Commission on Environmental Quality, Office of Water, <http://www.tceq.texas.gov/about/organization/water.html#watersupply>.



The nature and extent of water planning in the five states varies significantly. Texas and Florida have established tiered processes for developing statewide plans. Mississippi has basin-specific water quality plans and is working on a statewide approach to water quantity management. Alabama and Louisiana are in the midst of developing state water management plans.

- Texas develops a five-year strategic plan that incorporates the individual plans developed by its 16 Regional Water Planning Groups. The plans include strategies for meeting near-term and long-term needs. The Texas Water Advisory Council provides input on key water policy issues, while the Texas Instream Flow Program manages flow condition research and assessments.
- Alabama’s water quantity management programs focus on drought management. The state does not currently have a comprehensive water management plan. However, in 2008 a Permanent Joint Legislative Committee on Water Policy and Management was created and tasked with developing one and issuing recommendations for necessary policy and institutional changes.
- For water quality planning purposes, Mississippi is divided into nine basins and state employees coordinate the development of water quality plans by watershed groups. The state is working on a statewide water quantity planning program, based on local plans that would be integrated into regional and statewide tools.
- In Florida, the Florida Department of Environmental Protection manages the Florida Water Plan and updates it every five years. Among other things, the plan must include the state’s water management goals and responsibilities and implementation strategies. Each of the five Water Management Districts must also assess its water supplies and develop district water management plans every five years, or develop annual strategic plans if it so chooses. Local governments are also required to establish comprehensive plans that include water supply elements.
- Louisiana is developing a statewide water management program that will identify and forecast water demand, conservation, use incentives, and use alternatives. A draft was released in September 2010. The goal is to devise both short-term and long-term solutions that can be implemented under existing authorities, as well as other long-term solutions that would require legislative or regulatory change.

## SUMMARY & RECOMMENDATIONS

### SUMMARY

Responsibility for managing the allocation and preservation of water resources falls completely to the states. The Gulf states have varying systems for allocating water rights and for managing ground and surface water resources. Some are working on developing statewide plans, while others have state and local planning processes in place.

The region-wide and state-specific recommendations noted below reflect a combination of opportunities identified by the authors and suggestions provided by regional and substantive experts:

#### REGION-WIDE RECOMMENDATIONS

##### **Water management planning.**

- As climate change affects weather patterns and water cycles, already water-stressed Gulf states may face even scarcer water supplies. *Regardless of structure, each state should have a management plan in place to ensure the preservation and protection of sufficient resources to maintain critical services and ecosystem functioning.* For example, Florida has tiered water quantity and supply planning requirements that apply to state, district, and local bodies.
- As discussed previously (see *Water Quality*), *a watershed-wide approach is desirable to ensure appropriate and effective management decisions.*

##### **Freshwater inflows.**

- As resources become scarcer, it will become increasingly important to manage freshwater inflows to important coastal habitats. Among other things, fluctuations in salinity can affect coastal salinity and endanger shellfish populations (see the discussion of oyster drills under *Harvested Species Habitat*). Texas has an Instream Flow Program devoted to flow conditions. *States should ensure that instream flows support coastal habitats.*

#### STATE-SPECIFIC RECOMMENDATIONS

##### **Alabama's statewide management plan.**

- The Permanent Joint Legislative Committee on Water Policy and Management is responsible for developing a comprehensive water management plan. The plan should be completed and implemented as soon as possible.<sup>298</sup> *Emphasis should also be placed on managing freshwater inflows to prevent additional oyster drill infestations (see *Harvested Species Habitat*).*

##### **Mississippi's statewide management plan.**

- Mississippi is completing a statewide water quantity planning program, based on local plans. *The plan(s) should be completed and implemented.*

##### **Louisiana's statewide management plan.**

- Louisiana disseminated a draft statewide ground water management plan in September 2010. *In addition to finalizing the plan, the state should ensure measures are taken to actively plan for surface water resources as well, which constitute the majority of the state's water use (see Fig. 4a).* In 2010 LDNR, LDEQ, and LDWF signed a memorandum of agreement concerning sales of surface water withdrawals.

<sup>298</sup> See, e.g., Cindy Lowry, *Alabama Needs Comprehensive Water Management Plan (Insight)*, al.com (July 10, 2011), [http://blog.al.com/press-register-commentary/2011/07/alabama\\_needs\\_comprehensive\\_wa.html](http://blog.al.com/press-register-commentary/2011/07/alabama_needs_comprehensive_wa.html).

## C. State Profile: Alabama’s Legal and Institutional Framework

### I. Laws, Policies, and Programs

	Restoration	Conservation	Research
<b>Wetlands &amp; Estuaries</b>	<ul style="list-style-type: none"> <li>▪ Fund conservation and restoration efforts through waterfowl hunting fees</li> <li>▪ Mobile Bay NEP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Water Pollution Control Act</li> <li>▪ Fund conservation and restoration efforts through waterfowl hunting fees</li> <li>▪ Weeks Bay NERR</li> <li>▪ Mobile Bay NEP</li> </ul>	<ul style="list-style-type: none"> <li>▪ Weeks Bay NERR</li> <li>▪ Mobile Bay NEP</li> </ul>
<b>Beaches &amp; Dunes</b>	<ul style="list-style-type: none"> <li>▪ Coastal Area Management Program regulations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Coastal Area Management Program regulations</li> <li>▪ Public lands</li> </ul>	
<b>Harvested Species Habitat</b>	<ul style="list-style-type: none"> <li>▪ Regulation of establishment of artificial reefs in offshore waters</li> <li>▪ Oyster reef rebuilding</li> </ul>	<ul style="list-style-type: none"> <li>▪ Comprehensive fisheries regulation</li> <li>▪ Shrimp nursery areas</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regulation of establishment of artificial reefs in offshore waters</li> </ul>
<b>Protected Species Habitat</b>		<ul style="list-style-type: none"> <li>▪ Marine Mammal Protection Act</li> <li>▪ Seafood Fund</li> </ul>	
<b>Protected Places</b>	<ul style="list-style-type: none"> <li>▪ Public Recreational and Historical Facilities Improvement Act</li> </ul>	<ul style="list-style-type: none"> <li>▪ Forever Wild</li> <li>▪ Natural Heritage Program</li> <li>▪ Wildlife management areas</li> <li>▪ Public Recreational and Historical Facilities Improvement Act</li> </ul>	
<b>Coastal Management</b>		<ul style="list-style-type: none"> <li>▪ Coastal management program</li> <li>▪ Grants and technical assistance for local coastal planning initiatives</li> </ul>	
<b>Accident Response</b>			
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>▪ Respond to violations of Alabama Water Pollution Control Act</li> </ul>	<ul style="list-style-type: none"> <li>▪ Under Water Pollution Control Act, set water quality standards and issue water pollution permits</li> </ul>	<ul style="list-style-type: none"> <li>▪ Coastal Watershed Survey Program</li> <li>▪ Alabama Aquatic Biodiversity Center</li> </ul>
<b>Water Quantity</b>		<ul style="list-style-type: none"> <li>▪ Drought Management Plan</li> <li>▪ Water use reporting</li> </ul>	
<b>Invasive Species</b>	<ul style="list-style-type: none"> <li>▪ Nonindigenous Aquatic Plant Control Act</li> <li>▪ Aquatic Plant Management Control Program</li> </ul>	<ul style="list-style-type: none"> <li>▪ Nonindigenous Aquatic Plant Control Act</li> <li>▪ Aquatic Plant Management Control Program</li> </ul>	<ul style="list-style-type: none"> <li>▪ Aquatic Plant Management Control Program</li> </ul>

In Alabama, there are three agencies with significant authority relevant to Gulf habitat conservation and restoration. First, the Alabama Department of Conservation and Natural Resources strives to promote statewide stewardship and enjoyment of the state’s natural resources by implementing programs

focused on resource management, habitat enhancement and wildlife protection. Second, the Alabama Department of Environmental Protection oversees management and enforcement of water, air and land quality. Third, the Alabama Department of Economic and Community Affairs aims to encourage comprehensive and coordinated planning and programming of economic and community affairs, particularly relating to water and energy resources.

i. **Wetlands and Estuaries**

*Statewide, the federal Clean Water Act is the only regulatory tool protecting Alabama’s wetlands. The Alabama Department of Environmental Management reviews U.S. Army Corps of Engineers permits for activities in wetlands. For wetlands within the state’s coastal zone, the Department verifies that permitted activities are consistent with its Coastal Area Management Program Regulations. Additional habitat conservation and restoration initiatives are being carried out in two large, specially designated areas: the Weeks Bay National Estuarine Research Reserve and the Mobile Bay National Estuary Program. Alabama also funds wetlands conservation and restoration efforts through waterfowl hunting fees.<sup>299</sup>*

The federal **Clean Water Act** (CWA) is an important tool for protecting wetlands in Alabama. Under section 404 of the CWA, parties must obtain permits from the U.S. Army Corps of Engineers before dredging or filling a wetland. Within Alabama’s coastal zone, ADEM’s Coastal Section is responsible for reviewing these permits for compliance with state laws and regulations, but inter-agency coordination has created continuing challenges (discussed below under *Coastal Management*). State rules require mitigation of wetlands impacts through wetland restoration or enhancement,<sup>300</sup> but the state does not have detailed guidelines or legislation governing compensatory mitigation.

Alabama does not have a state regulatory program for wetlands that lie outside of federal jurisdiction. The **Alabama Water Pollution Control Act**, which implements the Clean Water Act in the state (discussed below, under *Water Quality*), provides its own definition of “waters” within its framework for issuing discharge permits.<sup>301</sup> In practice, however, ADEM relies on the Army Corps’ manual and associated definitions for delineating wetlands.<sup>302</sup> In addition, Alabama has not adopted wetland-specific water quality standards. Consequently, there are few protections for the state’s important cypress wetlands and depressional wetlands.<sup>303</sup>

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<sup>299</sup> ALA. CODE § 9-11-431–435.

<sup>300</sup> ALA. ADMIN. CODE r. 335-8-2.03.

<sup>301</sup> ALA. CODE § 22-22-1(b)(2). The definition of “Waters” is: “All waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce.”

<sup>302</sup> ENVIRONMENTAL LAW INSTITUTE, STATE WETLAND PROTECTION: STATUS, TRENDS, & MODEL APPROACHES, APPENDIX: STATE PROFILES—ALABAMA (2008), available at [http://www.eli.org/pdf/core\\_states/Alabama.pdf](http://www.eli.org/pdf/core_states/Alabama.pdf).

<sup>303</sup> Personal communication with expert.

Given the prevalence of intact wetlands in Alabama, some experts emphasize conservation over restoration. Public acquisition through the Forever Wild program (discussed below, under *Protected Places*) has allowed long-term conservation of large wetlands tracts in the Mobile-Tensaw Delta and coastal Alabama.<sup>304</sup>

Experts noted several challenges to wetlands protection on Alabama's coast. First, the state does not have a comprehensive inventory of coastal wetland resources, which makes it difficult for permitting agencies to take a holistic approach to the regulatory process.<sup>305</sup> Second, there are few barriers to building a project without a permit and then obtaining one after the fact.<sup>306</sup>

Local governments have filled some of the regulatory gaps with zoning ordinances that protect wetlands.<sup>307</sup> For instance, Baldwin County has wetlands protections in its subdivision regulations (restricting lot creation to areas with sufficient upland areas)<sup>308</sup> and the city of Orange Beach requires that wetland mitigation take place within its city limits (rather than elsewhere in the state).<sup>309</sup>

Alabama does not have any statutorily mandated wetland restoration programs. However, the state uses grant funding sources, such as the EPA Wetland Restoration Grants, to restore wetland habitats.<sup>310</sup> The state's wetland monitoring and assessment activities are pursued with grant funding, without a specific statutory mandate.<sup>311</sup> One large-scale restoration project is the 100-1000 project, an effort to restore 100 miles of oyster reefs and 1000 acres of marshes and seagrass that is led by the Nature Conservancy, Ocean Foundation, Alabama Coastal Foundation, and Mobile Baykeeper.<sup>312</sup> The project also partners with and/or receives funding from federal and state agencies, including NOAA, FWS, and the Alabama Department of Conservation and Natural Resources. A significant source of funding was the American Recovery and Reinvestment Act of 2009 (the federal stimulus bill), which could have been used for a variety of activities.<sup>313</sup>

Experts noted two systemic barriers to restoration activities. First, ADCNR will not permit living shoreline projects off of private lands until it develops a system for assuring that the landowners will not make invalid claims to state land.<sup>314</sup> While some statutory provisions address accretion and erosion,

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<sup>304</sup> Personal communication with expert; Alabama Department of Conservation and Natural Resources, <http://www.outdooralabama.com/map/IntMap.cfm>.

<sup>305</sup> Personal communication with expert.

<sup>306</sup> Personal communication with expert.

<sup>307</sup> Personal communication with expert.

<sup>308</sup> Baldwin County subdivision regulations § 5.2.2. The regulations restrict lot creation to areas where there is sufficient upland area that the developer can build a principal and any necessary ancillary facilities. Fill is used when necessary, subject to Army Corps and other relevant approvals.

<sup>309</sup> Orange Beach, Alabama, Code of Ordinances, sec. 30-111 et seq.

<sup>310</sup> For a fuller discussion of wetland restoration in Alabama, see ELI, STATE WETLAND PROTECTION, ALABAMA, *supra* note 302.

<sup>311</sup> *Id.*

<sup>312</sup> See Restore Coastal Alabama, 100-1000, <http://www.100-1000.org/>.

<sup>313</sup> Personal communication with expert.

<sup>314</sup> Personal communication with expert.

ADCNR still must make case-by-case decisions about the boundary between private and state lands.<sup>315</sup> This may create uncertainty that may inhibit restoration activities. Second, the state does not assume long-term management responsibility for oyster reefs constructed by nongovernmental parties.<sup>316</sup> Under current rules, the project proponents face long-term liabilities and responsibilities if they build reefs.

Two major state-federal partnerships contribute to wetlands conservation, restoration, and research. The **Weeks Bay National Estuarine Research Reserve** encompasses over 6,000 acres around Weeks Bay and Mobile Bay.<sup>317</sup> The **Mobile Bay National Estuary Program** allows federal, state, and local agencies to collaborate on water quality and habitat management.<sup>318</sup> The Mobile Bay National Estuary Program focuses these efforts on the portions of Baldwin and Mobile Counties that drain into Mobile Bay, as well as Alabama's marine waters.<sup>319</sup> The program conducts several activities to improve habitat management in that area, including protecting submerged aquatic vegetation, maintaining wetlands, and assessing beach and dune habitat loss.<sup>320</sup>

Within the Alabama Code, the article on **Preservation of Wetlands and Hunting of Migratory Waterfowl** is intended "to insure the procurement, development, restoration, maintenance or preservation of wetlands for migratory waterfowl habitat."<sup>321</sup> It raises revenue for these objectives by requiring hunters to purchase a special stamp before hunting migratory waterfowl.<sup>322</sup> Revenue from stamp sales must be used to procure, restore, or preserve wetlands for waterfowl habitat and support waterfowl hunting areas.<sup>323</sup> It is interesting to note that up to 50% of funds may be used on nongovernmental projects outside of the United States; these projects must be acceptable to the government with jurisdiction.<sup>324</sup>

In addition to using Wetlands and Hunting of Migratory Waterfowl funding to support wetlands acquisition, Alabama's Forever Wild Program, and private sources can support acquisition. In 2011, for example, a partnership with conservation groups and public agencies led to the acquisition of 820 acres for coastal wetland habitat adjacent to the Weeks Bay NERR.<sup>325</sup>

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<sup>315</sup> Personal communication with expert; *see also* Mississippi-Alabama Sea Grant Legal Program, *Understanding Shoreline Property Rights in Alabama: Private Property vs. State Owned Submerged Lands* (May 26, 2011), available at <http://www.mobilebaynep.com/images/uploads/library/UnderstandingShorelineRights.pdf>.

<sup>316</sup> Personal communication with expert.

<sup>317</sup> Weeks Bay National Estuarine Research Reserve, [http://www.weeksbay.org/brochure/Weeks\\_Bay\\_Brochure.pdf](http://www.weeksbay.org/brochure/Weeks_Bay_Brochure.pdf).

<sup>318</sup> Mobile Bay National Estuary Program, <http://www.mobilebaynep.com/what-we-do/habitat-management>.

<sup>319</sup> MOBILE BAY NATIONAL ESTUARY PROGRAM, DRAFT COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN, 2001, available at <http://www.mobilebaynep.com/wp-content/uploads/2010/07/CCMP-Volume-I.pdf>.

<sup>320</sup> Mobile Bay National Estuary Program, <http://www.mobilebaynep.com/what-we-do/habitat-management>.

<sup>321</sup> ALA. CODE § 9-11-431.

<sup>322</sup> ALA. CODE § 9-11-432.

<sup>323</sup> ALA. CODE § 9-11-434.

<sup>324</sup> ALA. CODE §§ 9-11-434; 435.

<sup>325</sup> *See, e.g.*, The Conservation Fund, 820 Acres of Southeastern Alabama Wetlands to be Protected and Restored (Jan 5, 2011), <http://www.conservationfund.org/news/alabama-weeks-bay>.

ii. **Beaches and Dunes**

*Alabama law imposes a few limits on activities on beaches and dunes: there is a prohibition on driving on dunes, and beach renourishment projects require a state permit. The state's Coastal Area Management Program regulations set out the key framework for regulating beachfront construction. Public acquisition is also an important strategy for conserving beach and dune habitat in Alabama.*

A mix of regulatory devices protects beach and dune habitat in Alabama. The state's Coastal Area Management Program regulations restrict beachfront development, imposing a construction control line and other standards.<sup>326</sup> The construction control line is generally defined as a line that runs parallel to the shore, located up to 40 feet inland of the "most inland point of the crestline."<sup>327</sup> ADEM has delegated permitting responsibilities for beachfront construction to local governments.<sup>328</sup> In Baldwin County, critical habitat for the Perdido Key beach mouse has moved development back from the shoreline.<sup>329</sup> State law prohibits operating motor vehicles on Gulf beaches and sand dunes, with the exception that private landowners and their guests are allowed to park on private property.<sup>330</sup> The ADCNR is also responsible for permitting beach renourishment projects, issuing permits only if the project can be carried out "without a materially adverse impact on . . . fish, shellfish, and wildlife resources of the state."<sup>331</sup>

One of the most important mechanisms for preserving beach and dune habitat is public ownership, as the state's most significant dune resources lie in areas with a protected status.<sup>332</sup> About one-third of Alabama's beach and dune habitat is preserved through Gulf State Park, Bon Secour NWR, the Dauphin Island Audubon Bird Sanctuary, Fort Morgan Historical Park, and other sites.<sup>333</sup>

There are also challenges to beach and dune protection in Alabama. First, the narrow shorelines along some barrier island beaches (especially on Dauphin Island) create a situation in which it is difficult to regulate without triggering takings suits.<sup>334</sup> Second, there is some concern that relying on public ownership may be precarious because the government may turn to beach development for revenue in times of fiscal hardship.<sup>335</sup>

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<sup>326</sup> ALA. ADMIN. CODE r. 335-8-2-.08. This rule was most recently revised in 1995.

<sup>327</sup> ALA. ADMIN. CODE r. 335-8-1-.02(p).

<sup>328</sup> Personal communication with expert. This delegation of permitting authority is unique within Alabama's Coastal Area Management Program. One advantage of this system is that local enforcement authorities can monitor project sites at lower cost than would be possible under state permitting.

<sup>329</sup> Personal communication with expert.

<sup>330</sup> Ala. CODE § 32-1-7.

<sup>331</sup> Ala. CODE § 9-15-56.

<sup>332</sup> Personal communication with expert.

<sup>333</sup> Personal communication with expert.

<sup>334</sup> Personal communication with expert.

<sup>335</sup> Personal communication with expert; *see also*

[http://www.publicbroadcasting.net/wual/news.newsmain?action=article&ARTICLE\\_ID=1721315](http://www.publicbroadcasting.net/wual/news.newsmain?action=article&ARTICLE_ID=1721315).

### iii. Harvested Species Habitat

*Alabama has a comprehensive scheme for regulating seafood harvest levels and methods, preventing habitat impacts like the use of drag seines on oyster beds.<sup>336</sup> The state can restore oyster reefs by using fees on oyster dealers for rebuilding, cultivating, and redistributing oysters on public reefs.<sup>337</sup> Alabama also has a legal framework for constructing and permitting artificial reefs.<sup>338</sup>*

Alabama has a comprehensive scheme for regulating seafood harvests, which is meant to conserve fisheries resources.<sup>339</sup> Licenses are required for commercial crabbing, shrimping, fishing, and oyster harvesting. Particular rules affect different kinds of seafood and harvesting methods. For instance, oysters must meet minimum size requirements and shrimp must meet minimum weight requirements. In addition, nobody is allowed to drag seines over private oyster beds or public reefs. ADCNR's Marine Resources Division is responsible for enforcing all of the state's seafood laws, and must conduct daily patrols to find violators. The punishments for violating the seafood laws are fines and loss of licenses.

One regulatory tool that has been important for habitat protection is the designation of **Shrimp Nursery Areas**, where ADCNR has prohibited shrimp harvesting.<sup>340</sup> Many of these nursery areas are near marshlands and thus promote the dual goals of shrimp production and protecting submerged vegetation. Staff in ADCNR's Marine Resources Division and State Lands Division coordinate so that Forever Wild-funded acquisition efforts may abut potential nursery grounds.<sup>341</sup>

Alabama has several legal tools that provide for the protection and management of **oyster reefs**. ADCNR collects a fee from oyster dealers and uses the money to rebuild public reefs.<sup>342</sup> ADCNR also has the power to move oysters from areas where reefs are too thick to dwindling oyster beds.<sup>343</sup> In addition, landowners may cultivate private oyster reefs within 600 yards of shore, as long as they do not interfere with navigation.<sup>344</sup> ADCNR's fishery regulations offer further protections to oyster reefs, prohibiting shrimp trawling in both public and private oyster reefs<sup>345</sup> and restricting oyster production through dredging.<sup>346</sup> ADEM's Coastal Area Management Program regulations also protect oyster habitat by prohibiting dredging and filling near natural oyster reefs.<sup>347</sup> The largest current threat to oysters is an oyster drill infestation caused by increased salinity, which has been a problem without a clear regulatory

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<sup>336</sup> ALA. CODE §§ 9-12-20–9-12-234; 9-12-26.

<sup>337</sup> ALA. CODE §§ 9-12-42; 9-12-35.

<sup>338</sup> ALA. CODE §§ 9-12-140–9-12-150.

<sup>339</sup> ALA. CODE §§ 9-12-20 through 9-12-234.

<sup>340</sup> The bounds of these areas are defined at Ala. Admin. Code r. 220-3-.01(3). Statute gives the ADCNR power to regulate where shrimp may be taken, but the legislature had not given specific direction to create shrimp nurseries. Code of Ala. § 9-2-4(f).

<sup>341</sup> Personal communication with expert.

<sup>342</sup> ALA. CODE § 9-12-42.

<sup>343</sup> ALA. CODE § 9-12-35.

<sup>344</sup> ALA. CODE § 9-12-22.

<sup>345</sup> ALA. ADMIN. CODE r. 220-3-.01(10).

<sup>346</sup> ALA. ADMIN. CODE r. 220-3-.02.

<sup>347</sup> ALA. ADMIN. CODE r. 335-8-2-.02(1)(b). Marina construction is not allowed near public oyster reefs. ALA. ADMIN. CODE r. 335-8-2-.0(1)(b)(2).



solution.<sup>348</sup> ADCNR has also coordinated with the Alabama Department of Public Health (ADPH) and local governments to improve water quality and expand ADPH’s growing area classification for oysters.<sup>349</sup> These activities are not mandated by statute.

The state is also **phasing out the use of gill nets** for commercial fishing.<sup>350</sup> Money from licensing fees and fines goes toward the Marine Resources Restoration Fund, which the Department uses to provide economic relief to commercial fishermen who once relied on gill nets.<sup>351</sup> Any additional money in the Fund goes toward research or oyster reef development.<sup>352</sup>

A separate article in the Alabama Code governs **Establishment of Artificial Fishing Reefs in Offshore Waters**. This article serves two purposes: first, it governs how the “liberty ships” donated by the federal government will be transformed into artificial reefs; second, it outlines permitting and enforcement rules for the construction of all artificial reefs in Alabama’s state waters. It authorizes the Department of Conservation and Natural Resources to prepare the vessels for submersion and sell salvageable parts to cover part of the cost of establishing the reefs.<sup>353</sup> Private actors must obtain a permit from the Department’s Marine Resources Division to construct artificial reefs or transport reef materials in state waters.<sup>354</sup> They may only use materials permitted under the Standard Operating Protocol for Artificial Reef Construction. Vessels transporting the permitted reef material must notify the Department of their plans and are subject to inspection. Violations are misdemeanors punishable with \$5,000–\$10,000 fines. Despite the heavy fines on the books, one expert noted that there are many unmarked reefs in Alabama because private parties frequently drop materials offshore to aggregate fish.<sup>355</sup>

Alabama has one of the largest artificial reef programs in the United States, with roughly 1200 square miles included in artificial reef general permit areas.<sup>356</sup> ADCNR has also funded studies of the effectiveness of reefs at producing – as opposed to simply aggregating – fish stocks.<sup>357</sup> To protect both the reefs and shrimping gear, shrimp trawling is not allowed at the artificial reefs.<sup>358</sup>

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<sup>348</sup> Personal communication with expert.

<sup>349</sup> Personal communication with expert.

<sup>350</sup> ALA. CODE § 9-12-232.

<sup>351</sup> ALA. CODE § 9-12-234(a).

<sup>352</sup> ALA. CODE § 9-12-234(d).

<sup>353</sup> ALA. CODE § 9-12-140.

<sup>354</sup> ALA. CODE § 9-12-150.

<sup>355</sup> Personal communication with expert.

<sup>356</sup> Personal communication with expert; Alabama DCNR, Artificial Reefs, <http://www.outdooralabama.com/fishing/saltwater/where/artificial-reefs/>. For a map of the general permit areas, see Alabama DCNR, Reef Zone Map, <http://www.outdooralabama.com/fishing/saltwater/where/artificial-reefs/reefmap.cfm>.

<sup>357</sup> Personal communication with expert.

<sup>358</sup> Personal communication with expert.

#### iv. Protected Species Habitat

*Alabama does not have any laws that focus specifically on habitat protections for protected species. The Alabama Marine Mammal Protection Act does not include regulatory habitat conservation provisions.*<sup>359</sup>

Alabama does not have targeted laws specifically designed to protect habitat for endangered or threatened species. The only state law that provides protected status to certain species is the **Alabama Marine Mammal Protection Act of 1976**. This is Alabama's counterpart to the federal Marine Mammal Protection Act, and is meant to protect all marine mammals in state waters from human activity.<sup>360</sup> In particular, it prohibits harming, harassing, possessing, or selling marine mammals. In addition, nobody may provide ports or harbor space to support these activities. Violations are punished with fines and/or imprisonment. The only exceptions to these rules are for activities federally permitted under the Marine Mammal Protection Act, for public employees who are taking humane steps to return an animal to its natural habitat, and for the unintentional take of marine mammals during highway or utility construction.<sup>361</sup>

The Department of Conservation and Natural Resources is responsible for enforcing this law and issuing further regulations on marine mammal protection. Its enforcement activities are funded through the state's Seafood Fund, which receives any penalties collected. In explaining the intent of the Act, the legislature declared that "efforts should be made to protect the rookeries, mating grounds and areas of similar significance for each species of marine mammal from the adverse effect of man's actions."<sup>362</sup> However, the Act does not create specific habitat protections and the Department has not used this authority to regulate activities in marine mammal habitat.

Therefore the primary legal instrument for conserving protected species habitat in Alabama is the federal **Endangered Species Act**. The U.S. Fish and Wildlife Service has designated critical habitat for a minority of the over 100 listed species<sup>363</sup> in Alabama. On the Gulf coast, the largest critical habitat designations protect habitat for the Gulf sturgeon, Alabama sturgeon, piping plover, Alabama beach mouse, and Perdido Key beach mouse.<sup>364</sup> The critical habitat for the Perdido Key beach mouse has blocked at least some beach front development.<sup>365</sup>

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<sup>359</sup> ALA. CODE §§ 9-11-390 – 9-11-398 (2010). For an interactive map displaying Forever Wild-funded acquisitions, visit <http://www.outdooralabama.com/map/IntMap.cfm>.

<sup>360</sup> ALA. CODE §§ 9-11-390 – 9-11-398 (2010).

<sup>361</sup> Code of Ala. §§ 9-11-393; 9-11-398.

<sup>362</sup> ALA. CODE § 9-11-392.

<sup>363</sup> U.S. Fish & Wildlife Service, Species Reports, *Listings and occurrences for Alabama*, [http://ecos.fws.gov/tess\\_public/pub/stateListingAndOccurrenceIndividual.jsp?state=AL](http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrenceIndividual.jsp?state=AL)

<sup>364</sup> U.S. Fish & Wildlife Service, Critical Habitat Portal, <http://criticalhabitat.fws.gov/crithab/>

<sup>365</sup> See *Sierra Club v. Norton*, 207 F. Supp. 2d 1310 (S.D. Ala. 2002).

v. **Protected Places**

*Alabama has two important mechanisms for financing the acquisition of conservation lands. Since 1992, the constitutionally created Forever Wild Land Trust has been the primary funding source for new conservation lands.<sup>366</sup> The Department of Conservation and Natural Resources is the lead agency for managing lands purchased through the Forever Wild Program. It may establish wildlife management areas with special management rules to protect wildlife, either on its own or through agreements with federal agencies or private landowners.<sup>367</sup> Since 2000, the Alabama State Parks System Improvement Corporation has had the power to issue tax-exempt bonds to fund the acquisition, maintenance, and improvement of state parks and historic sites.<sup>368</sup>*

The **Forever Wild** program is Alabama’s primary funding mechanism for acquiring conservation lands. In 1992, an amendment to the state constitution created the Forever Wild program to provide a dedicated funding source for land acquisition.<sup>369</sup> The amendment established the Alabama Forever Wild Land Trust with “the purpose of identifying, acquiring, managing, protecting and preserving natural lands and waters that are of environmental or recreational importance.” The lands are set aside as state parks, nature preserves, recreation areas, and wildlife management areas.

From 1992 to 2012, the Forever Wild trust receives a mandatory 10% of the income earned from the longstanding Alabama Trust Fund, which receives leasing revenue from the state’s offshore oil and gas drilling.<sup>370</sup> In 2010, there was over \$24 million in the stewardship account and over \$10 million was transferred to the Forever Wild Land Trust.<sup>371</sup> The Department of Conservation and Natural Resources is the lead agency for managing acquired lands, and the Department’s commissioner is also the chairman of the Board of Trustees that makes acquisition decisions. The Board includes representatives from Northern, Central, and Southern Alabama and pursues tracts of land throughout the state.

Forever Wild has shaped the state’s participation in federal programs. It is the state’s main source of matching funds for federal grants. Forever Wild acquisitions and the state CIAP program (discussed below) are both managed by ADCNR’s State Lands Division, which facilitates the coordination of projects and pooling of funds. The Forever Wild program has received praise from experts both inside and outside of Alabama. However, concern has been expressed that conservation lands purchased through the program remain eligible for condemnation for road construction.<sup>372</sup>

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<sup>366</sup> Const. Amend. 543, codified at ALA. CONST. art. XI, § 219.07.

<sup>367</sup> ALA. CODE §§ 9-11-300–307.

<sup>368</sup> ALA. CODE §§ 9-14A-1–23.

<sup>369</sup> Const. Amend. 543, *supra* note 366.

<sup>370</sup> *Id.* During 2001-2006, the annual funding for Forever Wild was about \$10.6 million annually. Conservation Almanac, <http://www.conservationalmanac.org/secure/almanac/southeast/al/programs.html>.

<sup>371</sup> OFFICE OF THE STATE COMPTROLLER, STATE OF ALABAMA COMPREHENSIVE ANNUAL FINANCIAL REPORT FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2010, 171-175, available at <http://comptroller.alabama.gov/pdfs/cafr.2010.pdf>. See also ALABAMA FOREVER WILD LAND TRUST ANNUAL REPORT FISCAL YEAR 2009-2010, available at [http://www.outdooralabama.com/public-lands/statelands/foreverwild/FW\\_Annual\\_Report\\_2009\\_2010.pdf](http://www.outdooralabama.com/public-lands/statelands/foreverwild/FW_Annual_Report_2009_2010.pdf).

<sup>372</sup> Personal communication with expert.

Transfers to the Forever Wild Land Trust will end in the 2012–13 fiscal year unless the state legislature provides for their continuation, although a lesser amount of money will continue to flow to the Stewardship Account for management activities as long as necessary.<sup>373</sup> Although the state legislature had the power to continue the program without a referendum, an initiative to extend Forever Wild will appear on the November 2012 ballot.<sup>374</sup> If approved, the program would be extended without significant changes.

The same 1992 amendment to the state constitution that created Forever Wild also created the **Alabama Natural Heritage Program**.<sup>375</sup> The program uses funds from the Forever Wild Land Trust or Stewardship Account to inventory Alabama’s natural resources. The Department of Conservation and Natural Resources is responsible for maintaining the inventory and developing a Natural Heritage plan with acquisition and management priorities.

Lastly, the constitutional amendment also requires the Department to accept suitable dedications of interests in land to create natural area preserves.<sup>376</sup> The dedications may come from either public entities or private landowners. The instrument of dedication may restrict the management and use of the land.

As mentioned above, one use of Forever Wild funds is the purchase and management of **Wildlife Management Areas (WMAs)**. The Department of Conservation and Natural Resources may establish wildlife management areas on its own or through cooperative agreements with federal agencies or private landowners.<sup>377</sup> The management areas are not automatically closed to hunting, but special rules may apply to protect wildlife in any management area; for management areas that are predominantly under cooperative agreements, the Department may order hunting and fishing closures. In all management areas, dogs are only allowed on leashes. It is a misdemeanor to violate this law or any rule that the Department uses to administer the management areas. While most WMAs do not protect coastal habitat, the Perdido River WMA and several WMAs in the Mobile-Tensaw Delta protect habitat in southern Alabama.<sup>378</sup>

The **Alabama Public Recreational and Historical Facilities Improvement Act** creates a funding mechanism for acquisition, maintenance, and improvements at state parks and historical sites.<sup>379</sup> The Alabama State Parks System Improvement Corporation has the power to issue tax-exempt bonds to fund these activities.<sup>380</sup> The Improvement Corporation may use the bond proceeds itself or give the money to the Department of Conservation and Natural Resources for appropriate purposes. In 2010,

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<sup>373</sup> ALA. CONST. art. XI, § 219.07.

<sup>374</sup> Ala. S.B. 471 was proposed in 2011, and is currently pending action by the Alabama Senate Committee of Energy and Natural Resources. See Alabama Leg. Information System Online, S.B. 471, Reg. Session 2011.

<sup>375</sup> Const. Amend. 543, *supra* note 366, § 11.

<sup>376</sup> *Id.* § 12.

<sup>377</sup> ALA. CODE §§ 9-11-300–307.

<sup>378</sup> ADCNR, <http://www.outdooralabama.com/map/IntMap.cfm>.

<sup>379</sup> ALA. CODE §§ 9-14A-1–23.

<sup>380</sup> ALA. CODE § 9-14A-6.

over \$2 million was drawn from the fund for capital outlays and the fund had fully depleted its assets by the end of the fiscal year because over \$10 million was transferred out of the fund.<sup>381</sup> The Improvement Corporation and the Department may also encourage private contributions to state parks through an “adopt-a-park” program, a statewide program implemented at the local level.<sup>382</sup> The Act also creates a Joint Legislative Committee on State Parks to review spending and long-term planning for park restoration and acquisition.<sup>383</sup> There are two state parks in coastal Alabama – Meaher State Park and Gulf State Park.<sup>384</sup>

**Local governments** also have the opportunity to acquire conservation lands, either with general revenues or bond measures. To date, Alabama’s local governments have not used dedicated bond financing as a major revenue source for land acquisition.<sup>385</sup>

vi. **Coastal Management**

*Alabama, like each of the other Gulf states, has developed a coastal zone management program in order to qualify for federal grants under the federal Coastal Zone Management Act (CZMA). The Coastal Area Board (in cooperation with other local, state, regional, and federal bodies) must develop a program for managing the state’s coastal waters and shore lands within 10 feet of sea level. The Department of Environmental Management is responsible for implementing the program by issuing rules and reviewing permits. Local governments may regulate activities that do not have a “direct and significant” impact on coastal waters.*

Alabama implements the CZMA through a code chapter on **Preservation, Development, etc. of Coastal Areas**.<sup>386</sup> The program has several mandatory elements, including an evaluation of coastal resources, guidelines for priority uses in particular areas, and provisions for adequate energy extraction.<sup>387</sup> The statute charges a Coastal Area Board with developing a comprehensive program for managing the state’s coastal waters and the shore lands within 10 feet of sea level (i.e., the 10-foot elevation line).<sup>388</sup> The coastal area has not been remapped to adjust for sea level rise since the establishment of the coastal management program. Such a remapping initiative could require an act of the legislature.<sup>389</sup>

Historically, three state agencies have carried responsibilities for the coastal program. The Coastal Area Board was initially charged with consulting other local, state, regional and federal bodies to develop the coastal management program.<sup>390</sup> As of October 1982, all of the Board’s responsibilities transferred to

<sup>381</sup> OFFICE OF THE STATE COMPTROLLER, STATE OF ALABAMA COMPREHENSIVE ANNUAL FINANCIAL REPORT FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2010, 171-175, available at <http://comptroller.alabama.gov/pdfs/cafr.2010.pdf>

<sup>382</sup> ALA. CODE § 9-14A-7(e).

<sup>383</sup> ALA. CODE § 9-14A-21.

<sup>384</sup> ADCNR, <http://www.outdooralabama.com/map/IntMap.cfm>

<sup>385</sup> Conservation Almanac, <http://www.conservationalmanac.org/secure/almanac/southeast/al/programs.html>.

<sup>386</sup> ALA. CODE tit. 9, ch. 7.

<sup>387</sup> ALA. CODE § 9-7-15.

<sup>388</sup> ALA. CODE § 9-7-15.

<sup>389</sup> Personal communication with expert.

<sup>390</sup> ALA. CODE § 9-7-15.

ADEM.<sup>391</sup> The statute mandates that ADEM issue whatever rules are necessary to carry out the program.<sup>392</sup> Perhaps most importantly, ADEM must review permitted activities to ensure that they are consistent with the program.<sup>393</sup> In order to avoid unnecessary bureaucratic processes, local governments may regulate activities that do not have a “direct and significant” impact on coastal waters. Although not mandated by law, ADCNR is the lead agency for the Alabama Coastal Area Management Program (ACAMP).<sup>394</sup> In practice, ADCNR handles restoration, planning, education, outreach, and technical assistance activities, and ADEM handles regulation and enforcement.<sup>395</sup>

ADEM’s coastal management regulations provide strong protections for certain resources. Most notably, the regulations prohibit dredging in close proximity to oyster reefs or submersed grassbeds.<sup>396</sup> The unequivocal regulatory language has successfully curbed development that would harm these resources.<sup>397</sup> Despite the fact that the statutory language is not restricted to submersed grassbeds – it neither distinguishes them nor singles them out for special treatment – few other important habitats receive such strong treatment. For instance, ADEM does not currently exercise regulatory authority over submerged aquatic vegetation other than submersed grassbeds.<sup>398</sup> It is also worth noting that the regulations may not contain all useful definitions, such as for a “non-adjacent wetland.” Missing definitions may create regulatory and public confusion about how any given area should be characterized, and thus what rules and limitations apply.<sup>399</sup>

An important component of the coastal management program is ADEM’s reviews of the U.S. Army Corps’ federal dredge and fill permits, to ensure consistency with the state’s enforceable policies. Coordination with the Army Corps has been challenging for ADEM, as applicants often fail to submit applications to both agencies and the Army Corps does not have a standardized system for alerting ADEM when it receives an application.<sup>400</sup> ADEM’s certification of coastal consistency signifies that a project complies with all ADEM regulations, but ADEM generally does not coordinate with ADCNR to ascertain whether the project complies with submerged lands regulations.<sup>401</sup>

Under ADEM regulations, applications for marinas are only reviewed for consistency if the applicant has obtained a lease or waiver from ADCNR for use of state-owned lands.<sup>402</sup> Although different treatment is not mandated by statute, there is no such requirement for other types of projects, such as piers, docks, and boathouses.<sup>403</sup> To make sure projects do not move forward without compliance with ADCNR

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<sup>391</sup> ALA. CODE § 22-22A-10.

<sup>392</sup> ALA. CODE § 9-7-16.

<sup>393</sup> ALA. CODE § 9-7-20.

<sup>394</sup> NOAA, Final Evaluation Findings, Alabama Coastal Area Management Program, December 2003 through November 2007 (Aug. 2008), <http://coastalmanagement.noaa.gov/mystate/docs/alabamacmp2008.pdf>.

<sup>395</sup> *Id.*

<sup>396</sup> ALA. ADMIN. CODE r. § 335-8-2-.02(1)(b)–(c).

<sup>397</sup> Personal communication with experts.

<sup>398</sup> Personal communication with expert.

<sup>399</sup> Personal communication with expert.

<sup>400</sup> Personal communication with expert.

<sup>401</sup> Personal communication with experts.

<sup>402</sup> ALA. ADMIN. CODE r. 335-8-2-.04(1)(e).

<sup>403</sup> ALA. ADMIN. CODE r. 335-8-2-.05.

regulations, the department has informally arranged with some local governments that projects will not receive local building permits without *all* state approvals; these arrangements, however, are impossible in unincorporated areas.<sup>404</sup>

Within ADCNR, ACAMP facilitates coastal planning by providing grants for local planning initiatives. ACAMP staff is available for technical assistance in these planning processes. ADCNR ACAMP staff is currently subject to a hiring freeze, limiting the ability of the agency to be involved in local activities.<sup>405</sup>

The Alabama Department of Conservation and Natural Resources is the lead agency for developing the state's **Coastal Impact Assistance Program** (CIAP) plan. CIAP provides affected states with federal appropriations to mitigate the impacts of oil and gas development on the outer continental shelf. Eligible funding recipients are the state and the Baldwin and Mobile County commissions. In 2007 and 2008, Alabama received over \$51 million, with approximately \$33 million allocated for state projects. In 2009 and 2010, the total allocation was roughly \$40 million, with over \$25 million directed to state projects. Some of the planned projects support habitat conservation and restoration: in 2009 and 2010, the state planned to use 21% of its CIAP funding for natural resource restoration, 18% for land acquisition, and 2% for coastal research. Baldwin County sought to conduct stream restoration and acquired conservation lands.<sup>406</sup>

#### vii. **Accident Response**

For state resources affected by oil spills or hazardous waste spills, The Alabama Department of Conservation and Natural Resources and the Geological Survey of Alabama serve as lead trustees. Alabama does not have a dedicated NRDA staff.<sup>407</sup>

#### ***The Deepwater Horizon Oil Spill Restoration Process in Alabama***

Alabama hosted a public meeting in June 2011 to discuss the early restoration process with the public and take suggestions for project ideas. Also, the Alabama Department of Conservation and Natural Resources has provides an email address that can be used to submit suggestions and ideas for early restoration.<sup>408</sup>

<sup>404</sup> Personal communication with expert. When the Coastal Area Board handled permitting decisions, ADCNR had the opportunity to object to permits before they were issued by that multi-agency body.

<sup>405</sup> Personal communication with expert.

<sup>406</sup> ADCNR, STATE OF ALABAMA CIAP PLAN AMENDMENT FISCAL YEAR 2009 AND 2010, available at <http://www.outdooralabama.com/images/file/State%20of%20Alabama%20CIAP%20Plan%20Amendment%20for%20FY%202009%20and%202010.pdf>.

<sup>407</sup> ISRAEL, *supra* note 233.

<sup>408</sup> Outdoor Alabama, NRDA Projects, <http://www.outdooralabama.com/nrdaprojects/>.

### viii. Water Quality

*Alabama, like each of the other Gulf states, has assumed permitting responsibilities under the federal Clean Water Act. This requires a state to set water quality standards that are at least as strict as the EPA's standards, prohibit any pollution discharge into water without a permit, and create an enforcement program. The Alabama Water Pollution Control Act structures the state's water pollution regulation.<sup>409</sup> The law also gives the Department of Environmental Management the power to research water pollution and remediation, either on its own or in cooperation with other institutions.*

The **Alabama Water Pollution Control Act** is the state's primary water quality law. It is designed to protect and improve water quality for the sake of public health, wildlife, agriculture, recreation, and other beneficial uses.<sup>410</sup> The law governs public and private actors whose activities pollute any body of water within the state, including groundwater and coastal waters.<sup>411</sup> To meet the Act's goals, the Department of Environmental Management must perform several tasks.<sup>412</sup> First, ADEM must survey the state's waters and establish water quality standards. Second, ADEM must issue rules with permit requirements, and polluters must obtain permits in order to continue or begin new activities.

Third, ADEM enforces the law. While the Department is the only entity that can hold an administrative hearing to enforce the law, the power to sue for clean-up costs and punitive damages is shared with the attorney general and district attorneys. Under extreme circumstances, enforcement may also occur through the criminal justice system; it is a crime to knowingly lie on a permit application or report or to willfully commit a violation.<sup>413</sup> Criminal violations can lead to higher fines and prison sentences. No matter which of these enforcement options is used, violators are responsible for the cost of restocking fish or replenishing wildlife. In the coastal zone, ADEM reviews federal permits to ensure that permitted activities comply with state water quality standards.<sup>414</sup>

Finally, the Act creates some opportunities for inter-agency and inter-sector cooperation. It establishes a Technical Advisory Committee with representatives from various state agencies, which is available for assistance at the Department's request.<sup>415</sup> The Department has the discretionary power to research water pollution and remediation, either on its own or in cooperation with other institutions. Additionally, the Department must advise industries and municipalities on reducing water pollution.

As part of the **Coastal Watershed Survey Program**, ADEM conducted a series of assessments of sub-watersheds along the state's coast from 1993-2006, which can be found online.<sup>416</sup>

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<sup>409</sup> ALA. CODE §§ 22-22-1 *et seq.*

<sup>410</sup> ALA. CODE § 22-22-1.

<sup>411</sup> ALA. CODE § 22-22-2 (defining "person" and "waters").

<sup>412</sup> ALA. CODE § 22-22-9.

<sup>413</sup> ALA. CODE § 22-22-14.

<sup>414</sup> ALA. ADMIN. CODE r. 335-8-1-.1.

<sup>415</sup> ALA. CODE § 22-22-7.

<sup>416</sup> ADEM, Coastal Watershed Survey Program, <http://adem.alabama.gov/programs/coastal/watershedSurvey.cnt>.



Experts noted several challenges to protecting coastal water quality. The most frequently mentioned water quality problem was turbidity from stormwater runoff.<sup>417</sup> ADEM's coastal consistency review program might be stronger if the Department had a single engineer that specialized in coastal water quality issues.<sup>418</sup> Also, neither ADEM nor the U.S. EPA have sufficient staff to meet the CWA goals.<sup>419</sup>

The Alabama Department of Public Health (ADPH) also has some responsibilities related to water quality. ADPH coordinates the replacement of septic tanks with sewer lines, an activity that does not receive adequate funding.<sup>420</sup> In addition, ADPH certifies areas for shellfish harvest (discussed above, under Harvested Species).

One unique initiative for promoting both water quality and rare species propagation is the **Alabama Aquatic Biodiversity Center**. The center is the "largest state non-game recovery program of its kind in the United States."<sup>421</sup> The center was created through a 2004 State Wildlife Grant to the Department of Conservation and Natural Resources. The center aims to restore the state's mollusk populations and improve water quality, first focusing on the Mobile River Basin.

#### ix. Water Quantity

The Alabama Department of Economic and Community Affairs' Office of Water Resources (OWR) administers water supply, conservation, and resources development programs. It works with state and federal agencies on water-resources-related projects.<sup>422</sup> Within OWR, the Water Resources Commission advises the Office on water policy, plan, and program implementation, and works to establish effective rules and policies.<sup>423</sup> The state agency's efforts focus largely on drought management, including the development of an Alabama Drought Management Plan in 2004, and on water use reporting.<sup>424</sup>

Alabama does not currently have a comprehensive water management plan. In 2008, a state senate joint resolution established the Alabama Permanent Joint Legislative Committee on Water Policy and Management.<sup>425</sup> The Joint Committee is responsible for developing an Alabama Water Management Plan and issuing recommendations for legislative and institutional changes necessary to accomplish its goals and objectives "in a manner that benefits the state's needs and protects the environment."<sup>426</sup>

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<sup>417</sup> Personal communication with experts.

<sup>418</sup> Personal communication with expert.

<sup>419</sup> Personal communication with experts.

<sup>420</sup> Personal communication with expert.

<sup>421</sup> ADCNR, AABC FACTSHEET (2011), available at <http://www.outdooralabama.com/research-mgmt/aquatic/factSheet.cfm>.

<sup>422</sup> ADECA, Divisions, Office of Water Resources, <http://www.adeca.alabama.gov/owr/default.aspx>.

<sup>423</sup> ADECA, Divisions, Office of Water Resources, Alabama Water Resources Commission, <http://www.adeca.alabama.gov/C16/Alabama%20Water%20Resources%20Commis/default.aspx>.

<sup>424</sup> See ECOLOGY AND ENVIRONMENT, INC., PRELIMINARY DRAFT, *STATEWIDE GROUND WATER MANAGEMENT PLAN* (PREPARED FOR THE LOUISIANA DEP'T OF NATURAL RESOURCES) (Sept. 2010), at 7-4, available at [http://dnr.louisiana.gov/assets/OC/env\\_div/gw\\_res/SWMP-Draft-9-02.pdf](http://dnr.louisiana.gov/assets/OC/env_div/gw_res/SWMP-Draft-9-02.pdf); see also ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS, OFFICE OF WATER RESOURCES, ALABAMA DROUGHT MANAGEMENT PLAN (2004), available at [http://www.adeca.alabama.gov/owr/Document%20Library/20040422\\_ALDroughtPlan\\_DraftFinal.pdf](http://www.adeca.alabama.gov/owr/Document%20Library/20040422_ALDroughtPlan_DraftFinal.pdf).

<sup>425</sup> Alabama Legislature, Act 164 (2008), available at [http://www.legislature.state.al.us/joint\\_committees/waterpolicy\\_management.html](http://www.legislature.state.al.us/joint_committees/waterpolicy_management.html).

<sup>426</sup> *Id.*

The Joint Committee issued an initial report and recommendations on Alabama water policy and management in March 2009. In addition to summarizing the body's activities to date, the report stated that the Joint Committee would spend the next 12-18 months continuing to explore five key issues: the proper structure for regionalized water planning and management; the existing riparian doctrine of allocation; a statewide conservation policy and program; water management technologies and appropriate legislative support; and appropriate river and stream flow dynamics.<sup>427</sup>

x. **Invasive species**

Alabama's primary legal tool for controlling invasive plants is the **Nonindigenous Aquatic Plant Control Act**.<sup>428</sup> The Act makes it a misdemeanor to introduce "any nonindigenous aquatic plant into any public waters of the state."<sup>429</sup> However, it is not a violation to unintentionally transport plants in the course of normal boating activities.<sup>430</sup> Under the Act's authority, the ADCNR has created a list of nonindigenous aquatic plants that are prohibited within Alabama.<sup>431</sup>

In addition, a separate statutory provision gives the Commissioner of ADCNR the authority to "prohibit by duly promulgated regulation, the importation of any bird, animal, reptile, amphibian, or fish when the importation of such animal, bird, reptile, amphibian, or fish would not be in the best interest of the state."<sup>432</sup> Under the authority of this provision, the ADCNR Division of Wildlife and Freshwater Fisheries has issued rules prohibiting the possession, sale, and importation of several fish and mammal species.<sup>433</sup>

In addition, Alabama has multiple programs for monitoring and controlling invasive species that are not specifically required by law.<sup>434</sup> The Aquatic Plant Management Control Program conducts surveys to detect nuisance plants and control them with herbicides. This program is operated by ADCNR, DWFF, and the Mobile District of the Army Corps. In addition, ADCNR and DWFF target private waters by providing technical guidance to private pond owners. Finally, the Mobile Bay NEP supports the Alabama-Mississippi Rapid Assessment Team, which conducted its most recent survey of invasive species in 2004.

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<sup>427</sup> PERMANENT JOINT LEGISLATIVE COMMITTEE ON WATER POLICY AND MANAGEMENT, *INTERIM REPORT AND RECOMMENDATIONS: WATER POLICY & MANAGEMENT FOR THE STATE OF ALABAMA* (Mar. 24, 2009).

<sup>428</sup> ALA. CODE §§ 9-20-1 *et seq.*

<sup>429</sup> ALA. CODE §§ 9-20-3; 9-20-6.

<sup>430</sup> ALA. CODE § 9-20-3.

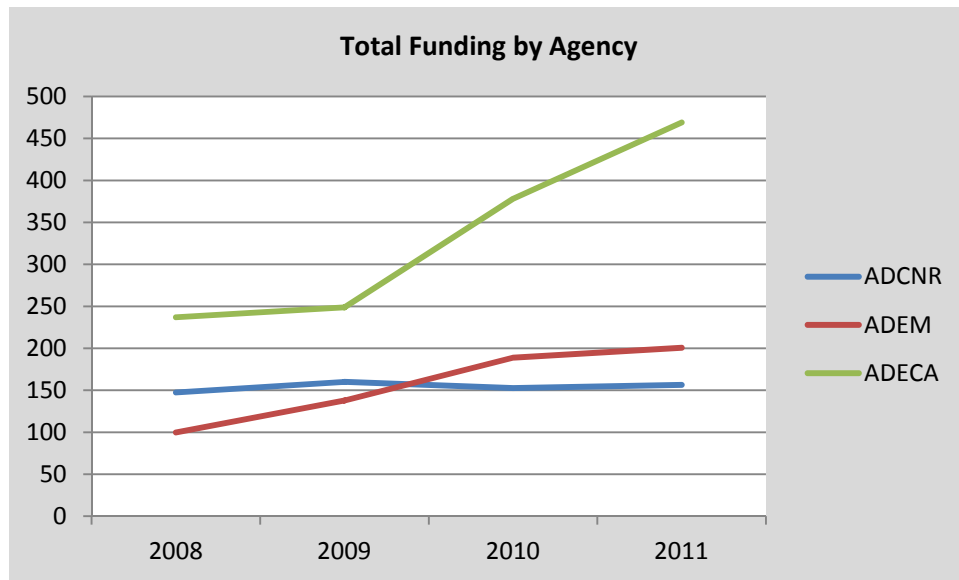
<sup>431</sup> ALA. ADMIN. CODE r. 220-2-.124.

<sup>432</sup> ALA. CODE § 9-2-13.

<sup>433</sup> ALA. ADMIN. CODE r. §§ 220-2-.26; 220-2-.93.

<sup>434</sup> NATIONAL CENTER FOR ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL PROTECTION AGENCY, *EFFECTS OF CLIMATE CHANGE ON AQUATIC INVASIVE SPECIES AND IMPLICATIONS FOR MANAGEMENT AND RESEARCH A-14*, Feb. 2008.

## II. Institutions



### i. Alabama Department of Conservation and Natural Resources (ADCNR)

#### Scope:

ADCNR is responsible for administration, management and maintenance of 22 state parks, 23 public fishing lakes, three freshwater fish hatcheries, 35 wildlife management areas, two waterfowl refuges, two wildlife sanctuaries, a mariculture center with 35 ponds, and 645,000 acres of trust lands managed for the benefit of several state agencies, the General Fund, and Alabama Trust Fund. ADCNR is led by the Conservation Advisory Board. The board is composed of 10 members appointed by the governor for alternating terms of six years, and three ex-officio members: the governor, the commissioner of Agriculture and Industries, and the director of the Alabama Cooperative Extension system.

The department includes five operational divisions: Marine Police, Marine Resources, State Lands, State Parks, and Wildlife and Freshwater Fisheries

The Marine Police Division aims to enhance safety and promote responsible use of resources on Alabama's 1.3 million acres of recreational waters through enforcement, education, and community activities. In addition to routine safety patrol, the division oversees registration of all pleasure boats, licensing of all boat operators, boat and marine accessory theft, a statewide boating education program, as well as assists other state, local and federal officers in enforcement activities relating to homeland security, maritime and waterway smuggling, drug interdiction, and other serious crimes committed in the marine environment.

The Marine Resources Division is responsible for the management of Alabama's marine fisheries resources through research and enforcement programs, and implements the Alabama Marine Mammal Protection Act of 1976. Marine Resources Division personnel assist in oversight of natural gas activities within Alabama's coastal waters, territorial sea, and adjacent federal waters in the Gulf of Mexico, and comment on applications for U.S. Army Corps of Engineer permits in the coastal area. Enforcement duties include patrolling Alabama's coastal waters to enforce state and federal laws and regulations relating to the conservation and protection of marine resources. The division manages commercial and recreational fisheries in Alabama's marine and estuarine waters, and is responsible for all powers, properties and functions relating to seafood. The Marine Resources Division also administers the Offshore Artificial Reef Program to promote creation of fish habitat.

The State Lands Division manages undeveloped state-owned land trusts, including the Forever Wild Public Land Acquisition Program. It is responsible for implementation of the Alabama Coastal Area Management Program, together with the Department of Environmental Management. The State Lands Division also administers the Coastal Impact Assistance Program for the state of Alabama.

The State Parks Division operates and maintains all of Alabama's 22 state parks. It is responsible for managing the natural, scientific and biological aspects of all state park land and water areas.

The Wildlife and Freshwater Fisheries Division is responsible for protection, management and enhancement of the state's fish and wildlife resources. This division maintains Wildlife Management Areas for the state.

ADCNR also implements the Alabama Nonindigenous Aquatic Plant Control Act, and oversees funds for the Alabama Public Recreational and Historical Facilities Improvement Act.<sup>435</sup>

**Contact:**

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<sup>435</sup> ADCNR, ANNUAL REPORT 2008-2009, available at [http://www.outdooralabama.com/about/08-09\\_Annual\\_Report.pdf](http://www.outdooralabama.com/about/08-09_Annual_Report.pdf).

**Budget:***Funds budgeted by source for FY 2007-2011 (in millions of dollars)*

Fund	FY 2007-08 <sup>436</sup>	FY 2008-09 <sup>437</sup>	FY 2009-10 <sup>438</sup>	FY 2011 <sup>439</sup>
State General Funds	--	--	0.28	0.35
Conservation Funds	91.35	110.20	99.87	97.22
Federal & Local	56.00	49.86	52.42	58.83
<b>Total</b>	<b>147.35</b>	<b>160.06</b>	<b>152.57</b>	<b>156.40</b>

*Funds budgeted by division for FY 2007-2011 (in millions of dollars)<sup>440</sup>*

Division	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Marine Police	8.7	8.3	10.4	11.6	12.4
Marine Resources	5.7	12.9	13.9	13.2	14.6
State Lands	10.9	23.9	29.7	35.9	29.7
State Parks	34.3	38.9	41.6	39.2	40.2
Wildlife & Freshwater Fisheries	31.8	32.9	37.9	37.9	37.1
<b>Total (Relevant Divisions)</b>	<b>91.4</b>	<b>116.9</b>	<b>133.5</b>	<b>137.8</b>	<b>134</b>

**Staff:**

ADCNR requested funding for 1,260 positions in 2011, down just slightly from the 1,295 budgeted positions in 2010.<sup>441</sup>

**Note:**

The Alabama Legislature has voted to put re-authorization of the public land acquisition program, Forever Wild, on the November 2012 ballot as a Constitutional Amendment. Voters in the state will have the opportunity to determine the fate of the program that has secured property for nature preserves, state parks, recreational and wildlife management areas throughout Alabama since 1992.<sup>442</sup>

<sup>436</sup> ALABAMA LEGISLATIVE FISCAL BOOK, BUDGET FACT BOOK, FY 2007-2008, at 30, available at [http://www.lfo.state.al.us/2007%20Budget%20Fact%20Book\\_11.02.07.pdf](http://www.lfo.state.al.us/2007%20Budget%20Fact%20Book_11.02.07.pdf).

<sup>437</sup> ALABAMA LEGISLATIVE FISCAL BOOK, BUDGET FACT BOOK, FY 2008-2009, at 31, available at <http://www.lfo.alabama.gov/pdfs/Budget%20Fact%20Book/BFB%202009%20For%20Web.pdf>.

<sup>438</sup> ALABAMA LEGISLATIVE FISCAL BOOK, BUDGET FACT BOOK, FY 2009-2010, at 32, available at <http://www.lfo.state.al.us/pdfs/Budget%20Fact%20Book/FY10%20Budget%20Factbook.pdf>.

<sup>439</sup> ALABAMA LEGISLATIVE FISCAL BOOK, BUDGET FACT BOOK, FY 2011, at 37, available at <http://www.lfo.alabama.gov/pdfs/FY%202011%20Budget%20Fact%20Book.pdf>.

<sup>440</sup> ALABAMA DEPARTMENT OF FINANCE, EXECUTIVE BUDGET OFFICE, EXECUTIVE BUDGET DOCUMENTS, available at <http://budget.alabama.gov/pages/buddoc.aspx>.

<sup>441</sup> ADCNR, ANNUAL REPORT 2008-2009, available at [http://www.outdooralabama.com/about/08-09\\_Annual\\_Report.pdf](http://www.outdooralabama.com/about/08-09_Annual_Report.pdf).

<sup>442</sup> David Rainer, *Future of Forever Wild in voters' hands*, OUTDOOR ALABAMA WEEKLY, June 23, 2011, available at <http://www.orangebeach.ws/component/content/article/182-2011/1240-future-of-forever-wild-in-voters-hands.html>.

ii. **Alabama Department of Environmental Management (ADEM)**

**Scope:**

A comprehensive program of environmental management was established in Alabama in 1982 with the passage of the Alabama Environmental Management Act. The law created the Alabama Environmental Management Commission and established the Alabama Department of Environmental Management, which absorbed several commissions, agencies, programs and staffs that had been responsible for implementing environmental laws. ADEM administers all major federal environmental laws, including the Clean Air, Clean Water, and Safe Drinking Water acts and federal solid and hazardous waste laws. The [Environmental Management Commission](#) is composed of seven members appointed to six-year terms by the governor and subject to confirmation by the Alabama Senate. The Commission is charged with developing the state's environmental policy, hearing administrative appeals of permits, administrative orders, and variances issued by the Department, adopting environmental regulations, and selecting an ADEM director.

The department includes four program areas: Air, Coastal, Land, and Water.

The Air division administers Alabama's Air Pollution Control Program, Alabama Air Pollution Control Act, and delegable provisions of the Clean Air Act. The division has jurisdiction over all air emission sources within the state, with the exception of sources located in Jefferson County or the City of Huntsville.

The Coastal division implements the Coastal Area Management Program, along with ADNCR. ADEM's Coastal section oversees permitting, monitoring and enforcement activities of Alabama coastal areas. The Coastal division reviews federal projects and activities related to the coastal area, and conducts studies and projects related to coastal area concerns and issues. It is also responsible for consistency review of federal projects and permits, and for implementing the Alabama Coastal Nonpoint Pollution Control Program. The Coastal division also conducts the Coastal Watershed Survey Program. The division provides assistance to local governments relative to coastal resource management issues through funding and technical assistance.

The Land division is responsible for administering ADEM's Waste Management and Remediation Programs. It administers relevant provisions of RCRA and CERCLA. Some of the major program areas within the Land division include hazardous waste, solid waste, remediation, scrap tire, and brownfields/voluntary cleanup. Within these programs, the division is responsible for permitting, compliance inspections, enforcement, and hazardous waste corrective action.

ADEM's Water division draws authority from the CWA and the Alabama Water Pollution Act provisions relevant to groundwater. It sets and monitors water quality standards, oversees water treatment, and is responsible for ensuring safe drinking water for Alabama's citizens. It is also in charge of issuing permits

for industrial and municipal dischargers, and for issuing Water Quality Certifications under section 401 of CWA.<sup>443</sup>

**Contact:**

ADEM, Attn: Coastal Program

Location: 1400 Coliseum Boulevard, Montgomery, AL 36110-2400

Phone: (251) 432-6533

Website: <http://www.adem.alabama.gov/default.cnt>

Email: [fieldmail@adem.state.al.us](mailto:fieldmail@adem.state.al.us)

**Budget:**

In late February 2011, ADEM Director Lance LeFleur reported to the Environmental Management Commission (EMC) that the Governor’s office might be forced to cut the agency’s current budget by 15% and its 2012 budget by 20% to 25%.<sup>444</sup>

*Funds budgeted by source for FY 2007-2011 (in millions of dollars)*

Year / Fund	FY 2007-08 <sup>445</sup>	FY 2008-09 <sup>446</sup>	FY 2009-10 <sup>447</sup>	FY 2011 <sup>448</sup>
State General Funds	7.38	7.26	7.13	6.30
Other Funds	50.32	80.55	81.68	86.86
Federal & Local	42.00	49.98	50.33	54.72
Federal Stimulus Funds	--	--	49.75	32.00
Federal Jobs Funds	--	--	--	20.82
<b>Total</b>	<b>99.69</b>	<b>137.79</b>	<b>188.89</b>	<b>200.67</b>

*Funds budgeted by division for FY 2007-2011 (in millions of dollars)<sup>449</sup>*

Year / Division	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Water	11.3	11.1	14.9	66.0	70.2
Air	6.6	6.7	7.0	8.3	8.1
Land	6.5	7.0	6.0	11.4	11.6
<b>Total</b>	<b>24.4</b>	<b>24.8</b>	<b>27.9</b>	<b>85.7</b>	<b>89.9</b>

**Staff:**

The Alabama Department of Environmental Management has 600 employees statewide with field offices in Birmingham, Decatur, Mobile, and a central office and laboratory facilities in Montgomery.<sup>450</sup>

<sup>443</sup> ADEM, <http://www.adem.state.al.us/inside/overview.cnt>.

<sup>444</sup> BEASLEY ALLEN, *ADEM BUDGET CUTS MAY PROVE CATASTROPHIC*, JERE BEASLEY REPORT, May 2, 2011, available at <http://www.jerebeasleyreport.com/2011/05/adem-budget-cuts-may-prove-catastrophic>.

<sup>445</sup> Alabama Budget Fact Book 2007-08, *supra* note 436, at 44.

<sup>446</sup> Alabama Budget Fact Book 2008-09, *supra* note 437, at 46.

<sup>447</sup> Alabama Budget Fact Book 2009-10, *supra* note 438, at 48.

<sup>448</sup> Alabama Budget Fact Book 2011, *supra* note 439, at 53.

<sup>449</sup> ALABAMA DEPARTMENT OF FINANCE, EXECUTIVE BUDGET OFFICE, EXECUTIVE BUDGET DOCUMENTS, available at <http://budget.alabama.gov/pages/buddoc.aspx>. The remainder of the budget was allocated to the Administrative Division.

<sup>450</sup> ADEM 2008 ANNUAL REPORT, available at <http://adem.alabama.gov/newsEvents/pubs/AnnualReport2008.pdf>.

iii. **Alabama Department of Economic and Community Affairs (ADECA)**

**Scope:**

ADECA was created in 1983 by Act 83-194, and is in charge of law enforcement and traffic safety throughout the state of Alabama. It has three other main divisions: Water Resources, Energy, and Surplus Property.<sup>451</sup>

The Water Resources division administers the Alabama Water Resources Act. It is responsible for overseeing programs relating to river basin management, water conservation, river assessment, water resources development, water supply assistance, National Flood Insurance, and flood mapping. The Alabama Water Resources Act requires creation of the Alabama Water Resources Commission, which includes representatives from each Congressional district and each major surface water region of Alabama, and from a cross-section of water user groups including rural and urban public water systems, non-public (industrial, manufacturing, etc.), commercial navigation, conservation and the environment or water based recreation interests within Alabama. There are 19 voting members selected by the Governor, the Lieutenant Governor, and the Speaker of the House of Representatives. Members serve six-year terms.<sup>452</sup> The division's mission is to plan, coordinate, develop, and manage the state's ground and surface waters in "a manner that is in the best interest of the State of Alabama." It manages both intra- and inter-state water resources.<sup>453</sup>

ADECA's Energy Division aims to increase energy-efficiency and reduce energy consumption in the state of Alabama. It oversees funding from the American Recovery and Reinvestment Act for energy-related programs.<sup>454</sup>

The Surplus Property Division oversees the sale of all property declared excess by State Agencies who participate in the Surplus Property Program. It is responsible for the transfer of all federal surplus property allocated to the State from both military bases and Federal Agencies.<sup>455</sup>

**Contact:**

Alabama Department of Economic and Community Affairs, Office of Water Resources

Location: P.O. Box 5690, Montgomery, AL 36103-5690

Phone: (334) 242-5100

Website: <http://www.adeca.alabama.gov/Office%20of%20Water%20Resources/default.aspx>

Email: [ADECA.webmaster.Info@adeca.alabama.gov](mailto:ADECA.webmaster.Info@adeca.alabama.gov)

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<sup>451</sup> ADECA, *Divisions*, <http://www.adeca.state.al.us/Divisions/default.aspx>.

<sup>452</sup> ADECA, *The Alabama Water Resources Commission*, <http://www.adeca.alabama.gov/C16/Alabama%20Water%20Resources%20Commis/default.aspx?Mode=View>.

<sup>453</sup> ADECA, *Office of Water Resources*, <http://www.adeca.state.al.us/Office%20of%20Water%20Resources/default.aspx>.

<sup>454</sup> ADECA, *Energy Division*, <http://www.adeca.state.al.us/Divisions/default.aspx>.

<sup>455</sup> ADECA, *Surplus Property Division*, <http://www.adeca.state.al.us/Divisions/default.aspx>.



**Budget:***Funds budgeted by source for FY 2007-2011 (in millions of dollars)*

<b>Year / Fund</b>	<b>FY 2007-08<sup>456</sup></b>	<b>FY 2008-09<sup>457</sup></b>	<b>FY 2009-10<sup>458</sup></b>	<b>FY 2011<sup>459</sup></b>
State General Funds	20.20	24.30	18.29	18.70
Other Funds	--	--	--	--
Federal & Local	186.87	188.15	220.56	244.65
Federal Stimulus Funds	--	--	102.47	163.88
Federal Jobs Funds	--	--	--	4.85
Other	29.91	36.30	36.73	36.93
<b>Total</b>	<b>236.98</b>	<b>248.74</b>	<b>378.05</b>	<b>469.02</b>

*Funds budgeted by division for FY 2007-2011 (in millions of dollars)<sup>460</sup>*

<b>Division</b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>
Energy	32.5	42.8	42.9	66.7	66.6
Surplus Property	1.7	1.9	2.4	2.1	2.3
Water Resources	5.9	7.1	8.2	8.5	10.7

**Staff: N/A**


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<sup>456</sup> Alabama Budget Fact Book 2007-08, *supra* note 436, at 38.

<sup>457</sup> Alabama Budget Fact Book 2008-09, *supra* note 437, at 39.

<sup>458</sup> Alabama Budget Fact Book 2009-10, *supra* note 438, at 41.

<sup>459</sup> Alabama Budget Fact Book 2011, *supra* note 439, at 45.

<sup>460</sup> See ALABAMA DEPARTMENT OF FINANCE, EXECUTIVE BUDGET OFFICE, EXECUTIVE BUDGET DOCUMENTS, <http://budget.alabama.gov/pages/buddoc.aspx>. The remainder of the budget is allocated for administrative duties.

### III. State Habitat Issues & Causes

Alabama <sup>461</sup>	
Issue	Primary Cause
1) Loss of intertidal habitats due to bulkheading. Regulatory hurdles to implementing “living shorelines” alternatives.	Policy or regulatory shortcomings
2) Chronic long-term shoreline erosion and resulting loss of salt marsh along Mississippi Sound.	--
3) Loss of submerged aquatic vegetation along the eastern shore of Mobile Bay and in Weeks Bay.	--
4) Loss of seagrass coverage/damage to seagrasses in lower Perdido Bay/Old River.	--
5) Short-term and long-term health of oyster reef systems; impacts from drought, lowered freshwater inflows, loss of non-recycled cultch, etc.	--
6) Chronic long-term erosion along the western shore of Mobile Bay.	--
7) Increased population in coastal counties, urban sprawl, increase in impervious surfaces, habitat loss and associated environmental impacts.	Policy or regulatory shortcomings
8) Habitat fragmentation, need for the preservation of habitat corridors.	Policy or regulatory shortcomings
9) Inadequate wetlands protections outside of the defined coastal area boundary, lack of state wetlands protection statutes.	Policy or regulatory shortcomings
10) Lack of overall habitat restoration and conservation plan: many “plans”, no single State plan.	Funding and grant program shortcomings; Policy or regulatory shortcomings
11) Difficulties in achieving beneficial use of dredged materials. Coordinating the timing of sediment needs, available dredged material and site locations proves troublesome except at Gulf-front tidal inlets.	Funding and grant program shortcomings; Policy or regulatory shortcomings
12) Funding, including timing of various grants, complicated grant application and reporting processes, finding match for small- to medium-scale projects, etc.	Funding and grant program shortcomings
13) Impacts to shorelines and habitats from increased recreational and commercial personal watercraft, boat, and ship traffic.	Policy or regulatory shortcomings

<sup>461</sup> Priority issues identified in Priority issues identified in GULF OF MEXICO FOUNDATION, PRIORITY ISSUE RECOMMENDATIONS SYNTHESIS: HABITAT CONSERVATION AND RESTORATION (Oct. 2008), at 16–17. The causes were identified by state staff and provided to the Gulf of Mexico Alliance Habitat Conservation and Restoration in 2010–11 (correspondence on file with author).

## D. State Profile: Florida’s Legal and Institutional Framework

### I. Laws, Policies, and Programs

	Restoration	Conservation	Research
<b>Wetlands &amp; Estuaries</b>	<ul style="list-style-type: none"> <li>• Fish and Wildlife Research Institute projects</li> </ul>	<ul style="list-style-type: none"> <li>• Aquatic Preserve Act</li> <li>• Forever Wild</li> <li>• Apalachicola and Rookery Bay NERRs</li> <li>• Environmental Reorganization Act of 1993 (resulting ERPs)</li> <li>• Beach and Shore Preservation Act</li> <li>• Mangrove Trimming and Preservation Act</li> <li>• Permitting requirements for construction on state submerged lands</li> <li>• Aquatic preserves program/system</li> </ul>	<ul style="list-style-type: none"> <li>• Fish and Wildlife Research Institute projects</li> <li>• Florida Wetland Restoration Information Center</li> </ul>
<b>Beaches &amp; Dunes</b>	<ul style="list-style-type: none"> <li>• Beach Erosion Control Program</li> <li>• Beach and Shore Preservation Districts</li> </ul>	<ul style="list-style-type: none"> <li>• Beach and Shore Preservation Act</li> <li>• Coastal Construction Control Line Permitting Program</li> <li>• Beach Erosion Control Program</li> <li>• Beach and Shore Preservation Districts</li> <li>• Coastal Zone Protection Act</li> </ul>	
<b>Harvested Species Habitat</b>	<ul style="list-style-type: none"> <li>• Artificial reef program</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive fisheries regulation</li> </ul>	
<b>Protected Species Habitat</b>	<ul style="list-style-type: none"> <li>• State buffer preserves</li> <li>• Marine Resources Conservation Trust Fund</li> <li>• Specialty license plates</li> <li>• Coral Reef Conservation Program</li> </ul>	<ul style="list-style-type: none"> <li>• Florida Endangered &amp; Threatened Species Act</li> <li>• Marine Turtle Protection Act</li> <li>• Manatee Sanctuary Act</li> <li>• Habitat Conservation Plans (in process)</li> <li>• Wildlife Legacy Initiative</li> <li>• Nongame Wildlife Trust Fund; Marine Resources Conservation Trust Fund; Land Acquisition Trust Fund</li> <li>• Specialty license plates</li> <li>• Safe Harbor Program</li> <li>• Coral Reef Protection Act</li> <li>• Coral Reef Conservation Program</li> <li>• Florida Keys Area Protection Act</li> </ul>	<ul style="list-style-type: none"> <li>• Endangered and Threatened Species Act</li> <li>• Fish and Wildlife Research Institute</li> </ul>

<b>Protected Places</b>	<ul style="list-style-type: none"> <li>• Florida Forever Act</li> </ul>	<ul style="list-style-type: none"> <li>• Florida Preservation 2000 Act</li> <li>• Florida Forever Act</li> <li>• Land Acquisition Trust Fund</li> <li>• Conservation and Recreation Lands Trust Fund</li> <li>• Aquatic Preserves Program</li> <li>• State Buffer Preserve Program</li> <li>• Wildlife management areas</li> <li>• Save Our Coast</li> <li>• Save Our Rivers</li> <li>• State tax incentives</li> </ul>	
<b>Coastal Management</b>		<ul style="list-style-type: none"> <li>• Florida Coastal Management Act</li> <li>• Florida Coastal Management Program</li> <li>• Oceans and Coastal Resources Act</li> <li>• Local Government Comprehensive Planning and Land Development Act</li> <li>• State Comprehensive Planning Act</li> <li>• Land Use and Environmental Dispute Resolution Act</li> <li>• Bert J. Harris, Jr., Private Property Rights Protection Act</li> </ul>	<ul style="list-style-type: none"> <li>• Oceans and Coastal Resources Act</li> </ul>
<b>Accident Response</b>	<ul style="list-style-type: none"> <li>• State NRDA law</li> </ul>		
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>• Air and Water Pollution Control Act</li> <li>• Water Resources Restoration and Preservation Act</li> <li>• Surface Water Improvement and Management Act</li> </ul>	<ul style="list-style-type: none"> <li>• Set water quality standards and issue water pollution permits</li> <li>• Air and Water Pollution Control Act</li> <li>• Water Resources Restoration and Preservation Act</li> <li>• Surface Water Improvement and Management Act</li> </ul>	<ul style="list-style-type: none"> <li>• Harmful Algal Bloom Task Force</li> </ul>
<b>Water Quantity</b>		<ul style="list-style-type: none"> <li>• Water Resources Act</li> <li>• Florida Water Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Water Resources Act</li> </ul>
<b>Invasive Species</b>	<ul style="list-style-type: none"> <li>• Aquatic Weed Control Act</li> <li>• Invasive Plant Control Trust Fund</li> <li>• SWFWMD SWIM Program</li> </ul>	<ul style="list-style-type: none"> <li>• Aquatic Plant Management Act</li> <li>• Aquatic Weed Control Act</li> </ul>	<ul style="list-style-type: none"> <li>• Aquatic Weed Control Act</li> <li>• Aquatic Plant Management Act</li> <li>• Invasive Plant Control Trust Fund</li> </ul>

In Florida, there are two agencies with significant authority relevant to Gulf habitat conservation and restoration. The Florida Department of Environmental Protection oversees environmental management of the state’s resources through implementation of programs focused on resource quality (including air, water, and land), conservation of environmentally-sensitive lands and recreational opportunities for the

public. The Florida Fish and Wildlife Conservation Commission focuses on management of fish and wildlife resources through conservation and enforcement. In addition, the Florida Water Management Districts . . .

i. **Wetlands and Estuaries**

*Florida is the only Gulf state with a wetlands permitting regime that covers almost all freshwater wetlands, regulating activities in wetlands through its Environmental Resource Permit (ERP) system.<sup>462</sup> Florida imposes an additional set of permitting requirements on activities on state-owned submerged lands.<sup>463</sup> Florida has a system of aquatic preserves, each of which has a management plan and in which certain activities (such as oil and gas extraction) are prohibited.<sup>464</sup> There are additional place-based conservation initiatives in the state's two Gulf-coast National Estuarine Research Reserves and within the state's network of conservation lands.*

*Place-based protections*

With the **Florida Aquatic Preserve Act of 1975**, Florida created aquatic preserves with the goal of preserving in perpetuity its most exceptional underwater lands.<sup>465</sup> To establish a new preserve, the Board of Trustees of the Internal Improvement Trust Fund may suggest areas with exceptional biological, aesthetic, or scientific value. Then the legislature must approve the new preserve. After a preserve is established, the Board must develop a management plan for it; the Board is also responsible for enforcement, and violations are punished with civil penalties. By law, some restrictions apply in all aquatic preserves, such as a prohibition on oil or gas drilling, most types of construction, and dredging. Of the 41 preserves, 23 are located in the Gulf coast region.<sup>466</sup> While most of the aquatic preserves protect estuaries, some also cover offshore habitat. For instance, the largest aquatic preserve is Big Bend Seagrasses, which protects marine habitat.<sup>467</sup>

FDEP's Office of Coastal and Aquatic Managed Areas (CAMA) is responsible for administering the aquatic preserves. Due to significant budget cuts, CAMA closed four offices on the Gulf coast in 2011.<sup>468</sup> Consequently, there is currently no monitoring or active management of the 11 preserves located within

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<sup>462</sup> FLA. STAT. § 373.414.

<sup>463</sup> FLA. ADMIN. CODE § 18-21.004.

<sup>464</sup> FLA. STAT. §§ 258.35–258.46.

<sup>465</sup> *Id.*

<sup>466</sup> FDEP, *Map of Florida's Aquatic Preserves and Other Sites*, <http://www.dep.state.fl.us/coastal/sites/>. The 23 coastal preserves are: Fort Pickens, Yellow River Marsh, Rocky Bayou, St. Andrews, St. Joseph Bay, Apalachicola Bay, Alligator Harbor, Big Bend Seagrasses, St. Martins Marsh, Pinellas County, Boca Ciega Bay, Terra Ceia, Cockroach Bay, Lemon Bay, Cape Haze, Gasparilla Sound - Charlotte Harbor, Pine Island Sound, Matlacha Pass, Estero Bay, Rookery Bay, Cape Romano - Ten Thousand Islands, Lignumvitae Key, and Coupon Bight.

<sup>467</sup> FDEP, *Big Bend Seagrasses Aquatic Preserve*, <http://www.dep.state.fl.us/coastal/sites/bigbend/>

<sup>468</sup> FDEP, *CAMA Office Closures*, [http://www.dep.state.fl.us/coastal/office\\_closures.htm](http://www.dep.state.fl.us/coastal/office_closures.htm). The four offices were: Tampa Bay, Milton/Northwest Florida, Central Panhandle/St. Joseph Bay, and Jacksonville/Northeast Florida. FDEP states that the offices were chosen because they will be easiest to re-open if more funding becomes available.

the jurisdictions of the closed offices.<sup>469</sup> Stopping maintenance will likely result in losing progress on restoration activities, such as invasive species removal.<sup>470</sup>

CAMA also manages the two National Estuarine Research Reserves (NERRs) on Florida's Gulf coast: **Apalachicola NERR** and **Rookery Bay NERR**. These NERRs play different roles because of their different settings.<sup>471</sup> Rookery Bay, near the city and suburban development of Naples, carries out a variety of activities including restoration of disturbed wetlands. Apalachicola NERR, in a less populated area in the Panhandle, focuses primarily on protecting a relatively intact resource. The Apalachicola NERR has worked with local governments to develop ordinances that will protect water quality with mechanisms such as development setbacks. Both NERRs conduct ecosystem monitoring and coordinate with local governments to promote conservation.

Established in 2001 and replacing the *Preservation 2000* program, *Florida Forever*, established by the **Florida Forever Act**, is the largest public land acquisition program in the United States.<sup>472</sup> As part of this program, Florida has protected 294,930 acres of functional wetlands, along with coastlines, floodplains, and more (see *Protected Places* for additional information). Most of the ecological and hydrological restoration funds distributed through Forever Wild were administered by the state's water management districts (WMDs).<sup>473</sup>

### *Regulatory protections*

The legislature created the main framework for Florida's wetlands regulation with the **Florida Environmental Reorganization Act of 1993**. The resulting environmental resource permit (ERP) program regulates activities in wetlands, with the goal of achieving no net loss in wetland or other surface water functions.<sup>474</sup> The ERP program regulates construction in all tidal wetlands, most freshwater wetlands and other surface waters.<sup>475</sup> Because the ERP program covers both connected and isolated wetlands, state jurisdiction for regulating wetlands has not contracted in the same way as has federal wetlands jurisdiction. Funding for the ERP program comes from several sources, including state general revenue, WMD property taxes, permit application fees, and state trust funds.<sup>476</sup>

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<sup>469</sup> FDEP, *CAMA Office Closures*, *supra* note 302.

<sup>470</sup> Personal communication with expert.

<sup>471</sup> Personal communication with expert.

<sup>472</sup> Florida Department of Environmental Protection, *Forever Florida*, [http://www.dep.state.fl.us/lands/fl\\_forever.htm](http://www.dep.state.fl.us/lands/fl_forever.htm).

<sup>473</sup> ELI, *STATE WETLAND PROTECTION: STATUS, TRENDS, & MODEL APPROACHES, APPENDIX: FLORIDA (2008)*, available at [http://www.eli.org/pdf/core\\_states/Florida.pdf](http://www.eli.org/pdf/core_states/Florida.pdf). The ERP program is established and governed by FLA. STAT. § 373, Part I. Note that certain activities are exempt from ERP permitting. FLA. ADMIN. CODE § 40E-4.051.

<sup>474</sup> ELI, *STATE WETLAND PROTECTION, FLORIDA*, *supra* note 473. Note that until November 2010, a separate wetland resource permit program that did not protect wetlands outside of federal jurisdiction applied in the Panhandle region; today the ERP program covers the entire state.

<sup>475</sup> The statutory definition of wetlands excludes "longleaf or slash flatwoods with an understory dominated by saw palmetto." FLA. STAT. § 373.019(25). *See also* FLA. STAT. §§ 373.421 (ordering DEP to develop a uniform methodology for evaluating and delineating wetlands), 373.4211 (ratifying DEP's delineation of wetlands).

<sup>476</sup> ELI, *STATE WETLAND PROTECTION, FLORIDA*, *supra* note 473.

To receive an ERP, proposed projects must demonstrate avoidance of potential adverse impacts and meet several other requirements. They must comply with surface and groundwater quality standards, including special standards for discharges of treated stormwater and wastewater into wetlands.<sup>477</sup> Applicants must demonstrate that the project will “not adversely impact the value of functions provided to fish and wildlife and listed species by wetlands and other surface waters” or “cause adverse secondary impacts to the water resources.”<sup>478</sup> In general, projects may not be contrary to the public interest according to a multi-factor balancing test; for activities in FDEP-designated Outstanding Florida Waters, the proposed activity must clearly be in the public interest.<sup>479</sup> One expert commented that secondary and cumulative impact assessments are a challenge given the high staff turnover in FDEP, which makes it difficult to build up institutional knowledge of all related activities.<sup>480</sup>

ERP permits and proprietary authorizations are issued by district offices of the FDEP or the local WMD, as governed by operating agreements between the department and the WMDs that divide permitting responsibilities by activity type.<sup>481</sup> The agencies are responsible for enforcing the permits they issue. Regulators conduct on-site inspection before new construction becomes operational, and conduct inspections every five years of permitted activities on sovereign submerged lands.<sup>482</sup> One expert noted the need for more enforcement staff, finding that the mandatory timeline for processing permits forces staff to prioritize permitting over monitoring, enforcement, and other activities.<sup>483</sup>

Pursuant to legislative mandate, FDEP created a uniform mitigation assessment methodology for wetlands mitigation.<sup>484</sup> It allows off-site mitigation if it provides greater long-term viability or ecological value than on-site mitigation, which is ordinarily preferred. The legislature has authorized mitigation banks and in-lieu fee programs, provided that FDEP and the WMDs regulate the mitigation banks.<sup>485</sup> Since 1995, the Florida Department of Transportation has mitigated wetlands impacts through a separate program, communicating anticipated wetlands impacts to the WMDs each year so that the WMDs can develop mitigation plans.<sup>486</sup> Mitigation for certain habitat types is especially challenging. For example, there is scientific uncertainty about how to mitigate impacts to hard bottom habitat; sea grass impacts could be effectively mitigated by using water quality improvements to expand sea grass range, but such mitigation strategies cannot be pursued under current law.<sup>487</sup>

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<sup>477</sup> FLA. STAT. § 373.414.

<sup>478</sup> FLA. ADMIN. CODE § 40E-4.301(1).

<sup>479</sup> FLA. STAT. § 373.414.

<sup>480</sup> Personal communication with expert.

<sup>481</sup> An explanation of the process and each of the agreements is available at <http://www.dep.state.fl.us/water/wetlands/erp/wmd.htm>. DEP and the WMDs may delegate permitting authority to local governments under FLA. STAT. ch. 373.441, but have not delegated that authority to localities on the Gulf coast.

<sup>482</sup> Personal communication with expert.

<sup>483</sup> Personal communication with expert.

<sup>484</sup> FLA. STAT. § 373.414(18).

<sup>485</sup> FLA. STAT. § 373.4136.

<sup>486</sup> ELI, STATE WETLAND PROTECTION, FLORIDA, *supra* note 473.

<sup>487</sup> Personal communication with expert.

Some wetlands projects are also regulated under the **Beach and Shore Preservation Act** (discussed below under *Beaches and Dunes*). The Bureau of Beaches and Coastal Systems consolidates project review for activities in its joint coastal permit (JCP) process when they (1) are located on a natural sandy beach or an associated inlet, (2) extend seaward of the mean high water line, (3) extend into sovereign submerged lands, *and* (4) are likely to affect the distribution of beach sand.<sup>488</sup> In the coastal zone, the issuance of an ERP or a JCP constitutes concurrence in or waiver of federal consistency.<sup>489</sup> The U.S. Army Corps and FDEP process applications independently, with the Army Corps only acting on a permit after it receives a state permit.<sup>490</sup>

For construction in areas below the mean high-tide line, projects must also obtain permission to use state-owned lands – a process known as “**proprietary authorization.**” The Board of Trustees of the Internal Improvement Trust Fund acts as the proprietor for these lands, but has delegated responsibility for proprietary authorizations to the FDEP for all but the largest projects and those of heightened public concern.<sup>491</sup> When a project requires a JCP, the proprietary authorization is given as part of the JCP process. Further inland, the FDEP and WMDs grant proprietary authorization through the ERP process.<sup>492</sup> Proprietary authorization requires consistency with the public interest, riparian rights, certain design standards, and resource management policies.<sup>493</sup> One resource management goal is that “Activities on sovereignty lands shall be designed to minimize or eliminate adverse impacts on fish and wildlife habitat, and other natural or cultural resources. Special attention and consideration shall be given to endangered and threatened species habitat.”<sup>494</sup> Special criteria apply in the state Aquatic Preserves.<sup>495</sup>

The Florida legislature passed the **Mangrove Trimming and Preservation Act** in 1996 to protect mangroves from unregulated defoliation and destruction.<sup>496</sup> It mandates that mangroves over ten feet tall only be trimmed by licensed professionals, and limits the way the trees may be cut.

### *Research and information sharing*

Through its **Fish and Wildlife Research Institute**, FFWCC conducts a suite of research projects on seagrass health and restoration.<sup>497</sup>

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<sup>488</sup> FDEP, *Environmental Permitting Program*, <http://www.dep.state.fl.us/beaches/programs/envpermt.htm>.

<sup>489</sup> FLA. STAT. § 380.23(1).

<sup>490</sup> ELI, STATE WETLAND PROTECTION, FLORIDA, *supra* note 473.

<sup>491</sup> FLA. ADMIN. CODE § 18-21.0051; *see also* FDEP, *Sovereign Submerged Lands Authorizations*, <http://www.dep.state.fl.us/water/wetlands/erp/ssl.htm>.

<sup>492</sup> FLA. ADMIN. CODE § 18-21.00401. When projects require both proprietary authorization and an ERP, the agencies do not issue either permit unless the project is qualified for both; the agency responsible for issuing the ERP will process the proprietary authorization concurrently, under authority delegated by the Board of Trustees of the Internal Improvement Trust Fund. FLA. STAT. § 373.427.

<sup>493</sup> FLA. ADMIN. CODE § 18-21.004.

<sup>494</sup> FLA. ADMIN. CODE § 18-21.004(2)(i).

<sup>495</sup> FLA. ADMIN. CODE § 18-20.004.

<sup>496</sup> FLA. STAT. §§ 403.9321-403.9333

<sup>497</sup> FFWCC, Fish and Wildlife Research Institute, *Seagrass projects*, <http://myfwc.com/research/habitat/seagrasses/projects/>. The legislature ordered the FWC and DEP to agree on the institute’s responsibilities in a memorandum of understanding,



FDEP operates the **Florida Wetland Restoration Information Center**.<sup>498</sup> This web portal facilitates the restoration of both wetlands and associated uplands by providing an inventory of current and proposed projects, planning and implementation resources, information on funding sources, and more.

### *Restoration*

FFWCC has utilized its authority over fish and listed species to restore seagrasses and other submerged habitats.<sup>499</sup> Through its Fish and Wildlife Research Institute, the Commission has studied seagrass restoration techniques and conducted ecosystem assessments.<sup>500</sup>

#### ii. **Beaches and Dunes**

*Florida law generally prohibits the construction of dwellings, seawalls, and many other structures within 50 feet of the mean high tide line, although waivers are available in certain circumstances.<sup>501</sup> FDEP applies special siting and design criteria in areas subject to a 100-year storm surge and seaward of an established coastal construction control line.<sup>502</sup> On both state and private land, it is unlawful to cut sea oats or sea grapes without the consent of the owner.<sup>503</sup> Florida's Coastal Zone Protection Act imposes strict construction standards within 1,500 feet of the shore to minimize damage to the natural environment, private property, and life. The Act also prohibits the use of motor vehicles on coastal dunes and stabilizing vegetation. FDEP developed a comprehensive long-term plan for restoring and maintaining "critically eroded" beaches.<sup>504</sup> Counties may create Beach and Shore Preservation Districts, which can fund beach enhancement projects through special property taxes, bond measures, or federal grants.<sup>505</sup>*

The **Beach and Shore Preservation Act** provides a comprehensive scheme for coastal conservation and beach restoration. Part I of the Act places several requirements on construction and other physical activities. It generally prohibits the construction of houses, hotels, seawalls, or related structures within 50 feet of the mean high tide line, unless a waiver is obtained.<sup>506</sup> It directs FDEP to designate "coastal

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providing that the institute will at least be responsible for environmental assessment and monitoring, restoration technology research, and accident response. FLA. STAT. § 379.224.

<sup>498</sup> FDEP, *Florida Wetland Restoration Information Center*, <http://www.dep.state.fl.us/water/wetlands/fwric/>.

<sup>499</sup> Personal communication with expert.

<sup>500</sup> Fish and Wildlife Research Institute, *Seagrass projects*, *supra* note 497.

<sup>501</sup> FLA. STAT. § 161.042. Three new structures and repairs to four other structures within the 50 foot line were authorized between 2001 and 2010. Personal communication with expert.

<sup>502</sup> FLA. STAT. § 161.053.

<sup>503</sup> FLA. STAT. §§ 161.121; 161.052-.053.

<sup>504</sup> FLA. STAT. § 161.161.

<sup>505</sup> FLA. STAT. §§ 161.25-.45.

<sup>506</sup> FLA. STAT. § 161.042. Waivers are available in certain circumstances. Three new structures and repairs to four other structures within the 50 foot line were authorized between 2001 and 2010. Personal communication with expert.

construction control lines” around areas subject to a 100-year storm surge.<sup>507</sup> Seaward of those lines, projects must meet special siting and design requirements that protect both the beach-dune system and man-made structures. The Department may impose conditions to protect sea turtle habitat, salt-resistant vegetation, and endangered plant communities.<sup>508</sup> The Department must report to the legislature each year on the control lines program. On both state and private land, it is unlawful to cut sea oats or sea grapes without landowner consent.<sup>509</sup> All violations of this statute are penalized as misdemeanors, and noncompliant structures are considered public nuisances.<sup>510</sup>

Within FDEP, the Bureau of Beaches and Coastal Systems administers the Coastal Construction Control Line (CCCL) Permitting Program. Although the law only gives the program authority to protect habitat for one type of animal – sea turtles – Bureau staff encourage applicants to consider shorebirds and other species in siting and timing decisions.<sup>511</sup> In addition, other species receive indirect protection through the conservation of the beach dune system. The program does not impose a standard setback requirement; each construction permit involves a site-specific analysis to establish an appropriate siting consistent with the statute and rules.<sup>512</sup> The program is currently developing a Habitat Conservation Plan that will protect numerous endangered and threatened species (discussed under *Protected Species Habitat*). An exception to the requirement to obtain a CCCL permit is that local governments can issue temporary permits for emergency protection projects. An expert noted that this can sometimes pose challenges if the structures are installed without a removal plan, as the structure effectively becomes permanent.<sup>513</sup>

As mentioned previously, the legislature created the Joint Coastal Permit (JCP) system to streamline permitting for activities within the Bureau’s jurisdiction that would otherwise require an Environmental Resource Permit (discussed under *Wetlands*), a Coastal Construction Permit, and a proprietary authorization for building on state-owned submerged lands.<sup>514</sup> The Bureau’s Environmental Permitting Section processes the JCP permits and forwards them to the Army Corps as necessary.<sup>515</sup>

The FDEP engages in enforcement efforts to ensure that construction performed under CCL and JCP permits is conducted in accordance with approved plans and permit conditions. The Bureau has eight field inspectors, located in different coastal regions within the state, who perform compliance inspections during the construction process. For large projects, the inspectors hold preconstruction

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<sup>507</sup> FLA. STAT. § 161.053. Coastal Construction Control Lines designate areas subject to 3-foot waves every 100 years. Personal communication with expert. The Department may reevaluate the boundaries of the control lines as necessary and made slight adjustments to the lines in the Panhandle in response to the 2004 and 2005 hurricane seasons.

<sup>508</sup> FLA. STAT. § 161.053(4)(c).

<sup>509</sup> FLA. STAT. §§ 161.121; 161.052–.053.

<sup>510</sup> FLA. STAT. § 161.242.

<sup>511</sup> Personal communication with expert.

<sup>512</sup> Personal communication with expert.

<sup>513</sup> FLA. STAT. § 161.085; personal communication with expert. For more information on Florida’s beach and dune management and suggestions for reform, see Ruppert, *Eroding Long-Term Prospects for Florida’s Beaches: Florida’s Coastal Construction Control Line Program*, *supra* note 55.

<sup>514</sup> FLA. STAT. § 161.055.

<sup>515</sup> FDEP, *Environmental Permitting Program*, <http://dep.state.fl.us/beaches/programs/envpermt.htm>.

conferences with the contractor to review the permit conditions and other issues relevant to the project.

For permits that authorize the construction of habitable structures, such as single- or multi-family dwellings, permit conditions require the submission of a foundation location certification once the foundation piles are installed. At that point, construction halts until the certification is accepted by the Bureau and signed by a professional surveyor. FDEP notifies the permittee of approval or rejection within seven working days of receipt of the certification. Field inspectors return during the construction phase to monitor permit compliance and then conduct a final inspection when construction is complete.<sup>516</sup>

In addition to creating a regulatory framework, the statute requires FDEP to take affirmative measures to restore and preserve beaches. The Bureau of Beaches and Coastal Systems' Beach Erosion Control Program develops and implements a comprehensive beach management planning and financial assistance program to protect, preserve, and restore the state's beach resources.<sup>517</sup> The Bureau is required to maintain a comprehensive long-term management plan for Florida's critically eroded beaches. Among other things, the plan must address long-term solutions to critical beach erosion, identify strategies for protecting sea turtle nesting grounds, and include criteria for beach restoration and nourishment projects and a list of prioritized projects.<sup>518</sup> In setting funding priorities for beach erosion projects, the Department considers some habitat-related goals, such as the enhancement of sea turtle habitat.<sup>519</sup> The current Strategic Beach Management Plan, which was last updated in 2008, divides the state into seven sub-regions and identifies corrective and maintenance measures for critically eroded shoreline.<sup>520</sup>

These responsibilities are carried out by the Beach Erosion Control Program, within FDEP's Bureau of Beaches and Coastal Systems. The program is the primary state mechanism for funding dune restoration, which is a large element of the state's beach management plan; there is an increasing trend to include dune restoration in beach restoration projects. Beach restoration projects are regulated by the state through the Joint Coast Permitting Program, to ensure that projects are consistent with the statutes and rules of the JCP Program<sup>521</sup> and the coastal zone management program. The permit review process is designed to ensure that environmental resources are protected and include beach and dune habitat, coral reefs, hard bottom communities, sea grasses, coastal wetlands, water quality, and endangered and threatened species.<sup>522</sup>

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<sup>516</sup> Personal communication with expert.

<sup>517</sup> FLA. STAT. §161.101.

<sup>518</sup> FLA. STAT. § 161.161.

<sup>519</sup> FLA. STAT. § 161.101.

<sup>520</sup> FDEP, BUREAU OF BEACHES AND COASTAL SYSTEMS, STRATEGIC BEACH MANAGEMENT PLAN (May 2008), available at <http://www.dep.state.fl.us/beaches/publications/index.htm#SBMP> Publications; FLA. STAT. § 161.161. The state provides up to 50% of individual project costs.

<sup>521</sup> FLA. STAT. ch. 161, 252, 258, 373, 403.

<sup>522</sup> Personal communication with expert.

The Bureau’s work force has been reduced by approximately 10 percent, and the program no longer has sufficient funding to contract out for aerial photography and LIDAR surveys of Florida’s coastline. However, the Bureau continues to collect and analyze topographic and bathymetric survey data on a sufficient temporal scale to observe and document shoreline and coastal morphologic changes along Florida’s sandy coast, and uses aerial photography and LIDA surveys collected by other federal, state, and local agencies.<sup>523</sup>

Part II of the Beach and Shore Preservation Act creates a framework for planning and funding beach preservation programs at the local level, through Beach and Shore Preservation Districts. County commissioners may develop and carry out beach and shore preservation plans.<sup>524</sup> Counties can create the preservation districts, allowing those who benefit most from beach preservation to pay for the projects through special property taxes or bond measures.<sup>525</sup> Counties and districts may also seek federal grants for shore preservation.<sup>526</sup> While the focus of the statute is project planning and funding, it also delegates to counties some responsibilities for regulating private actors. With consent from FDEP and other authorities, the counties may regulate activities that may significantly affect coastal conditions or natural shore processes, such as jetties and seawalls.<sup>527</sup>

The **Coastal Zone Protection Act** is intended to both conserve the environment and avoid property damage from storms.<sup>528</sup> It places a variety of restrictions on construction within 1,500 of the shore.<sup>529</sup> Structures must be located far enough inland that they do not interfere with dune stability. Further, non-habitable structures must be designed to minimize impacts on the beach and the dune system. While the focus of the law is on construction, it also creates criminal penalties for driving motor vehicles on coastal dunes and stabilizing vegetation.<sup>530</sup> To assure enforcement, the Florida Department of Community Affairs must hold workshops on the law twice a year for local law enforcement.<sup>531</sup>

### iii. **Harvested Species Habitat**

*Under Florida’s comprehensive fisheries management system, the Fish and Wildlife Conservation Commission establishes management plans for state waters and limits permissible gear.<sup>532</sup> The state also promotes and regulates construction of artificial reefs.<sup>533</sup>*

The Florida legislature has given FFWCC broad discretion in managing the state’s **marine fisheries**.<sup>534</sup> The Commission must draft fishery management plans that meet several standards, such as continuing

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<sup>523</sup> Personal communication with expert.

<sup>524</sup> FLA. STAT. § 161.28.

<sup>525</sup> FLA. STAT. §§ 161.37–38.

<sup>526</sup> FLA. STAT. § 161.33.

<sup>527</sup> FLA. STAT. § 161.35.

<sup>528</sup> FLA. STAT. § 161.53.

<sup>529</sup> FLA. STAT. § 161.55.

<sup>530</sup> FLA. STAT. § 161.58.

<sup>531</sup> FLA. STAT. § 161.56.

<sup>532</sup> FLA. STAT. §§ 379.2401 *et seq.*

<sup>533</sup> FLA. STAT. § 379.249.

the health and abundance of the populations. While specific regulations are generally the responsibility of the Commission, several prohibitions on harmful fishing gear are enshrined in legislation. For instance, fishermen may only use purse seines to catch shrimp and two species of fish. Penalties for violating Florida's fishing laws include fines, imprisonment, and loss of license.

The **Florida Department of Agriculture and Consumer Services** is responsible for managing oyster reefs for production.<sup>535</sup> The Department must "improve, enlarge, and protect the natural oyster and clam reefs and beds of this state to the extent it may deem advisable and the means at its disposal will permit."<sup>536</sup>

FFWCC also enhances fisheries through the state's **artificial reef program**.<sup>537</sup> The Commission both promotes and regulates the construction of artificial reefs. To facilitate reef construction, the Commission may provide funding or technical assistance to local governments, universities, and non-profit groups for constructing artificial reefs. The Commission may also accept ships from the federal government as material for the reefs. To regulate artificial reef construction, the Commission may adopt rules regarding the siting, building, and management of the reefs. On the permitting side, FDEP and the Army Corps issue permits for artificial reefs through the ERP program.<sup>538</sup> FFWCC notes that local coastal governments are the holders of all but one of the roughly 300 active permits in Florida waters.<sup>539</sup> Florida has one of the most active artificial reef programs, partly because it is the only Gulf state in which local agencies can develop reefs and hold permits for those activities. This system allows fishing clubs, nonprofits, and individuals to provide input and fund artificial reefs by working through their local governments.<sup>540</sup>

Florida's reef fish also benefit from the marine protected areas that have been created for coral reefs (see *Coral Reefs*).<sup>541</sup>

#### iv. Protected Species Habitat

*Acting under its constitutional authority, the Florida Fish and Wildlife Conservation Commission regulates the take of listed species and protects the nests of certain species.*<sup>542</sup> *Under the Florida Endangered and Threatened Species Act, the Florida Fish and Wildlife Conservation Commission must undertake related research and management activities and report annually on its plans to manage and conserve endangered and threatened species.*<sup>543</sup> *Florida's legislature also enacted mechanisms to protect two specific species. First, Florida's Manatee Sanctuary Act makes it illegal to harass or wound a*

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<sup>534</sup> FLA. STAT. §§ 379.2401 et seq.

<sup>535</sup> FLA. STAT. § 597.010.

<sup>536</sup> FLA. STAT. § 597.010(14).

<sup>537</sup> FLA. STAT. § 379.249.

<sup>538</sup> FDEP,

<sup>539</sup> FFWCC, Conservation, *Artificial Reefs*, <http://myfwc.com/conservation/saltwater/artificial-reefs/>.

<sup>540</sup> *Id.*

<sup>541</sup> Personal communication with expert.

<sup>542</sup> FLA. ADMIN. CODE §§ 68A-27.001 et seq.

<sup>543</sup> FLA. STAT. §379.2291.

*manatee regardless of whether it should be removed from the federal list of threatened species.*<sup>544</sup> *Second, Florida protects sea turtles by including necessary protection conditions in all permit applications for construction in turtle habitat; it is also a felony to “take” a sea turtle, which includes significant habitat modification that impairs behavior.*<sup>545</sup> *Since 2009, the Coral Reef Protection Act has allowed the FDEP to collect money for reef restoration from parties that damage coral reefs. The FFWCC also conducts coral reef research through its Fish and Wildlife Research Institute.*

The Florida agency responsible for protected species management is the Florida Fish and Wildlife Conservation Commission (FFWCC). The FFWCC receives its authority to exercise “regulatory and executive powers . . . with respect to wild animal life” from the state constitution rather than a state statute.<sup>546</sup> The legislature may enact laws that aid the Commission and control its planning, budgeting, personnel management, and purchasing.

Among other things, the Commission has used its constitutional authority to regulate the listing and take of endangered and threatened species.<sup>547</sup> The FFWCC protects species that have been listed as threatened or endangered by the U.S. Fish and Wildlife Commission or by the state; pursuant to recently amended regulations, each listed species receives the same treatment as a “Florida Endangered and Threatened Species.”<sup>548</sup> A federal permit from FWS or NOAA is required for the take or incidental take of a federally listed species, while a state permit is required for the take or incidental take of a state-listed species.<sup>549</sup> The definition of “take” includes acts that “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavior patterns.”<sup>550</sup> However, the FFWCC does not regulate activities throughout the listed species’ habitat.<sup>551</sup> The Commission’s only habitat-related regulations target sites with direct connections to a protected species, such as gopher tortoise nests.<sup>552</sup>

While the FFWCC relies on constitutional authority to regulate the “take” of listed species, legislative directives also guide its research and management activities. Under the **Florida Endangered and Threatened Species Act**, the FWCC is responsible for the research and management of listed species.<sup>553</sup> Each year, the Commission must report to the legislature on its plans to manage and conserve endangered and threatened species. The Commission’s report may also recommend statutory changes. In consultation with other agencies, the FFWCC can establish reduced speed zones on roads and

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<sup>544</sup> FLA. STAT. § 379.2432–.2433.

<sup>545</sup> FLA. STAT. § 379.2431.

<sup>546</sup> FLA. CONST. art. IV, § 9 (establishing the commission); FLA. CONST. art. XII, § 23 (transferring responsibilities for marine fisheries to the commission).

<sup>547</sup> FLA. ADMIN. CODE § 68A-27.0001 *et seq.*

<sup>548</sup> FLA. ADMIN. CODE § 68A-27.001.

<sup>549</sup> FLA. ADMIN. CODE § 68A-27.007.

<sup>550</sup> FLA. ADMIN. CODE § 68A-27.001(4).

<sup>551</sup> Personal communication with expert.

<sup>552</sup> FLA. ADMIN. CODE § 68A-27.003(2)(d)(3). The FFWCC operates a recipient site program, which certifies properties as “long-term protected recipient sites” so that the landowners can receive financial compensation for providing protected tortoise habitat to tortoises that have been displaced by development. FFWCC, Licenses & Permits, Wildlife, *Gopher Tortoise Permits*, <http://myfwc.com/license/wildlife/gopher-tortoise-permits/recipient-site/>.

<sup>553</sup> FLA. STAT. § 379.2291.

highways. In addition, the Commission must work with the U.S. Fish and Wildlife Service to develop measurable goals for manatee recovery.<sup>554</sup>

Florida's legislature has devoted special attention to the protection of two kinds of iconic marine animals: sea turtles and manatees.<sup>555</sup> Under the **Marine Turtle Protection Act**, whenever anybody applies to the Department of Environmental Protection for a construction permit in turtle habitat, the Department must include whatever conditions are necessary to protect the turtles (the Department's responsibilities for permitting construction along the shore is discussed within the *Beaches and Dunes* section).<sup>556</sup> For instance, the Department may order construction activities to take place outside of nesting season. In addition, it is a felony to "take" a sea turtle, which includes significantly modifying habitat that results in turtle mortalities due to impaired behavioral patterns.<sup>557</sup>

Through the **Florida Manatee Sanctuary Act**, the legislature declared the state to be a refuge for manatees.<sup>558</sup> Regardless of whether the manatee is ever removed from the federal list of threatened species, it will be illegal to harass or wound a manatee in Florida.<sup>559</sup> The FFWCC is responsible for regulating boating in manatee habitat to protect the animals from collisions with motorboats.<sup>560</sup> It must also direct certain counties to create manatee protection plans, which shall include provisions on public education about manatee habitat.<sup>561</sup> Finally, the Commission must survey and study manatees. Management and research activities are funded in part by the Save the Manatee Trust Fund, which receives primary support from vessel registration fees (\$1.50 per boat) and the Save the Manatee license plate (more information on Florida's specialty license plates is summarized below).<sup>562</sup>

The FDEP's Coastal Control Construction Line Permitting Program is currently working with the FFWCC to draft a **Habitat Conservation Plan** for Florida's beaches, with input from local and federal partners. The plan will protect five subspecies of beach mice, five species of sea turtles, four species of birds, and two species of plants that are on the federal threatened and endangered species lists, as well as numerous species on the state list.<sup>563</sup> The Program began developing the plan in 2008 and expects that the process will take 7–8 years.<sup>564</sup> One element of this process is identifying provisions of state law that will require amendment in order to create and implement a plan that meets the requirements of section 10 of the federal Endangered Species Act.<sup>565</sup> Once the U.S. Fish and Wildlife Service approves the plan, FDEP will have federal coverage for activities that it authorizes under the CCCL permitting program.

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<sup>554</sup> FLA. STAT. § 379.2291(6).

<sup>555</sup> FLA. STAT. §§ 379.2431–.2433.

<sup>556</sup> FLA. STAT. § 379.2431(1)(f)–(i).

<sup>557</sup> FLA. STAT. § 379.2431(1)(c)(2).

<sup>558</sup> FLA. STAT. § 379.2431(2)(b).

<sup>559</sup> FLA. STAT. § 379.2431(2)(b)–(c).

<sup>560</sup> FLA. STAT. § 379.2431(2).

<sup>561</sup> FLA. STAT. § 379.2431(2)(t).

<sup>562</sup> FFWCC, SAVE THE MANATEE TRUST FUND: 2009-2010 ANNUAL REPORT, AT 9 (TRUST FUND 2009-10 REVENUES AND EXPENDITURES), available at [http://myfwc.com/media/719822/stmf\\_report\\_09-10.pdf](http://myfwc.com/media/719822/stmf_report_09-10.pdf).

<sup>563</sup> Florida Beaches Habitat Conservation Plan, *Frequently Asked Questions*, <http://www.flbeacheshcp.com/FAQ.aspx>; see also FLA. ADMIN. CODE § 68A-27.0012.

<sup>564</sup> Personal communication with expert.

<sup>565</sup> Personal communication with expert.

FFWCC also coordinates grant funding from the U.S. Fish and Wildlife Service for several Habitat Conservation Plan development processes that are occurring at the county level.<sup>566</sup>

FFWCC's **Fish and Wildlife Research Institute** helps identify species that are at risk of becoming threatened and their habitat needs.<sup>567</sup> Using this information, the **Wildlife Legacy Initiative** targets these habitats for acquisition.<sup>568</sup> The Wildlife Legacy Initiative is funded largely by the **Nongame Wildlife Trust Fund**,<sup>569</sup> the Trust Fund received over \$7.8 million of revenue in the 2010-11 fiscal year, primarily from vehicle title fees.<sup>570</sup>

### Funding

**Specialty license plates** are an important revenue source for the state's endangered species programs. The Florida Department of Highway Safety and Motor Vehicles sells 23 different specialty license plates that benefit environmental causes. Of these, several of the largest revenue generators support protected coastal species. For example, FFWCC's Marine Turtle Management Program is supported entirely by the sea turtle license plate.<sup>571</sup> Table 18 shows the revenue from selected plates in the 2008-09 fiscal year.<sup>572</sup>

**Table 18. Revenue generated for coastal species protection by select specialty license plates in FY 2008-09**

Plate	Recipient	FY08-09 Revenue
Conserve Wildlife	Wildlife Foundation of Florida & Florida Fish and Wildlife Conservation Commission	\$ 381,465
Protect Florida Whales	Harbor Branch Oceanographic Institute, Inc.	\$ 475,675
Protect Our Reefs	Mote Marine Laboratory	\$ 1,011,475
Protect Wild Dolphins	Harbor Branch Oceanographic Institute, Inc.	\$ 1,482,920
Save Our Seas	Harbor Branch Oceanographic Institute, Inc.	\$ 797,485
Save the Manatee	Save the Manatee Trust Fund	\$ 1,216,140
Sea Turtle	Marine Resources Conservation Trust Fund, Florida Fish and Wildlife Conservation Commission	\$ 1,696,631
Tampa Bay Estuary	Tampa Bay Estuary Program	\$ 138,600
	<b>Total</b>	<b>\$ 7,200,391</b>

FFWCC must deposit all revenue from marine activities into a **Marine Resources Conservation Trust Fund**.<sup>573</sup> These revenue sources include licensing fees for boating, fishing, and crabbing, as well as any

<sup>566</sup> Personal communication with expert.

<sup>567</sup> Personal communication with expert.

<sup>568</sup> Personal communication with expert; *see also* FFWCC, Conservation, Special Initiatives, *Florida's Wildlife Legacy Initiative*, <http://myfwc.com/wildlifeLegacy>.

<sup>569</sup> Personal communication with expert.

<sup>570</sup> FFWCC, STATUS OF TRUST FUNDS AS OF AUGUST 2011, at 7-8, available at [http://myfwc.com/media/1503479/13B\\_TrustFunds.pdf](http://myfwc.com/media/1503479/13B_TrustFunds.pdf).

<sup>571</sup> Personal communication with expert.

<sup>572</sup> FLORIDA DEPARTMENT OF HIGHWAY SAFETY AND MOTOR VEHICLES REVENUE REPORT JULY 2008 THRU JUNE 2009, available at [http://www.flhsmv.gov/html/revpub/revpub\\_july08\\_june09.pdf](http://www.flhsmv.gov/html/revpub/revpub_july08_june09.pdf).

<sup>573</sup> FLA. STAT. § 379.208.



finances from violations. In addition, the legislature may add general tax revenues to the fund. In the 2010-11 fiscal year, this fund received \$87 million of revenue; the largest funding source was licensing fees, which generated nearly \$28 million.<sup>574</sup> The Commission must use the fund for several purposes, including marine research, fishery enhancement, marine law enforcement, sea turtle research and recovery, crabbing management, and oyster bed rehabilitation. Thus, the law could have conservation, restoration, or research implications, depending on priorities within the Commission. In fiscal year 2010-11, the majority of expenditures from the fund (nearly \$47 million) were for law enforcement and the second largest use of funds was research (nearly \$25 million).

The FFWCC also manages the **Land Acquisition Trust Fund**, which is used exclusively to acquire and manage lands for fish and wildlife.<sup>575</sup> The fund primarily collects money from wildlife mitigation fees and uses it to acquire and manage lands that are important to the conservation of fish and wildlife. It may also receive donations and state appropriations. The FFWCC has used mitigation fees to acquire about 20,000 acres of gopher tortoise habitat.<sup>576</sup>

As discussed in the overview section on protected species, in 2006 FFWCC entered into an agreement with The U.S. Fish and Wildlife Service to operate a **safe harbor program** for the red-cockaded woodpecker.<sup>577</sup> Under the program, landowners may enter into Safe Harbor Agreements with the state, receiving assurances that they will not be the subject of endangered species enforcement actions as long they implement certain conservation practices. To date, this is still Florida's only state-wide safe harbor program. A program strength is that the FFWCC uses a shorter contract with landowners than many of the other state programs; yet even at 17 pages, the length of the contract can be a barrier for some landowners.<sup>578</sup> Partly because of the safe harbor program, Florida is exceeding the recovery goals for the red-cockaded woodpecker.<sup>579</sup>

### *Coral Reefs*

As the sole Gulf state with coral reefs in state waters, Florida has developed several mechanisms to protect, restore, and research corals. FDEP is the state's lead trustee for coral reefs on sovereign submerged lands, and heads the state response to coral reef and hard bottom injuries from vessel impacts, in coordination with other trustees such as FFWCC, county governments, federal agencies, and others.

The Florida legislature passed the **Coral Reef Protection Act** in 2009 so that the parties responsible for damaging coral reefs would pay for the damages.<sup>580</sup> The law requires responsible parties to notify FDEP within 24 hours of running aground or striking corals. Absent extenuating circumstances, the

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<sup>574</sup> FFWCC, STATUS OF TRUST FUNDS AS OF AUGUST 2011, *supra* note 570, at 2.

<sup>575</sup> FFWCC, STATUS OF TRUST FUNDS AS OF AUGUST 2011, *supra* note 570, at 15-16; FLA. STAT. § 379.212.

<sup>576</sup> Personal communication with expert.

<sup>577</sup> FFWCC, *Safe Harbor: Red-Cockaded Woodpecker*, <http://myfwc.com/conservation/terrestrial/rcw/>.

<sup>578</sup> Personal communication with expert.

<sup>579</sup> Personal communication with expert.

<sup>580</sup> FLA. STAT. § 403.93345.

responsible parties must remove the vessel within 72 hours. The Department may recover the cost of reef restoration or replacement and any other costs associated with the agency's response to the incident. In certain circumstances, the Department may also seek civil fines, which are deposited in the Ecosystem Management and Restoration Trust Fund and used to fund activities like coral restoration and enforcement (more information on this fund is included under *Water Quality*).

The FDEP's **Coral Reef Conservation Program** also led the development of a local action strategy to implement the goals of the federal Coral Reef Protection Act. The Southeast Coral Reef Initiative involves government agencies, nongovernmental organizations, stakeholders, and others, and strives to advance coral reef conservation in the state.<sup>581</sup>

The FFWCC researches coral reefs through its **Fish and Wildlife Research Institute**.<sup>582</sup> Most importantly, the Coral Reef Evaluation and Monitoring Project (CREMP) has monitored fixed sites throughout the Florida Keys since 1996. In addition, the Institute monitors the progress of restoration efforts at the site of significant damage from vessel grounds.

A handful of different mechanisms are used to manage specially designated areas with coral habitat near the Keys. Through **Key West National Marine Sanctuary**, NOAA manages 2,900 square nautical miles of marine habitat that includes many of the Gulf's most intact coral reefs; NOAA uses a system of "marine zoning" to protect coral reefs and other habitats within the sanctuary.<sup>583</sup> The National Park Service operates **Dry Tortugas National Park**, which is home to over 2,100 acres of coral cover.<sup>584</sup> Two state **aquatic preserves** protect coral habitat in the Keys – Coupon Bight Aquatic Preserve and Lignumvitae Key Aquatic Preserve (see discussion of the aquatic preserves under *Protected Places*).

Coral reefs are also considered in land management in the Keys. The **Florida Keys Area Protection Act** designated a significant portion of the land in the Keys as an area of critical state concern.<sup>585</sup> Due to this special designation, the state planning agency oversees the development and implementation of local planning efforts with the goal of protecting the area's special features, including the surrounding coral reef formations. As part of FDEP's regulation of **Outstanding Florida Waters** in Monroe County, it is impermissible to build piers or marinas over coral reefs.<sup>586</sup>

FDEP's **Coral Reef Conservation Program** develops coral reef management strategies and coordinates research and monitoring activities to protect them. The program focuses on the reef tract in

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<sup>581</sup> US Coral Reef Task Force, Coral Reef Local Action Strategies Fact Sheets, *Florida*, available at <http://www.coralreef.gov/las/lasfactsheets2009/las09/lasflorida.pdf>; Southeast Florida Coral Reef Initiative, *About Us*, <http://www.southeastfloridareefs.net/about-us/what-is-sefcric/>.

<sup>582</sup> FFWCC, Fish and Wildlife Research Institute, *Coral Reefs*, <http://myfwc.com/research/habitat/coral/>.

<sup>583</sup> NOAA, *Florida Keys National Marine Sanctuary*, <http://floridakeys.noaa.gov/regs/welcome.html>.

<sup>584</sup> NPS, Superintendent's annual report, 2011, [http://www.nps.gov/ever/parkmgmt/upload/EVER-and-DRTO\\_SAR\\_2010.pdf](http://www.nps.gov/ever/parkmgmt/upload/EVER-and-DRTO_SAR_2010.pdf).

<sup>585</sup> FLA. STAT. § 380.0552.

<sup>586</sup> FLA. ADMIN. CODE §62-312.420; FAC §62-312.430.

Southeastern Florida, and implements a local area strategy pursuant to the U.S. Coral Reef Task Force national action plan and strategy.<sup>587</sup>

Coral protection efforts have focused on coral reefs, while the habitat ranges for about a quarter of the coral species that thrive in the Florida Keys extend northward past Tampa Bay. One expert recommended a resource inventory and protective laws for the patches of coral outside of the species' ideal conditions, noting that these genetic outliers are especially important in a changing climate.<sup>588</sup>

v. **Protected Places**

*The several statutory authorizations for land and water acquisition in Florida include the Land Conservation Act of 1972 (Conservation and Recreation Lands Trust Fund),<sup>589</sup> Florida Preservation 2000 Act (allowing Department of Environmental Protection to conduct bond-financed acquisitions of habitat for endangered, threatened, or rare species),<sup>590</sup> Florida Forever Act (funded acquisitions, enhancements, or management of natural ecosystems, with priority to imperiled species habitat),<sup>591</sup> and Land Acquisition Trust Fund (acquisition and management of lands important to fish and wildlife conservation).<sup>592</sup> Finally, Florida's Aquatic Preserves protect fish nurseries and other wildlife habitat.<sup>593</sup> Florida's conservation lands are managed through a variety of mechanisms, including wildlife management areas, state parks, aquatic preserves, and locally managed areas. In addition, special property tax exemptions provide incentives for conservation easements on private lands.<sup>594</sup>*

*State protected places*

An array of legislative acts has created numerous revenue sources and institutional frameworks for acquiring conservation lands.<sup>595</sup> Some of these programs are no longer operational, though they have historically provided important funding for Florida's conservation lands.

- **Land Acquisition Trust Fund:** In 1963, the state created its first land acquisition program, financing the Land Acquisition Trust Fund with a tax on outdoor clothing and equipment. In 1968, the legislature decided instead to fund the program through a \$20 million bond, paid for through a tax on real estate transactions and financial documents.
- **Conservation and Recreation Lands Trust Fund:** Next, the Land Conservation Act of 1972 created the Conservation and Recreation Lands Trust Fund and authorized bonds to provide its initial funding. This Fund is still active, receiving revenue from mineral and documentary taxes

<sup>587</sup> FDEP, *Coral Reef Conservation Program*, <http://www.dep.state.fl.us/coastal/programs/coral/>.

<sup>588</sup> Personal communication with expert.

<sup>589</sup> FLA. STAT. §§ 259.01–.07.

<sup>590</sup> FLA. STAT. § 259.101.

<sup>591</sup> FLA. STAT. §§ 259.105–.1053.

<sup>592</sup> FLA. STAT. § 379.212.

<sup>593</sup> FLA. STAT. §§ 258.35–.46.

<sup>594</sup> FLA. STAT. §§ 196.011; 196.26.

<sup>595</sup> For a full history of land acquisition programs in the state, see James A. Farr & O. Greg Brock, *Florida's Landmark Programs for Conservation and Recreational Land Acquisition*, 14 SUSTAIN (2006), available at <http://www.dep.state.fl.us/lands/AcqHistory.htm>.

and serving as the vehicle for the state's main subsequent land acquisition programs – CARL, Preservation 2000, and Florida Forever (see below).<sup>596</sup>

- **Conservation and Recreation Lands Program (CARL):** From 1979-1990, the Conservation and Recreation Lands Program (CARL) provided revenue for land acquisition through taxes on mineral extraction (and later documentary stamp taxes). The nearly \$356 million from CARL over this period protected 181,000 acres.
- **Save Our Coast:** In 1981, a bond program known as Save Our Coast provided \$275 million for purchasing coastal lands.
- **Water Management Lands Trust Fund (Save Our Rivers):** 1981 also saw the creation of Save Our Rivers, funding conservation land acquisition by Florida's five water management districts through a stamp tax on real estate transactions.
- **Florida Preservation 2000 Act:** This Act allowed FDEP to conduct bond-financed land acquisition, largely motivated by the pressures of population growth on wildlife habitats.<sup>597</sup> The law set up the criteria for lands that may be purchased, such as habitat for endangered species. The Act passed in 1990 and authorized bond funding for each of the next 10 years. Ultimately, this initiative allowed the purchase of over 2 million acres.

The **Florida Forever Act** created the successor program to the Preservation 2000 bond program. It provides funding to acquire, enhance, or manage natural ecosystems, and gives special priority to acquiring habitat for imperiled species.<sup>598</sup> Florida Forever authorized \$300 million of bond revenue annually for 10 years beginning in 2001, and has been used to preserve nearly 700,000 acres. Funding is divided between several purchasing authorities: 35% to the interagency Acquisition and Restoration Council; 35% to the water districts for the Save our Rivers program; 22% to the Florida Communities Trust, which provides grants for local government and NGO acquisitions; and the remainder divided among an Inholdings and Additions program, Greenways and Trails, and a program for recreational facilities.<sup>599</sup> The state cooperates with nonprofit organizations like The Nature Conservancy in its acquisition efforts; a nonprofit may make strategic land purchases and receive reimbursement with Florida Forever funds.<sup>600</sup> However, after the 2011-12 fiscal year, the Florida Forever Trust Fund will have a zero balance.<sup>601</sup>

Overall, more than 9.8 million acres are held in conservation lands, which is almost a quarter of the state's land area. Florida's state conservation lands are managed through several different programs. As discussed in greater detail under *Wetlands and Estuaries*, the **Aquatic Preserves Program** is located within FDEP and protects exceptional underwater lands. The **State Buffer Preserve Program** is an extension of the Aquatic Preserve Program that focuses on preservation of upland habitats in order to

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<sup>596</sup> FLA. STAT. § 259.032(2).

<sup>597</sup> FLA. STAT. § 259.101.

<sup>598</sup> FLA. STAT. ch. 259.105-.1053.

<sup>599</sup> For examples of restoration projects in the Northwest Water Management District, see FDEP, Florida Forever Status As of June 30, 2011 (Aug. 8, 2011), available at [http://www.dep.state.fl.us/lands/files/reports/0611\\_com.pdf](http://www.dep.state.fl.us/lands/files/reports/0611_com.pdf).

<sup>600</sup> Personal communication with expert.

<sup>601</sup> FFWCC, STATUS OF TRUST FUNDS AS OF AUGUST 2011, *supra* note 570, at 21–22.

protect the watersheds of aquatic preserves.<sup>602</sup> The management program works to protect and preserve wetlands, waters, and natural resources adjacent to aquatic preserves, parks, and other management areas, and aims to restore degraded natural communities and ecosystem functions. FDEP also manages a large network of **state parks** on the Gulf coast, which protect beach, dune, and wetland habitats.<sup>603</sup>

FFWCC's network of **wildlife management areas** (WMAs) includes lands acquired through Florida Forever and Save Our Rivers, among others. The network includes some properties in the coastal zone, such as the Tide Swamp Unit and Perdido River WMA.<sup>604</sup> The Cooperative Conservation Blueprint is a planning effort that will identify wildlife corridors and rare habitats for future acquisition.<sup>605</sup>

### *Conservation on private lands*

Florida encourages private landowners to create conservation easements by offering **tax incentives**. There is a full property tax exemption for land dedicated in perpetuity and used exclusively for conservation purposes.<sup>606</sup> There is a partial property tax exemption (up to 50%) for conservation land that is under a conservation easement in perpetuity, but currently used for commercial purposes that are allowed under the terms of the easement (such as agriculture).<sup>607</sup> These exemptions to the state's ad valorem property tax system are possible due to a 2008 amendment to the state constitution.<sup>608</sup>

FFWCC also operates a **Landowner Assistance Program** that provides technical and financial assistance for habitat management on private land.<sup>609</sup> Of the four habitat types that this program is currently targeting – roof top nesting, sandhill, scrub, and dry prairie – three are found on Florida's Gulf coast.<sup>610</sup> Funding for this program comes partly from the State Wildlife Grant program, with landowners providing the non-federal match.<sup>611</sup> This program is not statutorily mandated.

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<sup>602</sup> Statutory authorization for this program is found at FLA. STAT. § 253.86 (authorizing FDEP's Office of Coastal and Aquatic Managed Areas to regulate the lands upland of its jurisdiction). FDEP manages these lands according to the rules at FLA. ADMIN. CODE §§ 18-23.002 *et seq.*

<sup>603</sup> FPS, *State Parks Map*, <http://www.floridastateparks.org/findapark/stateparksmap.cfm>.

<sup>604</sup> See FFWCC, *Explore Florida By Location*, <http://myfwc.com/viewing/recreation/location/>.

<sup>605</sup> Personal communication with expert; see also FFWCC, *Comparative Conservation Blueprint*, <http://myfwc.com/conservation/special-initiatives/fwli/taking-action/blueprint/>.

<sup>606</sup> FLA. STAT. §§ 196.011; 196.26.

<sup>607</sup> FLA. STAT. § 196.26; Fla. Stat. § 196.26 (providing that agricultural uses are permissible in conservation easements).

<sup>608</sup> Amend. 4, 2008, codified at FLA. CONST. Art. VII, § 3(f). See also BILL COOK, CONSERVATION EASEMENTS, CONSERVATION PURPOSES & PROPERTY TAXES: AMENDING THE FLORIDA CONSTITUTION TO ENCOURAGE THE CONSERVATION OF LAND BY PRIVATE INTERESTS IN THE STATE OF FLORIDA (2004), at 25, available at <http://www.law.ufl.edu/conservation/pdf/easements.pdf>.

<sup>609</sup> FFWCC, Conservation, Special Initiatives, *Landowner Assistance Program*, <http://myfwc.com/conservation/special-initiatives/lap/>

<sup>610</sup> A Landowner Assistance Program map is available in FFWCC, LANDOWNER ASSISTANCE PROGRAM (2010), at 4, available at <http://myfwc.com/media/122389/LAPApplication.pdf>.

<sup>611</sup> Personal communication with expert.

### *Local initiatives*

Several **local governments** on Florida's Gulf coast have dedicated funding for acquiring conservation lands. With voter approval, local governments have financed these activities alternately with bonds and property and sales tax revenues.<sup>612</sup> While the revenue generated by these local initiatives varies greatly, some have created large pools of dedicated funding. For instance, a 2008 ballot measure in Hillsborough County authorized raising a \$200 million bond for acquiring and preserving land.<sup>613</sup> Although this mechanism for protecting habitat is prevalent on the peninsula, it has not been used by local governments to preserve coastal lands on the panhandle.<sup>614</sup>

### *Federally protected places*

Several federal programs are important for protecting lands near Florida's Gulf coast. The U.S. Fish and Wildlife Service manages 19 **National Wildlife Refuges** in coastal areas.<sup>615</sup> The National Park Service manages three areas: **Gulf Shores National Seashore**, **Everglades National Park**, and **Dry Tortugas National Park**.<sup>616</sup> NOAA manages the **Florida Keys National Marine Sanctuary** (discussed further under *Coral Reefs*).

## **vi. Coastal Management**

*To implement the federal CZMA, the Florida Coastal Zone Management Act commands FDEP to develop a statewide coastal management program.*<sup>617</sup> *The Department also provides technical assistance to local governments as they incorporate coastal zone protection into local plans. In 2005, the Ocean and Coastal Resources Act created an interagency Council that coordinates research priorities for ocean and coastal science.*<sup>618</sup> *Statewide planning efforts and laws also influence planning on Florida's Gulf coast. Under the Florida State Comprehensive Planning Act, the state comprehensive plan includes habitat-related goals.*<sup>619</sup> *The Local Government Comprehensive Planning and Land Development Act mandates the adoption of local plans, which must comply with the state plan.*<sup>620</sup> *At the same time, state property rights laws – most notably, the Bert J. Harris, Jr., Private Property Rights Protection Act<sup>621</sup> – restrict land-use regulation.*

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<sup>612</sup> Conservation Almanac, *Florida Land Vote Data*, <http://www.conservationalmnanc.org/secure/almanac/southeast/fl/lvdata.html>.

<sup>613</sup> *Id.*

<sup>614</sup> Conservation Almanac, *Land Conservation in Florida*, <http://www.conservationalmnanc.org/secure/almanac/southeast/fl/fl.html>.

<sup>615</sup> Fish and Wildlife Service, *Florida Map*, <http://www.fws.gov/refuges/refugeLocatorMaps/Florida.html>.

<sup>616</sup> National Park Service, *Florida Map*, <http://www.nps.gov/state/fl/index.htm?program=parks>.

<sup>617</sup> FLA. STAT. § 380.22.

<sup>618</sup> FLA. STAT. § 161.73.

<sup>619</sup> FLA. STAT. §§ 186.001 *et seq.*

<sup>620</sup> FLA. STAT. §§ 163.3161 *et seq.*

<sup>621</sup> FLA. STAT. § 70.001.

The **Florida Coastal Management Act** required FDEP to develop a statewide coastal management program that meets the federal CZMA standards.<sup>622</sup> In addition, local governments must incorporate coastal zone protection into their local plans, guiding local decisions towards the following goals: maintaining viable wildlife populations, restoring the coastal environment, “employing ecological planning principles,” and others.<sup>623</sup> As local authorities undertake this planning process, they may receive technical assistance from the state. The Coastal Management Act also orders FDEP to establish a county-based process for acquiring coastal property.<sup>624</sup>

In practice, the Florida Coastal Management Program is implemented through a network of district offices and WMDs, which coordinate consistency reviews of federal activities. The State Clearinghouse in Tallahassee coordinates consistency reviews on federal offshore activities. It also runs the Coastal Partnership Initiative Grants Program, which provides funds for a variety of projects, including local community-based restoration, local planning efforts, and invasive species removal.<sup>625</sup> One recent trend has been to provide increasing funds for community resiliency planning to help coastal communities prepare for disasters and sea level rise.<sup>626</sup>

One challenge in managing Florida’s long coastline is that there is no central clearinghouse for research, conservation, and restoration activities for the more than 400 local governments in the state’s coastal zone.<sup>627</sup> One expert noted that there is no concerted effort to coordinate coastal habitat activities across the several agencies with active programs; although field staff work together closely, coordination decreases farther up the chain of command.<sup>628</sup>

Florida passed the **Oceans and Coastal Resources Act** in 2005 to promote ecosystem-based management, conservation and restoration of coastal and ocean habitats within state jurisdiction, and other goals.<sup>629</sup> The Florida Oceans and Coastal Council, an interagency body headed by FDEP, leads the efforts to achieve these goals.<sup>630</sup> The Council has three primary responsibilities: reviewing current research initiatives, developing a research plan to guide the legislature’s funding decisions, and assessing the ecological state and human uses of state coastal and ocean areas.<sup>631</sup> The Council has completed the research review, which is available online.<sup>632</sup> The research plan may address several conservation and research goals, such as developing new methods for protecting and restoring coral reefs or improving watershed-based management to protect coastal ecosystems. The Act also identifies possible research priorities that are less directly related to conservation and restoration, such as

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<sup>622</sup> FLA. STAT. § 380.22.

<sup>623</sup> FLA. STAT. § 380.24.

<sup>624</sup> FLA. STAT. § 380.22.

<sup>625</sup> NOAA, FINAL EVALUATION FINDINGS, FLORIDA COASTAL MANAGEMENT PROGRAM, JUNE 2004 THROUGH AUGUST 2007 (2008), available at <http://coastalmanagement.noaa.gov/mystate/docs/floridacmp2008.pdf>.

<sup>626</sup> Personal communication with expert.

<sup>627</sup> Personal communication with expert.

<sup>628</sup> Personal communication with expert.

<sup>629</sup> FLA. STAT. § 161.72.

<sup>630</sup> FLA. STAT. § 161.73.

<sup>631</sup> FLA. STAT. § 161.74.

<sup>632</sup> Florida Oceans and Coastal Council, Research Review, <http://ocean.floridamarine.org/focc/overview.cfm>.

exploring ocean-based renewable energy technologies. The Council created its initial research plan through a complex collaborative process, and updates the plan annually by asking agencies for input about adjustments.<sup>633</sup>

The Council is also intended to support the development of creative public-private partnerships and coordinate with federal agencies to maximize funding opportunities.<sup>634</sup> However, the Council has only received appropriations to fund research projects in one year since it was created.<sup>635</sup> Although there is no statutory mandate for the Council to undertake basic research itself, it has published several studies on topics such as the effects of climate change on the Florida coast.<sup>636</sup> The Council and FDEP are both empowered to issue rules to implement this law,<sup>637</sup> although no regulations have been issued to date.

Florida's general planning laws also guide management activities on the Gulf coast. The **Local Government Comprehensive Planning and Land Development Act** requires county and municipal governments to adopt comprehensive plans.<sup>638</sup> Each plan must include a conservation element that “[c]onserves, appropriately uses, and protects fisheries, wildlife, wildlife habitat, and marine habitat and restricts activities known to adversely affect the survival of endangered and threatened wildlife,” and directs future growth away from wetlands.<sup>639</sup>

As of June 2, 2011, the legislature overhauled the process for developing and amending local comprehensive plans. Previously, the Florida Department of Community Affairs had the duty to approve all plans and most plan amendments.<sup>640</sup> However, recent legislation dismantled the Florida Department of Community Affairs, moving the state planning staff to a new Florida Department of Economic Opportunity within the Governor's Office.<sup>641</sup> Rather than performing a mandatory duty to review and approve plan amendments, the state planning office now has the option to review certain plan amendments and object; if the local government adopts an amendment over the objection of the state planning agency, the state may demand compliance through an administrative process.<sup>642</sup> FFWCC has been active in its role as a reviewing agency for local comprehensive plans.<sup>643</sup> Even after the revisions to the law, FFWCC retains the ability to comment on the habitat impacts of proposed plan amendments.<sup>644</sup>

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<sup>633</sup> Personal communication with expert. The most recent plan is available online. FLORIDA OCEANS AND COASTAL COUNCIL, ANNUAL SCIENCE RESEARCH PLAN: 2011–2012, available at [http://www.dep.state.fl.us/oceanscouncil/reports/Research\\_Plan\\_FY11-12.pdf](http://www.dep.state.fl.us/oceanscouncil/reports/Research_Plan_FY11-12.pdf).

<sup>634</sup> FLA. STAT. § 161.72(3).

<sup>635</sup> Personal communication with expert.

<sup>636</sup> These reports are available at Florida Oceans and Coastal Council, *Reports and Products*, <http://www.floridoceanscouncil.org/reports/default.htm>.

<sup>637</sup> FLA. STAT. §161.75.

<sup>638</sup> FLA. STAT. §§ 163.3161 *et seq.*

<sup>639</sup> FLA. STAT. § 163.3177(1)(d).

<sup>640</sup> TOM PELHAM, FLORIDA COMPREHENSIVE PLANNING SYSTEM ENCOUNTERS STORMY WEATHER (2011), available at [http://www.americanbar.org/content/dam/aba/publications/state\\_and\\_local\\_law\\_news/pelham\\_summer11.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/publications/state_and_local_law_news/pelham_summer11.authcheckdam.pdf).

<sup>641</sup> *Id.*

<sup>642</sup> FLA. STAT. § 163.3184.

<sup>643</sup> Personal communication with expert.

<sup>644</sup> FLA. STAT. § 163.3184.



Under the **Florida State Comprehensive Planning Act**, the state comprehensive plan guides local planning efforts.<sup>645</sup> The comprehensive plan includes several goals and policies related to habitat conservation. Goals specifically related to coastal and marine resources include not subsidizing development in high-hazard coastal areas; preventing adverse impacts from development to coastal, marine, and dune resources; “[p]rotect[ing] and restor[ing] long-term productivity of marine fisheries habitat”; and preventing “development and other activities which disturb coastal dune systems” while facilitating damaged coastal dune restoration.<sup>646</sup> In all areas, the Planning Act sets the goal of “[p]rohibit[ing] the destruction of endangered species and protect their habitats.”<sup>647</sup>

Florida has two property rights laws that restrict the ability of state or local governments to impose habitat conservation regulations. First, the **Florida Land Use and Environmental Dispute Resolution Act** allows property owners to seek relief when an order or enforcement action “is unreasonable or unfairly burdens the use of” real property.<sup>648</sup> Property owners have a right to a hearing before a special magistrate, whose first role is to act as a mediator between the parties. If no mediated resolution is reached, the special magistrate determines whether there has been an unreasonable or unfair burden on property; the landowner may sue if the government entity does not accept the magistrate’s recommendation.

Second, the **Bert J. Harris, Jr., Private Property Rights Protection Act** entitles property owners to compensation if state or local government “inordinately burdens” an existing use (or vested right to a specific use) of real property.<sup>649</sup> An inordinate burden occurs when the owner is permanently unable to attain the “reasonable, investment-backed expectation” for the property or the property owner permanently bears a disproportionate burden for the public good. Thus, the Act creates a cause of action for government actions that do not constitute a taking under state or federal law. A 2008 study found that Florida’s property rights legislation – particularly the Bert Harris Act – has “made it virtually impossible for government to adopt and enforce new land use or environmental regulations.”<sup>650</sup>

## vii. **Accident Response**

Florida acts as a trustee for NRDA litigation under federal laws such as OPA and CERCLA as well as in accordance with state law.<sup>651</sup> In accordance with federal and state laws, Florida requires responsible parties to pay for the cost of restoration to damaged natural resources or otherwise undertake the restoration to recover resources to the baseline conditions prior to the spill. In Florida, the Department of the Environment serves as the state trustee in natural resource damage assessment cases. Different divisions handle different types of cases. The Bureau of Emergency Response addresses coastal oil spills,

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<sup>645</sup> FLA. STAT. § 186.001 *et seq.*

<sup>646</sup> FLA. STAT. § 187.201(8).

<sup>647</sup> FLA. STAT. § 187.201(9).

<sup>648</sup> FLA. STAT. § 70.51.

<sup>649</sup> FLA. STAT. § 70.001.

<sup>650</sup> John D. Echeverria & Thekla Hansen-Young, *The Track Record on Takings Legislation: Lessons from Democracy’s Laboratories* (Georgetown Environmental Law & Policy Institute, 2008), at 14, available at [http://scholarship.law.georgetown.edu/gelipi\\_papers/1](http://scholarship.law.georgetown.edu/gelipi_papers/1).

<sup>651</sup> Florida State Code § 376.121, Liability for damage to natural resources.

and the Division of Waste Management handles hazardous waste discharges. Florida actively pursues NRDA claims. For example, the Bureau of Emergency response has settled more than 2,500 cases.<sup>652</sup>

#### ***Deepwater Horizon Oil Spill Restoration in Florida***

Florida provides substantial information about the NRDA process occurring in Florida in response to the *Deepwater Horizon* oil spill.<sup>653</sup> As of September 2011, Florida had received 214 project ideas for restoration. Of those, 152 projects meet criteria related to early restoration. A full list as well as the list of projects meeting the appropriate criteria can be viewed from Florida's DEP website. Selected projects still under consideration for early restoration include urban stormwater retrofits, threatened and endangered species monitoring, oyster reef restoration, seagrass restoration, boat ramp enhancement, beach nourishment, stream restoration, wetlands restoration, artificial reef construction, dune restoration and more.

#### **viii. Water Quality**

*The Florida Air and Water Pollution Control Act creates a regulatory scheme that complies with the federal Clean Water Act.<sup>654</sup> The Water Resources Restoration and Preservation Act establishes a restoration and conservation program for the state's bodies of water. FDEP must allocate funds according to the degree of water quality degradation, potential public use of the waters, the ecological value of the waters, and other factors.<sup>655</sup> Florida created additional mechanisms for water quality conservation and restoration with the Water Resources Restoration and Preservation Act,<sup>656</sup> as well as the Surface Water Improvement and Management Act.<sup>657</sup> Finally, the state created a Harmful Algal Bloom Task Force to develop research priorities and make management recommendations relating to red tide.<sup>658</sup>*

The **Florida Air and Water Pollution Control Act** requires FDEP to adopt water quality standards and establish a permitting system for water pollution.<sup>659</sup> The Department's standards must be *at least as strict* as the U.S. EPA's for it to assume permitting responsibilities under the federal Clean Water Act. However, before adopting a standard that is *more* stringent than the federal standard, the Department must conduct a study of economic and environmental costs and benefits.<sup>660</sup> The Department is responsible for enforcing permit conditions and may inspect licensed facilities at any reasonable time.<sup>661</sup> Violations may be redressed through administrative, civil, or criminal processes.<sup>662</sup> One expert noted that enforcement has been more effective for water discharge permits than other types of permits

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<sup>652</sup> ISRAEL, *supra* note 233.

<sup>653</sup> Florida Department of Environmental Protection, Restoration, [http://www.dep.state.fl.us/deepwaterhorizon/about\\_restoration.htm](http://www.dep.state.fl.us/deepwaterhorizon/about_restoration.htm).

<sup>654</sup> FLA. STAT. §§ 403.011 *et seq.*

<sup>655</sup> FLA. STAT. §§ 403.0615.

<sup>656</sup> FLA. STAT. § 403.0615.

<sup>657</sup> FLA. STAT. §§ 373.451–.4595.

<sup>658</sup> FLA. STAT. § 379.2271.

<sup>659</sup> FLA. STAT. § 403.061.

<sup>660</sup> FLA. STAT. § 403.804.

<sup>661</sup> FLA. STAT. § 403.091.

<sup>662</sup> FLA. STAT. § 403.121–161.

because monitoring requirements are included in the permits.<sup>663</sup> One expert noted the difficulties posed by outfalls grandfathered into the system.<sup>664</sup>

In a separate chapter devoted to governance of the state's surface waters, the legislature authorized FDEP to set special standards for discharge into wetlands.<sup>665</sup> Under this authority, the Department has requirements for wetland stormwater discharge facilities.<sup>666</sup>

The **Water Resources Restoration and Preservation Act** amended the Florida Air and Water Pollution Control Act to establish a restoration and conservation program for state water bodies.<sup>667</sup> FDEP is supposed to allocate funds according to the degree of water quality degradation, potential public use of the waters, the ecological value of the waters, local funding commitments, and other factors.<sup>668</sup> Funds for the program come from the state general fund, the federal government, and the Ecosystem Management and Restoration Trust Fund.<sup>669</sup> The Trust Fund receives monies recovered due to violations of water pollution, water use, and coral reef protection laws.<sup>670</sup> Historically, FDEP has used this Trust Fund for a variety of activities related to ecosystem restoration and management; however, during the 2010-11 fiscal year, the state legislature authorized the transfer of funds to the General Inspection Trust Fund in the Florida Department of Agriculture and Consumer Services.<sup>671</sup>

The **Tampa Bay National Estuary Program** has also been active in managing nutrients at their source.<sup>672</sup>

The **Surface Water Improvement and Management (SWIM) Act** created an opportunity for Florida's five WMDs to participate in restoration activities.<sup>673</sup> The goal of the program is to improve water quality and associated natural systems in the state's surface waters.<sup>674</sup> The WMDs may maintain lists of priority water bodies and create plans for managing and improving the water bodies they identify.<sup>675</sup> While the WMDs generally exercise discretion over how to prioritize their activities, the Southwest Florida Water Management District is statutorily required to prioritize Tampa Bay over other water bodies within its jurisdiction.<sup>676</sup> The Southwest Florida WMD has also created SWIM plans for Sarasota Bay, Charlotte Harbor, Crystal River/Kings Bay, Rainbow River, and some freshwater lakes.<sup>677</sup> Provisions on the review, approval, and implementation of the management plans were repealed in 2003.<sup>678</sup> The legislature may

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<sup>663</sup> Personal communication with expert.

<sup>664</sup> Personal communication with expert.

<sup>665</sup> FLA. STAT. § 373.414.

<sup>666</sup> FLA. ADMIN. CODE § 62-25.042.

<sup>667</sup> FLA. STAT. § 403.0615.

<sup>668</sup> FLA. STAT. § 403.0615(3).

<sup>669</sup> FLA. STAT. § 403.0615(2).

<sup>670</sup> FLA. STAT. § 403.1651(2).

<sup>671</sup> FLA. STAT. § 403.1651.

<sup>672</sup> Personal communication with expert.

<sup>673</sup> FLA. STAT. §§ 373.451–4595.

<sup>674</sup> FLA. STAT. § 373.451.

<sup>675</sup> FLA. STAT. § 373.453.

<sup>676</sup> FLA. STAT. § 373.453(1)(c)(2).

<sup>677</sup> SWIM, *About SWIM*, <http://www.swfwmd.state.fl.us/projects/swim/>.

<sup>678</sup> FLA. STAT. § 373.455-57 (repealed).

appropriate funds for improvement and management activities under the Act, but the WMDs must provide at least 50% matching funds.<sup>679</sup> According to one expert, a weakness of this program is that it sometimes funds the creation of wetland habitat in important upland habitats.<sup>680</sup>

The Florida legislature created a **Harmful Algal Bloom Task Force** of scientists, economists, citizens, and government officials on red tide and other harmful algal blooms in state waters.<sup>681</sup> The Task Force must develop research priorities for detecting, predicting, mitigation and controlling algal blooms and make recommendations to state and local government action. Guided by Task Force recommendations, the Fish and Wildlife Conservation Commission conducts a variety of red tide research and monitoring projects.<sup>682</sup>

#### ix. Water Quantity

In 1972, the **Florida Water Resources Act** created five Water Management Districts (WMDs), which are tasked with overseeing and planning for the resources within their boundaries. Four of the WMDs cover areas of the Gulf coast: Northwest Florida, Suwannee River, Southwest Florida, and South Florida. The Department of Environmental Protection supervises the WMDs, and has deleted several authorities and programs to them. In addition to developing water management plans for water shortages, they also administer consumptive uses, aquifer recharge, well construction, and surface water management programs.<sup>683</sup>

The Department of Environmental Protection developed the **Florida Water Plan** and updates it on a five-year cycle. The relevant regulations state that the Plan must include, among other things, the Department's relevant programs, activities, and water quality standards; WMD water management plans; the water program development regulations; water management goals and responsibilities; and statewide water management implementation strategies.<sup>684</sup> In turn, each WMD is required to assess its water supplies every five years and develop a district water management plan based on a minimum twenty-year planning period. If it chooses, a WMD may substitute an annual strategic plan (with accompanying work plan) that contains priorities for at least a five-year period.<sup>685</sup>

By statute, local governments are required to establish comprehensive plans that include water supply planning elements. After a governing board approves an updated regional water supply plan, the local governments have 18 months to appropriately update and coordinate their own plans.<sup>686</sup>

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<sup>679</sup> FLA. STAT. § 373.459.

<sup>680</sup> Personal communication with expert.

<sup>681</sup> FLA. STAT. § 379.2271.

<sup>682</sup> FFWCC, *HAB Research*, <http://myfwc.com/research/redtide/research/>.

<sup>683</sup> FDEP, *Water Management Districts*, <http://www.dep.state.fl.us/water/waterpolicy/districts.htm>.

<sup>684</sup> *Id.*; FDEP Rules Ch. 62-40 (2006), available at <http://www.dep.state.fl.us/legal/Rules/shared/62-40/62-40.pdf>.

<sup>685</sup> FLA. STAT. § 373.036.

<sup>686</sup> FLA. STAT. § 163.3177(1), (6)(c)(3); Florida Department of Community Affairs, Division of Community Planning, Water Supply Planning, Ten-Year Water Supply Facilities Work Plans, <http://www.dca.state.fl.us/fdcp/DCP/WaterSupplyPlanning/index.cfm>.

x. **Invasive species**

The FWCC is the agency with primary responsibility for controlling invasive plants and animals. Under the **Florida Aquatic Weed Control Act**, FWCC has authority to “direct the control, eradication, and regulation of noxious aquatic weeds and direct the research and planning” to further certain goals.<sup>687</sup> The **Florida Aquatic Plant Management Act** creates a permitting scheme for importing, transporting, selling, growing, or possessing aquatic plants. Nobody may engage in these activities without a permit from FWCC, which maintains a list of prohibited aquatic plants.<sup>688</sup> The FWCC can also use funds from the Invasive Plant Control Trust Fund to eradicate or manage invasive plant species on public lands, and commission research on the control of exotic plants.<sup>689</sup> In fiscal year 2010-11, over \$32 million was deposited in this fund, with over \$24 million of the revenue coming from a document stamp tax.<sup>690</sup>

The Florida **Department of Agriculture and Consumer Services** has authority to control the introduction, movement, and spread of plant pests, noxious weeds, and arthropods.<sup>691</sup> People must also obtain a permit from the Department in order to raise nonindigenous species in aquaculture.<sup>692</sup>

**Water management districts** are also active in controlling aquatic invasive species. The Southwest Florida Water Management District (SWFWMD) cooperates with FWCC and DEP to manage water hyacinth, hydrilla, and water lettuce; these activities are funded by FWCC under the Florida Aquatic Weed Control Act framework.<sup>693</sup> SWFWMD’s SWIM Program (discussed above under *Water Quality*) combines invasive species management with other preservation and restoration measures.<sup>694</sup> The Florida Department of Transportation’s wetlands mitigation program funds invasive species removal and the replanting of native vegetation; this project is managed by the Department of Transportation and SWFWMD.<sup>695</sup>

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<sup>687</sup> FLA. STAT. § 369.20. Note that the FDEP held this role until 2008.

<sup>688</sup> FLA. STAT. § 369.25. Note that the FDEP held this role until 2008.

<sup>689</sup> FLA. STAT. § 369.252.

<sup>690</sup> FFWCC, STATUS OF TRUST FUNDS AS OF AUGUST 2011, *supra* note 570, at 5–6.

<sup>691</sup> FLA. STAT. § 581.031(5).

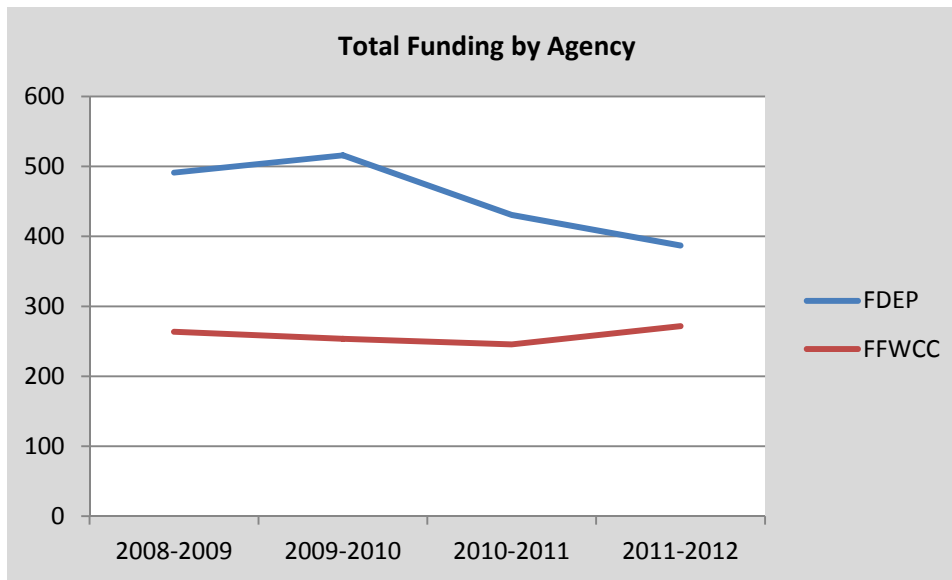
<sup>692</sup> FLA. STAT. § 597.003(1)(h).

<sup>693</sup> SWFWMD, *Aquatic Plant Management*, <http://www.swfwmd.state.fl.us/projects/aquaticplants/>.

<sup>694</sup> NATIONAL CENTER FOR ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL PROTECTION AGENCY, EFFECTS OF CLIMATE CHANGE ON AQUATIC INVASIVE SPECIES AND IMPLICATIONS FOR MANAGEMENT AND RESEARCH A-33 (Feb. 2008).

<sup>695</sup> *Id.*

## II. Institutions



### i. Florida Department of Environmental Protection (FDEP)

#### Scope:

In 1993 the Florida Legislature merged the Department of Environmental Regulation with the Department of Natural Resources to form FDEP. FDEP is currently the lead state agency for environmental management and stewardship. It administers the state's permitting and regulatory programs for air, water, and waste management; land and water conservation programs; and Coastal Management Program. The department has more than 30 cross-cutting programs relating to a variety of environmental concerns such as air resources management, coastal management, state lands, state parks, law enforcement, water and wetlands.<sup>696</sup>

The Air program implements the federal Clean Air Act to monitor the state's air quality and to issue permits regulating major and minor facilities based on emissions. It also administers pollution control programs and implements the relevant portions of the Florida Air and Water Pollution Control Act.

The Coastal program is composed of several programs and offices. The federally approved Florida Coastal Management Program draws from 24 statutes and coordinates a network of agencies to maintain Florida's coastal resources; among other things, it protects beach access and administers the Coastal and Estuarine Land Conservation Program in partnership with federal authorities. Together with the Florida Fish and Wildlife Conservation Commission, the FDEP Coastal program supports the Florida

<sup>696</sup> See generally FDEP, <http://www.dep.state.fl.us/>. The remainder of the "Scope" section is derived from information available on the FDEP website.

Oceans and Coastal Resources Act through the Oceans and Coastal Resources Council. The Council is responsible for developing priorities for ocean and coastal research and for establishing a statewide ocean research plan. The Council comprises appointees from FDEP, FFWCC, and the Florida Department of Agriculture and Consumer Services, and includes both government staff and representatives from private industry.

The Coastal program also administers the Florida Coastal Management Act. The Office of Coastal and Aquatic Management Areas oversees Florida's 41 aquatic preserves and the state Aquatic Preserves Program, three National Estuarine Research Reserves, the Florida Keys National Marine Sanctuary, and the state's coral reefs.

The Division of State Lands administers the *Florida Forever* program, the primary conservation and recreation land acquisition program in the state. The division oversees the management for activities on more than 12 million acres of public lands, including lakes, rivers and islands. It also assists landowners selling land to the state, buying land from the state, or those who wish to gain access to public lands. The division is also responsible for oversight of the Florida Land Acquisition Trust Fund.

The State Parks program oversees Florida's 160 state parks. They implement management plans for all of the parks and head the Florida Recreation and Development Assistance Program.

The Division of Law Enforcement is responsible for the enforcement of Florida's environmental laws and regulations and for the detection and investigation of suspected violations. They have 131 field officers and investigators that engage in emergency response, criminal investigations, and patrol of the 160 state parks under the Park Police bureau. They are the division within the FDEP that participates in Florida's Environmental Response Team, a multi-agency team created to respond to environmental emergencies anywhere in the state.

Finally, the Water Program works on surface and ground water quality in state drinking waters, rivers, lakes, wetlands, and submerged lands, including the Florida Everglades. They implement the CWA, the Water Resources Restoration and Preservation Act, and various other programs relating to water quality and protection. The program also works to preserve beaches and to control coastal erosion. The FDEP is divided into five water management districts, which are dedicated to preservation and management of the state's water resources. The water management districts review and take action on state-owned submerged land authorizations and Environmental Resource Program permit applications involving solid and hazardous waste, mining, sea ports, dredge and fill, and other water-related activities.

**Contact:**

Department of Environmental Protection

Location: 3900 Commonwealth Boulevard M.S. 49, Tallahassee, Florida 32399

Website: <http://www.dep.state.fl.us/>

Phone: 1 850-245-2118

Email: [stephanie.bailenson@dep.state.fl.us](mailto:stephanie.bailenson@dep.state.fl.us)

**Budget:**

Funding comes from a combination of Federal, state and local sources. In February 2011, Florida Governor Rick Scott proposed cutting the budget for environmental protection by \$148 million as part of drastic budget restructuring. He reduced funding for the Florida Forever program to zero, and directed water management districts to reduce their budgets by 25 percent.<sup>697</sup>

*Appropriations by Division for FY2008-2011 (in millions of dollars)*<sup>698</sup>

<b>Program/Division</b>	<b>FY 2008-09</b>	<b>FY 2009-10</b>	<b>FY 2010-11</b>	<b>FY 2011-12</b>
Administrative Services	41.58	40.93	42.15	41.77
Air Resources Management				
<i>Air Assessment</i>	7.32	7.84	8.37	
<i>Air Pollution Prevention</i>	9.90	10.49	10.36	
<i>Air Resources Management</i>				19.90
<i>Utilities Siting and Coordination</i>	0.45	0.44	0.48	0.48
District Offices				
<i>Air Assessment</i>	0.97	0.98	0.95	
<i>Air Pollution Prevention</i>	5.53	5.40	5.30	6.49
<i>Executive Direction and Support Services</i>	8.21	8.09	8.05	7.84
<i>Waste Cleanup</i>	0.12	0.17	0.16	
<i>Waste Control</i>	10.72	10.91	10.73	10.98
<i>Water Resource Protection and Restoration</i>	29.96	29.64	28.60	30.85
Environmental Assessment and Restoration				
<i>Water Science and Laboratory Services</i>	20.29	20.09	19.46	20.73
Law Enforcement				
<i>Emergency Response</i>	15.60	14.58	14.99	14.97
<i>Environmental Investigation</i>	6.21	5.94	6.60	5.43
<i>Patrol on State Lands</i>	7.23	6.90	7.93	7.22
Recreation and Parks				
<i>Coastal and Aquatic Managed Areas</i>	12.39	11.33	12.04	16.83
<i>Land Management</i>	6.72	5.88	6.00	5.69
<i>Recreational Assistance to Local Governments</i>	1.66	1.67	1.60	1.40
<i>State Park Operations</i>	77.71	79.26	80.50	74.18
State Lands				
<i>Land Administration</i>	56.34	5.60	26.65	5.86
<i>Land Management</i>	58.87	57.80	40.74	41.24
Waste Management				
<i>Waste Cleanup</i>	30.12	115.38	30.58	
<i>Waste Control</i>	26.41	29.36	27.22	

<sup>697</sup> William E. Gibson, *Budget cuts likely to kill Florida environmental programs; even Everglades restoration in danger*, PALM BEACH POST NEWS, Feb. 28, 2011, <http://www.palmbeachpost.com/news/budget-cuts-likey-to-kill-florida-environmental-programs-1287635.html>; see also Florida Governor Rick Scott, Policy and Budget Recommendations, Fiscal Years 2011-2012 and 2012-2013, Agencies: Environmental Protection, Comparison to Current Year Budget 2010-11, <http://letsgettowork.state.fl.us/BDServices.aspx?ai=37000000>.

<sup>698</sup> Transparency Florida, Reports: Compare Appropriations—Department of Environmental Protection, <http://www.transparencyflorida.gov/AppropComparisonReport.aspx>.



Waste Management				45.94
Water Resource Management				
Beach Management	8.94	18.95	8.14	4.89
Water Resource Management				25.65
Water Resource Protection and Restoration	41.85	23.65	27.55	0.43
Water Supply	6.02	4.53	5.13	
<b>Total</b>	<b>491.12</b>	<b>515.82</b>	<b>430.27</b>	<b>388.35</b>

**Staff:**

Staff Positions Budgeted for FY 2010-2011, and Governor's Recommendations for 2011-2013<sup>699</sup>

Program/Division	FY 2010-11*	FY 2011-12**	FY 2012-13**
Administrative Services	399.5	0	0
Air Resources	87	0	0
District Offices	805	0	0
Environmental Assessment & Restoration	181	0	0
Environmental Law Enforcement	0	172.5	172.5
Environmental Protection	0	1,512	1,512
Executive Direction and Support Services	0	440	440
Law Enforcement	181.5	0	0
Natural Resource Preservation and Recreation	0	1,307	1,307
Recreation and Parks	1,220	0	0
State Lands	144	0	0
Waste Management	237	0	0
Water Resource Management	296.5	0	0
<b>TOTALS</b>	<b>3,551.5</b>	<b>3,431.5</b>	<b>3,431.5</b>

\* Current Year Budget FY 2010-2011

\*\* Governor's Recommendations for FY 2011-12 and FY 2012-13

**ii. Florida Fish and Wildlife Conservation Commission (FFWCC)**

**Scope:**

FFWCC was constitutionally established in 1999 through the merger of several state entities. Its primary responsibility is managing the state's fish and wildlife for the continuing benefit and well-being of the state's population. It issues licenses and permits, researches and monitors fauna and habitats, and enforces relevant laws. It has six divisions: the Fish and Wildlife Research Institute, Freshwater Fisheries Management, Habitat and Species Conservation, Hunting and Game Management, Marine Fisheries Management, and Law Enforcement.<sup>700</sup>

The Fish and Wildlife Research Institute is focused on obtaining data relevant to natural resource managers and stakeholders. It monitors marine and freshwater resources, wildlife and habitats, develops and implements techniques for restoring plant and animal species and their habitats, offers technical support for oil spills, and monitors red tides.

<sup>699</sup> Florida Governor Rick Scott, Policy and Budget Recommendations: FDEP, *supra* note 697.

<sup>700</sup> See generally FFWCC, About FWC, <http://myfwc.com/about/>.

The Division of Freshwater Fisheries Management provides expertise on freshwater fish populations, angler use, and other aspects needed for management decisions. They engage in aquatic education and outreach and oversee hatching and stocking operations.

The Habitat and Species Conservation Division seeks to maintain or enhance fish and wildlife populations by focusing on ecosystem-level scales and incorporating scientific data in applied habitat management practices. It manages aquatic habitats (marine, estuarine, and freshwater), acquires lands, supports habitat-related efforts undertaken by other entities, establishes and implements species management and recovery plans, helps with invasive species, and supports manatee and sea turtle species recovery. This division oversees the Fish and Wildlife Habitat Program and the Florida Manatee Sanctuary Act. It deposits revenue from marine activities (licensing fees, fines, etc.) into the Marine Resources Conservation Trust Fund, and is responsible for researching and managing activities for endangered or threatened species under the Florida Endangered and Threatened Species Act.

The Division of Hunting and Game Management is responsible for safe and responsible use of hunted wildlife species. It is tasked with implementing game wildlife management strategies, offering scientific expertise on hunted species, providing hunter safety and certification services, and developing regulations.

The Marine Fisheries Management Division develops regulatory and management recommendations for Florida's marine fisheries resources. It facilitates the state's Artificial Reef Program and undertakes activities relating to recreational and commercial marine fisheries outreach and education.<sup>701</sup>

The Division of Law Enforcement makes up roughly half of FFWCC's staff. It is responsible for enforcing compliance with fishing and hunting regulations, wildlife laws, and boating safety laws. The division issues captive wildlife permits and also operates a hotline for reporting suspected environmental violations.

**Contact:**

Florida Fish and Wildlife Conservation Commission

Location: 620 South Meridian Street, Tallahassee, FL 32399-1600

Website: <http://myfwc.com/>

Executive Director: Nick Wiley

**Budget:**

As explained previously, there have been significant budget cuts in the state of Florida that will likely affect future appropriations for environmental institutions. Funding comes from a combination of Federal, state and local sources.<sup>702</sup>

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<sup>701</sup> *Id.*; FFWCC, Habitat and Species Conservation, <http://myfwc.com/about/inside-fwcc/hsc/>.

Appropriations by division for FY2008–2011 (in millions of dollars)<sup>703</sup>

Program	FY 2008-09	FY 2009-10	FY 2010-11	FY 2011-12
Executive Direction and Administrative/Support Services	34.60	22.02	22.59	22.85
Freshwater Fisheries Management	6.33	7.11	6.44	8.29
Habitat and Species Conservation	87.99	83.30	75.53	81.02
Fish, Wildlife, and Boating Law Enforcement	83.38	90.07	87.19	99.01
Marine Fisheries Management	2.66	3.00	2.90	4.79
Fish and Wildlife Research Institute	43.04	41.92	44.84	49.15
Hunting and Game Management	5.59	6.19	6.17	6.48
<b>Total</b>	<b>263.60</b>	<b>253.61</b>	<b>245.67</b>	<b>271.60</b>

**Staff:**

Staff Positions Budgeted for FY 2010-2011, and Governor’s Recommendations for 2011-2013<sup>704</sup>

Program/Division	FY 2010-11*	FY 2011-12**	FY 2012-13**
Executive Direction and Administrative/Support Services	215.5	197.5	197.5
Fish and Game Management	0	141.5	141.5
Fish, Wildlife, and Habitat Conservation	0	345	345
Freshwater Fisheries	69.5	0	0
Habitat and Species Conservation	354	0	0
Law Enforcement	902.5	840.5	840.5
Marine Fisheries	30	0	0
Research	330.5	325.5	325.5
Wildlife	45	0	0
<b>Total</b>	<b>1,947</b>	<b>1,850</b>	<b>1,850</b>

\* Current Year Budget FY 2010-2011

\*\* Governor’s Recommendations for FY 2011-12 and FY 2012-13

**iii. Florida Water Management Districts**

**Scope:**

Florida’s water management districts were created by the Florida Water Resources Act in 1972, and are responsible for managing the state’s water resources, overseen by FDEP. The regional agencies protect Florida’s water supply, water quality, and natural systems, and provide flood protection. To accomplish these objectives, the districts develop water management plans, acquire and manage lands, and oversee flood protection programs. Their regulatory responsibilities include managing the consumptive use of water, aquifer recharge, well construction, surface water, and stormwater.<sup>705</sup>

<sup>702</sup> Florida Governor Rick Scott, Policy and Budget Recommendations, Fiscal Years 2011-2012 and 2012-2013, Agencies: Fish and Wildlife Conservation Commission, Comparison to Current Year Budget 2010-11, <http://letsgettowork.state.fl.us/BDServices.aspx?ai=77000000>.

<sup>703</sup> Transparency Florida, Reports: Compare Appropriations—Fish and Wildlife Conservation Commission, <http://www.transparencyflorida.gov/AppropComparisonReport.aspx>.

<sup>704</sup> *Id.*

<sup>705</sup> FDEP, Water Management Districts, <http://www.dep.state.fl.us/secretary/watman/default.htm>. See also NFWFMD, About the District, <http://www.nwfwmd.state.fl.us/aboutdistrict.html>; SRWMD, About the District,

There are five water management districts: Northwest Florida (NFWMD), Suwannee River (SRWMD), St. Johns River, Southwest Florida (SWFWMD), and South Florida (SFWMD). All districts except St. Johns River include areas along Gulf coast.<sup>706</sup> Northwest Florida covers approximately 11,305 square miles and contains a population of 1.3 million; Suwannee River covers approximately 7,600 square miles and contains a population of 0.3 million; Southwest Florida covers an area of approximately 10,000 square miles and contains a population of 4.7 million; and South Florida covers an area of approximately 17,930 square miles and contains a population of 7.7 million.<sup>707</sup>

In June 2011, the executive directors of the five water management districts received a memorandum from FDEP, which contained instructions for reducing their annual spending. Among other means of accomplishing this, the districts were directed to refrain from acquiring any new land unless already legally obligated to do so or by authorization from FDEP. The districts were also directed to reduce or eliminate “non-core” activities, including mitigation administration and banking (which could be cost-effectively completed by the private sector) and outreach (potentially duplicate with local government and utility efforts).<sup>708</sup>

The water management districts receive funding from both state and federal funds. State sources for the various districts include ad valorem taxes property taxes and funds from the Water Management Lands Trust Fund, Water Protection and Sustainability Trust Fund, Florida Forever Trust Fund, Environmental Resources Permitting Grants, Wetlands Grants, Save Our Everglades Trust Fund, FDEP, FDOT, FFWCC, and other state revenue; federal sources include the EPA, NOAA, Department of Transportation, Federal Emergency Management Agency, and Natural Resources Conservation Agency.<sup>709</sup>

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<http://www.srwmd.state.fl.us/index.aspx?NID=15>; SFWMD, About Us, <http://www.sfwmd.gov/portal/page/portal/xweb%20about%20us/sfwmd%20about%20us>; SFWMD, Who We Are & What We Do, <http://www.swfwmd.state.fl.us/about/mission/>.

<sup>706</sup> See FDEP, Map—Water Management District & Water Shed Boundaries,

[http://www.dep.state.fl.us/secretary/watman/files/082411/wmds\\_map10.pdf](http://www.dep.state.fl.us/secretary/watman/files/082411/wmds_map10.pdf).

<sup>707</sup> FDEP, Water Management Districts – Summary Tentative Budget Fiscal Year 2011-12,

[http://www.dep.state.fl.us/secretary/watman/files/082411/wmd\\_summary\\_table\\_082111.pdf](http://www.dep.state.fl.us/secretary/watman/files/082411/wmd_summary_table_082111.pdf).

<sup>708</sup> Memorandum on WMD Budget Direction from Jon Steverson, Special Counsel on Policy & Legislative Affairs, to Douglas E. Barr, ED NFWMD, David Still, ED SRWMD, Kirby B. Green, III, ED SJRWMD, David Moore, ED SWFWMD, and Melissa L. Meeker, ED SFWMD (June 16, 2011), available at

[http://www.dep.state.fl.us/secretary/watman/files/008\\_budget\\_direction\\_061611.pdf](http://www.dep.state.fl.us/secretary/watman/files/008_budget_direction_061611.pdf).

<sup>709</sup> NFWMD, *Standard Format Tentative Budget Submission (Pursuant to section 373.536, Florida Statutes)* (Aug. 2011), at 24, available at <http://www.nfwmd.state.fl.us/admin/reports/August1Report11-12.pdf>; SRWMD, *Standard Format Tentative Budget Submission (Pursuant to section 373.536, Florida Statutes)* (Aug. 2011), at 11, available at

[http://www.mysuwanneeriver.com/documents/Administration/Finance/FY2011-](http://www.mysuwanneeriver.com/documents/Administration/Finance/FY2011-2012%20Standard%20Format%20Tentative%20Budget%20Submission%20UPDATE.PDF)

[2012%20Standard%20Format%20Tentative%20Budget%20Submission%20UPDATE.PDF](http://www.mysuwanneeriver.com/documents/Administration/Finance/FY2011-2012%20Standard%20Format%20Tentative%20Budget%20Submission%20UPDATE.PDF); SFWMD, *Standard Format Tentative FY2012 Budget Submission Pursuant to Section 373.536, Florida Statutes* (Aug. 2011), at 35, available at

[http://my.sfwmd.gov/portal/page/portal/xrepository/sfwmd\\_repository\\_pdf/fy2012\\_budget\\_submission\\_august\\_1\\_report.pdf](http://my.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/fy2012_budget_submission_august_1_report.pdf); SWFWMD, *Standard Format Tentative Budget Submission Pursuant to Section 373.536, Florida Statutes* (Aug. 2011), at 47, available at [http://www.swfwmd.state.fl.us/files/database/site\\_file\\_sets/40/FY2012\\_Aug\\_1\\_Report\\_-\\_WEB.pdf](http://www.swfwmd.state.fl.us/files/database/site_file_sets/40/FY2012_Aug_1_Report_-_WEB.pdf).

**Contact:**

Mailing and telephone contact information for the five water management district offices is available at <http://www.dep.state.fl.us/secretary/watman>.

**Budget:**

*Revenue and expenditures by district for FY2009-2012 (in millions of dollars)<sup>710</sup>*

District	Budget Category	FY 2009-10 (Actual)	FY 2010-11 (Adopted)	FY 2011-12 (Proposed)
NFWWMD	Revenues	33.04	119.77	103.00
	Expenditures	30.30	119.77	103.00
SRWMD	Revenues	26.28	56.51	47.12
	Expenditures	26.28	56.51	47.12
SWFWMD	Revenues	255.11	279.81	157.72
	Expenditures	270.02	279.81	157.72
SFWMD	Revenues	595.27	1,076.71	557.10
	Expenditures	627.14	1,076.71	557.10

**Staff:**

*Staff Positions Budgeted for FY 2009-2012<sup>711</sup>*

District	Employee Type	FY 2009-10 (Actual)	FY 2010-11 (Adopted)	FY 2011-12 (Proposed)
NFWWMD	FTE & Contract/Other	120	112	115
SRWMD	FTE & Contract/Other	72	72	66
SWFWMD	FTE, Temp & Contract	891	850	796
SFWMD	FTE	1,842	1,933	1,663

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<sup>710</sup> *Id.*

<sup>711</sup> *Id.*

### III. State Habitat Issues & Causes

Florida <sup>712</sup>	
Issue	Primary Cause
1) Sea level rise – Projected SLR scenarios will profoundly affect natural and developed areas throughout the state, likely resulting in large population shifts and loss of significant ecosystem components (coastal wetlands, barrier islands, biodiversity). Shifting of habitat types upward with SLR will be impeded by existing linear infrastructure.	Policy or regulatory shortcomings
2) Essential Fish Habitat – Essential Fish Habitat is being threatened by numerous human activities, including pipelines and deep-water ports, alteration of freshwater flows, shoreside and watershed population growth and changes in land use patterns, and non-point source contamination. Understanding variable species use of natural and altered habitats is critical to design of restoration projects.	Policy or regulatory shortcomings
3) Water quality degradation and nutrient increases – Bay health, population impacts, and environmental needs of the Tampa Bay watershed is of great importance. Excess nitrogen and pollutants in the Bay are significant issues for estuarine species and habitats (particularly seagrass). Habitat restoration projects are not significant in reducing nutrient loads, but nutrient load reductions are significant to habitat restoration efforts.	Policy or regulatory shortcomings
4) Wetland loss – Loss, degradation and fragmentation of wetlands continues throughout the state. The Tampa Bay region lost 44% of historic emergent wetlands and 81% of historic seagrass extent. Seagrass protection is a priority throughout the state, and more science must be focused on when restoration is appropriate.	Policy or regulatory shortcomings
5) Hydrologic alterations – Occurring throughout FL in the form of mosquito ditching, the most extensive examples seen in south FL/Everglades; upstream alterations result in extreme fluctuations in flows to estuaries and impact estuarine and marine health (FL Bay, 10,000 Islands). Re-establishment of historic flow-ways, sheet flow, and hydroperiods, reducing point discharges, and maintaining flood control are extremely costly and complicated (potentially conflicting) goals. Native plant communities and fire regimes are also affected.	Policy or regulatory shortcomings

<sup>712</sup> Priority issues identified in GMF, HCRT PRIORITY ISSUE RECOMMENDATIONS SYNTHESIS, *supra* note 461, at 17–18. The causes were identified by state staff and provided to the Gulf of Mexico Alliance Habitat Conservation and Restoration in 2010–11 (correspondence on file with author).

6) Oysters – Oyster reef and other hardbottom habitat (e.g. relict limestone) has been identified as a primary concern for protection. Restoration of ecologically-functional replacements for losses of these habitats is complex.	Funding and grant program shortcomings
7) Erosion – Shoreline protection and dune restoration are significant focuses in the FL panhandle.	Policy or regulatory shortcomings
8) Corals – <i>Acropora</i> spp. now listed; corals generally impacted by poor water quality, climate change, heavy use (fishing, diving).	Policy or regulatory shortcomings
a. Occurrence and distribution of corals outside the Florida Keys National Marine Sanctuary are not well-known.	Funding and grant program shortcomings
9) Mangroves – Protected, to some extent, against development but impacted heavily by hydrologic alterations, storms, etc. Mangroves are critical successional species in restoration of emergent wetlands. Mangroves have benefited from a variety of factors (climate change, decreased river discharge, altered tidal flows, and development) that have favored their spread into former salt marsh areas.	Policy or regulatory shortcomings
10) Population Growth – The carrying capacity of the Florida peninsula is questionable; the region’s lagging infrastructure may not support the large, growing population. Issues of concern include water losses, high energy costs, and the footprint on the area by growth in environmentally sensitive areas.	Policy or regulatory shortcomings
11) Fragmented natural areas in urban settings – Ecosystem health (rigor, resiliency, etc.) of landscape fragments maintained by local governmental entities is questionable, and user conflicts for open space (ball parks, etc.) abound.	Policy or regulatory shortcomings
12) Invasive species – Air potato, Brazilian pepper, Australian pine, melaleuca, castor bean, European starling, Cuban anole, domestic cat, and ~4500 other invasive species cause significant problems throughout FL; control is extremely costly and difficult to achieve, eradication is virtually impossible. Nonnative aquatic species, including the Asian green mussel, are spreading.	Funding and grant program shortcomings
13) Karst geology, springs, and aquifers – The major freshwater source for the entire state is threatened by pollutants, nutrients, population growth. Lower groundwater levels resulting from excessive pumping and drought have affected historic groundwater fluxes.	Policy or regulatory shortcomings
14) Monitoring and Assessment – Particularly for large, long-term projects (i.e., CERP), monitoring and comparison to baselines is critical to assess results. Monitoring for both compensatory and noncompensatory restoration projects often is short-term and more often prescribed by “one size fits all” regulatory requirements than by science-based informational needs.	Funding and grant program shortcomings

## E. State Profile: Louisiana’s Legal and Institutional Framework

### I. Laws, Policies, and Programs

	Restoration	Conservation	Research
<b>Wetlands &amp; Estuaries</b>	<ul style="list-style-type: none"> <li>• Coastal Protection, Conservation, Restoration, and Management Act</li> <li>• Coastal Protection and Restoration Fund</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal Protection, Conservation, Restoration, and Management Act</li> <li>• Coastal Protection and Restoration Fund</li> <li>• Coastal Use Permit system</li> <li>• Public trust doctrine</li> <li>• Scenic Rivers Act</li> <li>• Barataria-Terrebonne NEP</li> </ul>	
<b>Beaches &amp; Dunes</b>	<ul style="list-style-type: none"> <li>• Hurricane protection, flood control, and coastal restoration statutes</li> </ul>	<ul style="list-style-type: none"> <li>• Hurricane protection, flood control, and coastal restoration statutes</li> </ul>	
<b>Harvested Species Habitat</b>	<ul style="list-style-type: none"> <li>• Oyster reef restoration</li> <li>• Artificial Reef Development Plan, Council, Fund, and Program</li> <li>• Fishing Enhancement Act</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehensive fisheries regulation</li> </ul>	
<b>Protected Species Habitat</b>		<ul style="list-style-type: none"> <li>• Threatened and endangered species conservation</li> </ul>	<ul style="list-style-type: none"> <li>• Threatened &amp; Endangered Species Conservation</li> </ul>
<b>Protected Places</b>	<ul style="list-style-type: none"> <li>• Duck License, Stamp, and Print Fund</li> </ul>	<ul style="list-style-type: none"> <li>• State wildlife management areas, refuges, sanctuaries, parks, and preserves</li> <li>• Wildlife and Fisheries Conservation Fund</li> <li>• Wildlife Habitat and Natural Heritage Trust</li> <li>• Duck License, Stamp, and Print Fund</li> <li>• Natural areas registry</li> <li>• Landowners for Wildlife Program</li> </ul>	



<b>Coastal Management</b>	<ul style="list-style-type: none"> <li>• State and Local Coastal Resource Management Act</li> <li>• Coastal Protection, Conservation, Restoration, and Management Act</li> <li>• Coastal Protection and Restoration Fund</li> </ul>	<ul style="list-style-type: none"> <li>• State and Local Coastal Resource Management Act</li> <li>• Coastal management program</li> <li>• Coastal Protection, Conservation, Restoration, and Management Act</li> <li>• Coastal Protection and Restoration Fund</li> <li>• Comprehensive coastal protection master plan</li> <li>• Leasing and permitting for activities on submerged lands, consistent with public trust</li> </ul>	<ul style="list-style-type: none"> <li>• Coastal management program</li> </ul>
<b>Accident Response</b>	<ul style="list-style-type: none"> <li>• Oil Spill Prevention and Response Act</li> </ul>	<ul style="list-style-type: none"> <li>• Oil Spill Prevention and Response Act</li> </ul>	<ul style="list-style-type: none"> <li>• Oil Spill Prevention and Response Act</li> </ul>
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>• Respond to violations of Water Control Law</li> </ul>	<ul style="list-style-type: none"> <li>• Under Water Control Law, set water quality standards and issue water pollution permits</li> </ul>	
<b>Water Quantity</b>		<ul style="list-style-type: none"> <li>• Water management planning process under development</li> </ul>	
<b>Invasive Species</b>	<ul style="list-style-type: none"> <li>• Invasive Aquatic Species Management Plan</li> </ul>		<ul style="list-style-type: none"> <li>• Invasive Aquatic Species Management Plan</li> </ul>

In Louisiana, there are three primary agencies and several divisions within the Office of the Governor with authority to oversee activities relevant to Gulf habitat restoration and conservation. The Louisiana Office of the Governor houses the Coastal Protection and Restoration Authority, Office of Coastal Protection and Restoration, and Office of Coastal Activities, which strive to create and implement comprehensive coastal protection plans for all of Louisiana’s coastal areas. The Louisiana Department of Natural Resources works to ensure preservation of the state’s nonrenewable natural resources, with one of their main goals being coastal restoration and management. Louisiana’s Department of Wildlife and Fisheries manages the state’s wildlife and seeks to create and maintain habitat for all species in the state, but particularly coastal species. The Louisiana Department of Environmental Quality oversees permitting for the state’s air, water, and land, and aims to promote responsible care for those resources.

**i. Wetlands & Estuaries**

*Louisiana focuses major attention on wetlands and estuaries due to the massive annual loss of these important habitats. This loss is a result of subsidence, channelization, diversions, levies, oil spills, sea level rise, and other anthropogenic impacts. Louisiana addresses wetland and estuary regulation in its coastal use permits, and it relies on federal funds to engage in restoration efforts. It also focuses its conservation and restoration efforts on officially designated “scenic rivers,” which includes rivers, streams, bayous, and estuaries.<sup>713</sup> The Coastal Protection and Restoration Authority coordinates the state’s policy on conserving and restoring coastal areas in order to protect the state from storm*

<sup>713</sup> LA. REV. STAT. §§ 56:1840 *et seq.*

damage.<sup>714</sup> The Authority funds a variety of projects – including projects to conserve and restore coastal wetlands – with the energy tax revenue that is deposited in the Coastal Protection and Restoration Fund.

### *Restoration and conservation*

The **Louisiana Coastal Protection, Conservation, Restoration and Management Act of 2005** created the Coastal Protection and Restoration Authority (CPRA) and Coastal Protection and Restoration Fund (CRPF). The CRPF receives revenue from oil, gas, and mineral extraction. The state legislature can appropriate money from the fund for a variety of coastal uses, including wetlands restoration, coastal wetland conservation, flood control projects, scientific advancement, and planning.<sup>715</sup> The CPRA is responsible for developing, implementing, and enforcing a comprehensive coastal protection master plan, as well as annual coastal protection plans.<sup>716</sup> The law does not include any specific requirements for how the Authority must address wetland loss. In 2007, the CPRA released the master plan and the legislature approved it;<sup>717</sup> a revised plan is expected in 2012.

The Act also established the Governor’s Advisory Commission on Coastal Protection, Restoration and Conservation. The Commission advises the Governor of Louisiana on coastal protection and restoration, provides a forum for inter-agency and inter-sector collaboration, reviews conditions, trends, and scientific findings, and identifies potential funding sources.<sup>718</sup>

The patchwork of restoration initiatives for coastal Louisiana is discussed below, under *Coastal Management*. To date, experts opine that wetland restoration efforts have improved local ecosystems but made little impact on a statewide scale.<sup>719</sup> In the past, potential liability had been a barrier to using freshwater diversion projects to restore wetlands. Confronting this problem, Louisiana lawmakers approved a constitutional amendment that retroactively limited the state’s liability for property damage from coastal restoration projects to fair market value.<sup>720</sup>

### *Regulatory*

The Louisiana Department of Natural Resources (LDNR) regulates activities that impact wetlands in the coastal zone through the **Coastal Use Permit (CUP)** system (see *Coastal Management* below). The coastal management program has successfully protected wetlands with its regulation of oil and gas channels; for example, channel construction has been limited by the requirement that an applicant

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<sup>714</sup> LA. REV. STAT. §§ 49:214.5.1-4.

<sup>715</sup> LA. REV. STAT. § 49:214.5.4.

<sup>716</sup> LA. REV. STAT. § 49:214.5.2

<sup>717</sup> CPRA, COMPREHENSIVE COASTAL PROTECTION MASTER PLAN FOR LOUISIANA (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>. CPRA is currently developing its 2012 plan. CPRA, Louisiana’s 2012 Coastal Master Plan, <http://coastal.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&nid=150&pnid=0&pid=172&catid=0&elid=0>.

<sup>718</sup> LA. REV. STAT. § 49:214.4.1.

<sup>719</sup> Personal communication with expert.

<sup>720</sup> Personal communication with expert. See also R. H. Caffey & M. Schexnayder, *Fisheries Implications of Freshwater Reintroductions*, INTERPRETIVE TOPIC SERIES ON COASTAL WETLAND RESTORATION IN LOUISIANA, CWPPRA, National Sea Grant Library No. LSU-G-02-003 (2002), at 6, available at <http://lacoast.gov/new/Data/Reports/ITS/Fish.pdf>.

show that directional drilling is not an option before building a channel.<sup>721</sup> However, a major threat to Louisiana’s coastal wetlands remains because the U.S. Army Corps uses only a small fraction of the sediments it dredges from the state’s navigation channels for beneficial uses. This failure to make meaningful beneficial use of the dredged sediment, without providing evidence of a rejection by congress of a specific funding request for complying with the beneficial use requirement, is inconsistent with the state’s coastal management program (discussed further under *Coastal Management*).<sup>722</sup>

Outside of the coastal zone, the state relies on the federal **Clean Water Act** to regulate impacts to wetlands. The Louisiana Department of Environmental Quality (LDEQ) is responsible for certifying that Clean Water Act section 404 permits issued by the Army Corps comply with state law.<sup>723</sup> LDNR, LDWF and other agencies comment on applications. Rather than receiving applications directly from project proponents, LDEQ receives copies of applications from the Army Corps when a certification is necessary.<sup>724</sup> Experts noted that the reevaluation of federal wetlands jurisdiction after the *SWANCC* and *Rapanos* Supreme Court cases has not removed significant wetlands from federal regulation in coastal Louisiana due to the predominance of saltwater wetlands.<sup>725</sup> As for mitigation, one expert noted that the Army Corps’ method of calculating wetlands mitigation is not well adapted to Louisiana’s deltaic systems: by requiring that mitigation wetlands be preserved in perpetuity, the rules give priority to areas that are behind protective features and therefore less valuable.<sup>726</sup>

Louisiana’s laws give force to the **public trust doctrine**, and state that the land underneath state water bodies is state property that must be managed in the public interest.<sup>727</sup> Because unregulated private activity may interfere with other public uses or create hazards, the State Land Office (housed within the Governor’s Division of Administration) must control private encroachments on these underwater lands through a leasing and permitting system.<sup>728</sup> The state Attorney General enforces the law and sues violators.<sup>729</sup>

The **Louisiana Scenic Rivers Act** allows the state to conserve a diverse set of rivers, streams, and bayous – including Gulf estuaries.<sup>730</sup> It guides the management of water bodies that the state legislature has officially designated as “scenic rivers.” LDWF may recommend expanding the scenic rivers system to include additional rivers in undeveloped areas. The Department must also develop a management plan for each scenic river that protects and enhances its wilderness qualities, scenic beauties, and ecological

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<sup>721</sup> Personal communication with expert.

<sup>722</sup> Personal communication with expert.

<sup>723</sup> LA. REV. STAT. § 30:2074.

<sup>724</sup> LDEQ, *Water Quality Certifications*,

<http://www.deq.state.la.us/portal/DIVISIONS/WaterPermits/WaterQualityCertifications.aspx>.

<sup>725</sup> Personal communication with expert.

<sup>726</sup> Personal communication with expert. Provisions on the regulation of mitigation banks are codified at LA. REV. STAT. § 49:214.24(D).

<sup>727</sup> LA. REV. STAT. § 41:1701.

<sup>728</sup> LA. REV. STAT. § 41:1703.

<sup>729</sup> LA. REV. STAT. § 41:1714. For more information on and a history of the public trust doctrine in Louisiana, see James G. Wilkins & Michael Wascom, *The Public Trust Doctrine in Louisiana*, 52 LOUISIANA L. REV. 861 (1992), available at <http://www.lsu.edu/seagrantfish/pdfs/PubTrustDoct.pdf>.

<sup>730</sup> LA. REV. STAT. §§ 56:1840 *et seq.*

regime. In accordance with the management plan, LDWF regulates activities that may detrimentally affect the rivers, such as infrastructure projects, pollution, drilling, construction of nearby buildings, and construction of piers. A few especially destructive activities are banned entirely, including channelization, snagging, and nearby timber clear-cuts. Anybody who violates the law is subject to civil penalties, and criminal penalties apply to intentional violations. The Department must deposit all of these penalties and permit fees into a Scenic Rivers Fund used for protecting the scenic rivers through education, monitoring, enforcement, and new easements. Experts found that the Scenic Rivers Act has not been an important tool for wetlands protection.<sup>731</sup>

**The Barataria-Terrebonne National Estuary Program (BTNEP)** creates a special management program for the estuarine basins between the Mississippi River and Atchafalaya River. In 1990, BTNEP was created through a cooperative agreement between the state and the U.S. Environmental Protection Agency.<sup>732</sup> The BTNEP Management Conferences joined a diverse group of stakeholders to develop BTNEP's Comprehensive Conservation and Management Plan. Today, the Management Conference oversees implementation of the plan, but the Louisiana Universities Marine Consortium is responsible for day-to-day administration. The plan's goals include preservation and restoration of the wetlands and barrier islands, developing and meeting water quality standards that protect estuarine resources, developing comprehensive watershed planning, and formulating indicators of ecosystem health.<sup>733</sup>

## ii. Beaches & Dunes

*As part of Louisiana's legal framework for reducing storm damage, the state prohibits willful destruction of dunes and the use of motor vehicles on dunes.<sup>734</sup> (See also the public trust doctrine described under Coastal Management.)*

Louisiana's dune protection laws are codified in its **hurricane protection, flood control, and coastal restoration statutes**. It is illegal to willfully alter or drive a motor vehicle on dunes.<sup>735</sup> OCPD is responsible for developing a program for barrier islands and shorelines stabilization and preservation.<sup>736</sup> Projects are funded by a Barrier Island Fund, which receives money through appropriations, donations, grants, and other available sources. The primary source of funding for beach renourishment projects has been CWPPRA (discussed below under *Coastal Management*), but there has not been funding to carry out beach renourishment projects in all the parishes where there is interest.<sup>737</sup>

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<sup>731</sup> Personal communication with experts.

<sup>732</sup> Barataria-Terrebonne National Estuary Program, *What Is BTNEP?*, <http://www.btnep.org/BTNEP/about/whatisBTNEP.aspx>.

<sup>733</sup> The Comprehensive Conservation Management Plan is available for download in four separate parts from Barataria-Terrebonne National Estuary Program, <http://www.btnep.org/btnep/about/theplan.aspx>.

<sup>734</sup> LA. REV. STAT. § 49:214.5.8.

<sup>735</sup> LA. REV. STAT. § 49:214.5.8.

<sup>736</sup> LA. REV. STAT. § 49:214.6.7.

<sup>737</sup> Personal communication with expert.

Public acquisition has also allowed successful conservation of some of Louisiana's few remaining dunes. Properties such as **Breton National Wildlife Refuge**<sup>738</sup> and the state **Terrebonne Barrier Islands Refuge**<sup>739</sup> protect important habitat.

Despite some regulatory protections, Louisiana's beach and dune habitats are very vulnerable because they are undergoing natural erosion processes, and because the channelization of the Mississippi River has disrupted the deposit of sediment.<sup>740</sup>

### iii. Harvested Species Habitat

*Louisiana's fish and shellfish harvest regulations create a comprehensive structure for licensing, fishery management, and enforcement.*<sup>741</sup> *Some gear restrictions – such as the prohibition on possessing seines in saltwater – protect habitat.*<sup>742</sup> *The Wildlife and Fisheries Commission can restore oyster reefs by leasing oyster seed grounds.*<sup>743</sup> *The state's Artificial Reef Development Program allows the state to participate in the National Fishery Enhancement Plan.*<sup>744</sup>

Louisiana's fishing laws structure relevant licensing, management, and enforcement. Every person that commercially harvests fish and shellfish in Louisiana and its marine waters must obtain a license from the Department Wildlife and Fisheries.<sup>745</sup> Fishermen may only use certain kinds of gear; merely possessing certain prohibited gear (such as gill nets and seines) in saltwater is illegal.<sup>746</sup> The state legislature also created the Lake Catherine and Lake Pontchartrain Sanctuary, an area in which special gear prohibitions apply (see *Protected Places*).<sup>747</sup> The Wildlife and Fisheries Commission sets size, season, quota, and other limits on fisheries and determines penalties for violations.<sup>748</sup> The Commission has broad discretion over the use of these management mechanisms, but does not have the authority to regulate fishing gear. In practice, the Commission's primary tool for managing fisheries is establishing season closures.<sup>749</sup> Special task forces advise the Commission on managing a few important fisheries, including shrimp, oysters, and crab. The Commission must also develop management plans for saltwater finfish that both prevent overfishing and produce optimum yields.<sup>750</sup>

Oyster harvesting is an important industry in Louisiana. The Commission manages and leases public oyster reefs, using the \$2 per acre per year leasing fees to cover the administrative costs of the

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<sup>738</sup> U.S. Fish and Wildlife Service, *Breton National Wildlife Refuge*, <http://www.fws.gov/breton/>.

<sup>739</sup> LDWF, *Terrebonne Barrier Islands Refuge*, <http://www.wlf.louisiana.gov/refuge/terrebonne-barrier-islands-refuge>.

<sup>740</sup> Personal communication with expert.

<sup>741</sup> LA. REV. STAT. §§ 56:301 *et seq.*

<sup>742</sup> LA. REV. STAT. § 56:320–320.1.

<sup>743</sup> LA. REV. STAT. § 56:434.

<sup>744</sup> LA. REV. STAT. § 56:639.

<sup>745</sup> LA. REV. STAT. § 56:303. The Commission is a seven-member body that sets policy for and supervises the LDWF. LA. REV. STAT. §§ 56:1–2.

<sup>746</sup> LA. REV. STAT. § 56:320–320.1.

<sup>747</sup> LA. REV. STAT. § 56:804.

<sup>748</sup> LA. REV. STAT. § 56:326.3.

<sup>749</sup> Personal communication with expert.

<sup>750</sup> LA. REV. STAT. § 56:638.5.

program.<sup>751</sup> The Oyster Task Force provides the Commission with recommendations and research.<sup>752</sup> A lease guarantees the lessee exclusive right to use the water bottoms, but that right is subordinate to government actions to protect, conserve, or restore the coast.<sup>753</sup> The Commission also sets aside oyster seed grounds for growing oysters, which may include acquiring leases in the designated area.<sup>754</sup> The Louisiana Department of Health and Hospitals' Molluscan Shellfish Program is responsible for designating areas that are open, partially open, and closed for oyster harvest. Roughly half the areas are typically open, about 40% are sometimes open, and about 10% are typically closed.<sup>755</sup> Oyster water monitoring and LDWF's Enforcement Division's Oyster Strike Force are funded by the fees associated with obtaining a commercial oyster harvester license (\$100 for residents, \$400 for nonresidents).<sup>756</sup> Although some conservation groups have proposed conservation leasing of oysters, it is not clear whether conservation leases are possible under state law.<sup>757</sup>

The **Louisiana Fishing Enhancement Act** governs the creation of artificial reefs in the state.<sup>758</sup> The Artificial Reef Initiative at Louisiana State University (LSU) is responsible for developing a Louisiana Artificial Reef Development Plan,<sup>759</sup> implementation of which is overseen by the Louisiana Artificial Reef Development Council that includes representatives from LDWF, LSU's Center for Coastal, Energy, and Environmental Resources, and the Louisiana Sea Grant program.<sup>760</sup> LDWF is responsible for operating the Louisiana Artificial Reef Development Program in accordance with statutory siting standards.<sup>761</sup> To date, most of the state's more than 100 artificial reefs have been built in offshore waters. However, the Department may build in-shore reefs in the future to meet the demands of recreational fishermen.<sup>762</sup>

Artificial reef activities are funded by the Artificial Reef Development Fund: when a company participates in the Department's rigs-to-reefs program, it must deposit 50% of its avoided decommissioning costs into the Fund, in addition to paying the cost of proper placement.<sup>763</sup> This is a significant source of funding, as within this system building 10 reefs in can generate \$4.2 million in revenue for the Department. In addition to using the funds for program operation, up to 10% of the funds deposited can be used to support a wild seafood certification program and up to 10% can be used to fund inshore fisheries habitat enhancement projects. In years when interest income exceeds

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<sup>751</sup> Personal communication with expert; LA. REV. STAT. § 56:428(C).

<sup>752</sup> LA. REV. STAT. § 56:421.

<sup>753</sup> LA. REV. STAT. § 56:423. This includes "any project, plan, act, or activity for the protection, conservation, restoration, enhancement, creation, preservation, nourishment, maintenance, or management of the cost, coastal resources, coastal wetlands, and barrier shorelines or islands."

<sup>754</sup> LA. REV. STAT. § 56:434.

<sup>755</sup> Personal communication with expert. See also LDHH, *Molluscan Shellfish Program*,

<http://new.dhh.louisiana.gov/index.cfm/page/629>.

<sup>756</sup> LA. REV. STAT. § 56:303.6; see also LDWF, Oyster Strike Force, <http://www.wlf.louisiana.gov/oyster-strike-force>.

<sup>757</sup> Personal communication with expert.

<sup>758</sup> LA. REV. STAT. §§ 56:639.1 *et seq.*

<sup>759</sup> La. R.S. 56:639.7. The plan is available at [http://www.wlf.louisiana.gov/sites/default/files/pdf/page\\_fishing/32430-Artificial%20Reef%20Program/louisiana\\_artificial\\_reef\\_plan\\_with\\_amendments\\_0.pdf](http://www.wlf.louisiana.gov/sites/default/files/pdf/page_fishing/32430-Artificial%20Reef%20Program/louisiana_artificial_reef_plan_with_amendments_0.pdf).

<sup>760</sup> LA. REV. STAT. § 56:639.6.

<sup>761</sup> LA. REV. STAT. §§ 56:639.4–.5. The Artificial Reef Development Program allows the state to participate in the National Fishery Enhancement Plan. LA. REV. STAT. § 56:639.2.

<sup>762</sup> Personal communication with expert.

<sup>763</sup> Personal communication with expert.

program operational costs, the funds may further be used to support marine fisheries research and habitat enhancement projects.<sup>764</sup> However, this revenue may be vulnerable; the state legislature has diverted moneys from the fund to the state healthcare system.<sup>765</sup>

#### iv. Protected Species Habitat

*Louisiana prohibits the taking, possession, transportation, or sale of species classified by the federal or state government as threatened or endangered, and promotes research on relevant populations, habitat needs, and other issues to determine necessary conservation measures.*<sup>766</sup> *The Wildlife Habitat and Natural Heritage Trust funds land acquisitions to expand the state's system of parks, forests, and wildlife management areas, with priority given to sites with such attributes as habitat for threatened and endangered species.*<sup>767</sup> *Louisiana also promotes voluntary conservation and management on private lands through its "natural areas registry."*<sup>768</sup> *Landowners may register lands that have prized natural features, such as habitat for endangered or threatened species, with the Department of Wildlife and Fisheries and then manage them according to set rules.*

Louisiana helps protect species that have been classified as threatened or endangered by either the federal government or the Louisiana Department of Wildlife and Fisheries (LDWF).<sup>769</sup> Nobody may take, possess, transport, or sell a protected species without a permit. However, the state law does not provide strong protections for listed species habitat. Therefore managers rely on the federal Endangered Species Act and associated authorities to conserve habitat.<sup>770</sup>

In addition to protecting the remaining populations of listed species, the state law promotes research and species recovery. LDWF may research species populations, habitat needs, and other issues that determine what conservation measures are necessary. The Department may also submit habitat conservation plans to the U.S. Fish and Wildlife Service and acquire land for species habitat.

One barrier to endangered species protection is that state law prohibits LDWF from inspecting turtle excluder devices (TEDs) in fishing gear and enforcing federal laws related to the TEDs.<sup>771</sup> The legislature has declared that these devices have not been thoroughly tested.

#### v. Protected Places

##### *State management areas*

LDWF has the power to accept lands for the creation of wildlife management areas, refuges, and public hunting grounds, and to regulate hunting in those areas.<sup>772</sup> Louisiana's network of **wildlife management**

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<sup>764</sup> LA. REV. STAT. § 56:639.8.

<sup>765</sup> Personal communication with expert.

<sup>766</sup> LA. REV. STAT. §§ 56:1901–07.

<sup>767</sup> LA. REV. STAT. §§ 56:1921–25.

<sup>768</sup> LA. REV. STAT. §§ 56:1862–69.

<sup>769</sup> LA. REV. STAT. §§ 56:1901–07.

<sup>770</sup> Personal communication with expert.

<sup>771</sup> LA. REV. STAT. § 56:57.2.

**areas (WMAs) and refuges** make up a significant portion of the state's coastal land.<sup>773</sup> The key distinction between WMAs and refuges is that hunting is allowed in the former, but not the latter.<sup>774</sup> While there is no statutory mandate to manage these areas for nongame species, LDWF does so.<sup>775</sup> The state has title to the majority of land in its coastal WMAs and refuges; it sometimes leases areas when acquisition is not an option. For instance, some of the land in the Biloxi WMA is leased.<sup>776</sup> Statewide, LDWF manages over 1.6 million acres in this system.<sup>777</sup>

The legislature has created several animal **sanctuaries** by statute. In 1990, the legislature created the Lake Pontchartrain State Bird Sanctuary, a specially designated area where it is illegal to catch or injure any species of bird.<sup>778</sup> Created in 1999, the Lake Catherine and Lake Pontchartrain Sanctuary is an area where special gear limits apply for the taking of seafood.<sup>779</sup> A legislative act was also necessary to create the White Lake Wetland Conservation Area, allowing the state to take title to 70,965 acres and preserve a rare freshwater ecosystem in perpetuity.<sup>780</sup>

Within the Louisiana Department of Culture Recreation and Tourism, the **Office of State Parks** operates both state parks and state preservation areas. Louisiana state parks are "natural areas which, when evaluated on a statewide basis, possess outstanding potential for recreation utilization. The natural area must possess outstanding scenic and natural qualities to provide a recreation opportunity of high quality in a natural setting."<sup>781</sup> The Office does not have any mandate to protect or restore habitat in the state parks. Instead, the office must assure that parks are large enough that there is a "sufficient buffer to preserve the natural integrity of the area." In contrast, state preservation areas are those with exceptional scenic value and of sufficient size to "provide an undisturbed habitat for native wildlife."<sup>782</sup> Since 1975, funding for land acquisition has come from state general obligation bonds.<sup>783</sup> Between 1998 and 2003, the Office used \$10,011,588 of revenue to acquire 5,628 acres throughout the state.

### *Funding*

LDWF uses several funding sources to acquire and manage conservation areas. A primary source of funding is revenue from minerals produced on state lands: the **Louisiana Wildlife and Fisheries Conservation Fund** receives \$15 per acre from mineral lessees,<sup>784</sup> fees for mineral survey permits,<sup>785</sup> and

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<sup>772</sup> LA. REV. STAT. § 56:763.

<sup>773</sup> LDWF, *Wildlife Management Areas*, <http://www.wlf.louisiana.gov/wma>.

<sup>774</sup> Personal communication with expert.

<sup>775</sup> Personal communication with expert.

<sup>776</sup> Personal communication with expert; *see also* LA. REV. STAT. § 56:783.

<sup>777</sup> Personal communication with expert.

<sup>778</sup> LA. REV. STAT. § 56:803.

<sup>779</sup> LA. REV. STAT. § 56:804.

<sup>780</sup> LA. REV. STAT. §§ 56:799.1 *et seq.*

<sup>781</sup> LA. REV. STAT. § 56:1684(D).

<sup>782</sup> LA. REV. STAT. § 56:1684(A).

<sup>783</sup> Conservation Almanac, *Louisiana Profile of State Programs and Policy Framework*, <http://www.conservationalmanac.org/secure/almanac/southeast/la/programs.html>.

<sup>784</sup> LA. REV. STAT. § 30:136.1.

<sup>785</sup> LA. REV. STAT. § 30:212.



all the revenue from leasing in the Attakapas Wildlife Management Area.<sup>786</sup> The Department also receives support from federal grants and nonprofit organizations, including the Louisiana Wildlife and Fisheries Foundation, Conservation Fund, and the Nature Conservancy.<sup>787</sup>

The Louisiana legislature created a special **Wildlife Habitat and Natural Heritage Trust** to fund land acquisitions to expand the state's system of parks, forests, and wildlife management areas.<sup>788</sup> Private donors may contribute to the fund. LDWF makes purchasing decisions, in which it must prioritize sites with specific attributes such as habitat for threatened and endangered plants and animals, proximity to scenic rivers and bayous, and native ecological communities. After purchasing a site, the Department must develop a management plan that describes permissible activities consistent with conservation goals. Statewide, \$6,296,479 was used to acquire 8.402 acres for conservation between 1998 and 2004.<sup>789</sup>

Revenue from the sale of **duck licenses** for migratory waterfowl hunting is used to protect and preserve the same birds.<sup>790</sup> In particular, monies from license sales are deposited in the Louisiana Duck License, Stamp, and Print Fund for land acquisition, waterfowl habitat restoration, and program administration.<sup>791</sup> Further, the Act provides that the Fund shall be used “when feasible and when in coastal areas, in a manner which will contribute to the protection of the coastal areas of the state from deterioration and which will enhance the productivity of the coastal marshes.” In the period 1998-2003, Louisiana acquired 7,682 acres throughout the state with this fund at a cost of \$3,349,863.<sup>792</sup>

#### *Management on private lands*

Louisiana promotes voluntary conservation and management on private lands through its **natural areas registry**.<sup>793</sup> Landowners may register lands that have prized natural features, such as habitat for endangered or threatened species, with LDWF. Lands within the registry must be managed according to rules set out by the Department. While lands in the registry remain in private ownership, the Department may also acquire “natural area preserves” through gift, exchange, or purchase. The Department must issue rules on how to best manage the preserves. LDWF must coordinate its duties for endangered and threatened species, the Natural Areas Registry, and other activities through an overarching Natural Heritage Program.<sup>794</sup>

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<sup>786</sup> LA. REV. STAT. § 47:324.

<sup>787</sup> Personal communication with expert.

<sup>788</sup> LA. REV. STAT. §§ 56:1921–1925.

<sup>789</sup> *Louisiana Profile of State Programs and Policy Framework*, *supra* note 783.

<sup>790</sup> LA. REV. STAT. § 56:151.

<sup>791</sup> LA. REV. STAT. § 56:155.

<sup>792</sup> *Louisiana Profile of State Programs and Policy Framework*, *supra* note 783.

<sup>793</sup> LA. REV. STAT. §§ 56:1862–69.

<sup>794</sup> LA. REV. STAT. § 56:1830.

LDWF also helps improve habitat and manage wildlife on private land through the **Landowners for Wildlife Program**.<sup>795</sup> Through this program, LDWF provides free technical assistance to private landowners and others who seek it. The recipient is responsible for any costs associated with implementing any of the suggestions, although LDWF staff can help identify cost-share opportunities.<sup>796</sup>

### *Federal*

The federal government administers several important units of conservation land in coastal Louisiana. The National Park Service operates the **Barataria Preserve**, which includes 23,000 acres of bayous, swamps, marshes, and forests that is home to more than 300 species of birds.<sup>797</sup> The U.S. Fish and Wildlife Service manages several **National Wildlife Refuges** that conserve a wide variety of plant and animal communities.<sup>798</sup>

### **vi. Coastal Management**

*LDNR is responsible for developing and administering a coastal management program.*<sup>799</sup> *The state's coastal zone is an area defined in the statute, bounded by a complex set of highways and political boundaries.*<sup>800</sup> *In this area, permit applicants must compensate for any damages to wetlands by restoring or protecting other wetlands, possibly through the Coastal Mitigation Account.*<sup>801</sup> *As discussed above, the state's Coastal Protection and Restoration Fund directs revenue from energy taxes to enhancement, creation, or restoration of coastal wetlands and other hurricane protection projects.*<sup>802</sup> *The public trust doctrine governs use of submerged lands.*<sup>803</sup> *The Land Office controls private encroachment on submerged lands through a leasing and permitting system, assuring that private activities do not interfere with other public uses or create hazards.*

### *Regulatory*

Under the **State and Local Coastal Resources Management Act of 1978**, the LDNR's Office of Coastal Management is responsible for developing and administering a coastal management program that accords with the requirements of the federal Coastal Zone Management Act (CZMA). The coastal management program must balance competing development and conservation goals; for instance, it must encourage the full use of coastal resources at the same time that it minimizes impacts on wildlife habitat.<sup>804</sup>

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<sup>795</sup> LDWF, *Private Land Management Assistance*, <http://www.wlf.louisiana.gov/assistance-private-landowners-and-m>.

<sup>796</sup> *Id.*

<sup>797</sup> National Park Service, *Barataria Preserve*, <http://www.nps.gov/jela/barataria-preserve.htm>.

<sup>798</sup> U.S. Fish and Wildlife Service, *Louisiana Map*, <http://www.fws.gov/refuges/refugeLocatorMaps/Louisiana.html>.

<sup>799</sup> LA. REV. STAT. § 49:214.27.

<sup>800</sup> LA. REV. STAT. § 49:214.24.

<sup>801</sup> LA. REV. STAT. §§ 49:214.41–42.

<sup>802</sup> LA. REV. STAT. § 49:214.1.

<sup>803</sup> LA. REV. STAT. §§ 41:1701 *et seq.*

<sup>804</sup> LA. REV. STAT. § 49:214.27.

Louisiana’s coastal zone is statutorily bounded by a complex set of highways and political boundaries,<sup>805</sup> and generally includes areas between 16–32 miles inland from the coast.<sup>806</sup> In its 2011-2015 CZMA Section 309 assessment and strategy, Louisiana noted updating and expanding the inland boundary of its coastal zones as one of its strategies for enhancing the state coastal management program. The program change will include expanding the coastal zone boundary and areas subject to coastal use permitting, as well as an area of concern for certain state and federal activities. LDNR explained that “[b]y adopting a hierarchical scheme of management based on degree of relationship to coastal processes, the state CMP and LCPs can more effectively implement its enforceable policies over a scientifically defined coastal area and achieve a sustainable coast protecting inhabitants, promoting development, and protecting and restoring habitat.”<sup>807</sup>

As currently defined and regulated, within the coastal zone, nobody may undertake any activity that directly and significantly affects coastal waters without a Coastal Use Permit (CUP) issued by the Department or local government.<sup>808</sup> Several activities are exempt from CUP permitting, including agriculture, forestry, and single family residences.<sup>809</sup> Other state agencies, including the LDWF, participate in the permitting process by commenting on the impacts of proposed activities.

The Act allows local governments to assume some responsibility for managing the coastal zone. If local governments create coastal management programs that follow state rules, they take responsibility for permitting activities that only affect the local area.<sup>810</sup> Ten of Louisiana’s 21 coastal parishes have developed approved coastal programs, while two more parishes are in the process of developing them.<sup>811</sup> LDNR and local governments share enforcement responsibilities.<sup>812</sup> Anybody who violates the Act or permit conditions may be punished with fines, the loss of a permit, or the cost of mitigating damages.

The Act devotes special attention to permit applicants whose activities would harm coastal wetlands. In these cases, applicants must offset any loss in ecological value.<sup>813</sup> The coastal management regulations provide detailed instructions for avoiding net loss of ecological value from project impacts and mitigating any unavoidable losses.<sup>814</sup> Applicants may compensate for damages to wetlands by restoring

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<sup>805</sup> LA. REV. STAT. § 49:214.24. A proposed modification to the coastal zone boundary may be approved by the legislature in the 2012 session. This science-based boundary would expand the coastal zone.

<sup>806</sup> NOAA, OCRM, STATE COASTAL ZONE BOUNDARIES (July 1, 2011), available at <http://coastalmanagement.noaa.gov/mystate/docs/StateCZBoundaries.pdf>.

<sup>807</sup> La. Dep’t of Natural Resources, Louisiana Coastal Management Program, Assessment and Strategy 2011–2015, at 68–72, available at <http://coastalmanagement.noaa.gov/mystate/welcome.html>.

<sup>808</sup> LA. REV. STAT. §§ 49:214.30; 23 (defining “uses”). CUPs are required for both uses of state and local concern. LA. REV. STAT. § 49:214.25.

<sup>809</sup> Personal communication with expert.

<sup>810</sup> LA. REV. STAT. § 49:214.28.

<sup>811</sup> LDNR, *Local Coastal Programs*, <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=111&pnid=192&nid=194>.

<sup>812</sup> LA. REV. STAT. § 49:214.36.

<sup>813</sup> LA. REV. STAT. § 49:214.41.

<sup>814</sup> LA. ADMIN. CODE § 43:I.724.

or protecting other wetlands, either on their property or elsewhere.<sup>815</sup> One mechanism for conserving wetlands off-site is contributing to the Coastal Mitigation Account, whose funds are reserved for this purpose.<sup>816</sup>

When an activity requires both a CUP and a section 404 permit, most applicants apply for both through an on-line joint application.<sup>817</sup> In these cases, the 404 permit is not issued until the applicant receives a CUP.<sup>818</sup> LDNR's Office of Coastal Management tracks all applications, permits, and enforcement actions in a database called PermitTrak.<sup>819</sup> The database updates continuously, allowing the agency to manage a large volume of applications, and individuals to track the status of their applications. The Coastal Resources Program receives funding from several sources, including the federal Coastal Zone Management Program, Clean Water Act section 319 funds for nonpoint source pollution, permit and mitigation fees, and grants from the Wetland Conservation and Restoration Fund.<sup>820</sup>

The state has also implemented beneficial use regulations that apply to projects that require coastal use permits, are intended to facilitate the movement or mooring of vessels, and include dredging at least 25,000 cubic yards of sediment. The permit applicant chooses between four options: (i) engaging in beneficial use, (ii) giving the dredged material to an approved coastal restoration project or (iii) using it at another location that results in equal benefit, or (iv) voluntarily contributing to the Coastal Resources Trust Fund in an amount proportionate to the dredging activities.<sup>821</sup> The Department of Natural Resources reported in early 2011 that its update of the beneficial use regulations had resulted in comprehensive success in obtaining project support of coastal efforts—every project contributed either material or funding.<sup>822</sup> The 2006 Water Resources Development Act (WRDA) also authorized the Louisiana Coastal Beneficial Use of Dredged Material Program, which will provide \$100 million over 10 years to increase beneficial use projects related to federally maintained waterways.<sup>823</sup> Projects will focus on degraded marsh area restoration and shoreline nourishment, and will be screened by the Army Corps and the Louisiana Office of Coastal Protection and Restoration.<sup>824</sup>

The Office of Coastal Management reviews federal activities in coastal Louisiana for consistency with the state's laws and regulations. The Office has found that the U.S. Army Corps' sediment management practices do not comply with the regulations for the Louisiana Coastal Resources Program, which

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<sup>815</sup> LA. REV. STAT. § 49:214.41.

<sup>816</sup> LA. REV. STAT. § 49:214.42.

<sup>817</sup> ELI, STATE WETLAND PROTECTION: STATUS, TRENDS, AND MODEL APPROACHES, APPENDIX: STATE PROFILES—LOUISIANA (2008), available at [http://www.eli.org/program\\_areas/state\\_wetlands.cfm](http://www.eli.org/program_areas/state_wetlands.cfm).

<sup>818</sup> *Id.*

<sup>819</sup> *Id.*

<sup>820</sup> *Id.*

<sup>821</sup> 43 LA. ADMIN. CODE § 723(H).

<sup>822</sup> LDNR, *Beneficial Use Regulations Maximize Resources Dedicated to Coastal Protection*, Mar. 7, 2011, <http://dnr.louisiana.gov/index.cfm?md=newsroom&tmp=detail&aid=840>.

<sup>823</sup> US Army Corps of Engineers, *Beneficial Use of Dredged Materials (BUDMAT) Program: Louisiana Coastal Area* (presentation dated May 3, 2011), available at <http://140.194.100.31/od/BUDMAT%20Envr%20Dredging%20Conf%20May11.pdf>.

<sup>824</sup> US Army Corps of Engineers & Louisiana Office of Coastal Protection and Restoration, *Beneficial Use of Dredged Material Program Study: Louisiana Coastal Area (LCA) Project Fact Sheet* (Jan. 2010), available at <http://www.lca.gov/Studies/budmat.aspx>.

demand beneficial use of dredged materials “to the maximum extent practicable.”<sup>825</sup> The Army Corps has refused to participate in the CZMA mediation process over this issue and continues to dredge channels without using the materials beneficially.<sup>826</sup> Several experts agree that sediment management practices are the biggest contributors to Louisiana wetland loss (see fuller discussion of beneficial use under *Water Quality*).<sup>827</sup>

The Office of Coastal Management also reviews offshore federal activities for consistency with the state coastal program. One challenge in this process is the difficulty of measuring the impacts of federally permitted activities on state coastal resources. Historically, the Bureau of Energy Regulation, Management, and Enforcement (formerly the Minerals Management Service) had not mitigated for the increased needs for onshore infrastructure that offshore activities trigger.<sup>828</sup>

### *Planning, restoration, and conservation*

As discussed under *Wetlands*, the **Louisiana Coastal Protection, Conservation, Restoration and Management Act of 2005** is the state’s primary law addressing loss of coastal wetlands. This law was the state legislative response to the disastrous effects of hurricanes, as Louisiana sought to avoid future damage from storms and floods.<sup>829</sup> In addition to the law’s wetland component, it creates opportunities to avoid storm and flood damage by building levees and other infrastructure projects.<sup>830</sup> These coastal protection activities are funded with a portion of the revenues from oil and gas extraction.<sup>831</sup>

The 2005 legislation created a new institutional framework for restoration planning and implementation on Louisiana’s coast. As noted previously, the Coastal Protection and Restoration Authority (CPRA) is a newly created, inter-agency body responsible for the major coastal policy planning efforts. Many of its members are political appointees. The Office of Coastal Protection and Restoration (OCPR) implements the plans that the CPRA develops. It concentrates the state’s restoration science and engineering capacity in a single office, facilitating staff collaboration. These bodies are housed within the Governor’s office, an institutional design influenced by Louisiana’s unusual constitutional limit on the number of government agencies.<sup>832</sup>

CPRA is required to periodically develop a “comprehensive coastal protection master plan” with a strategy for conserving, enhancing, and restoring coastal areas.<sup>833</sup> The CPRA released the original

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<sup>825</sup> See, e.g., LDNR, LETTER REGARDING COASTAL ZONE CONSISTENCY, OFFICE OF COASTAL MANAGEMENT (Nov. 23, 2009), available at <http://dnr.louisiana.gov/assets/docs/news/2009/20091203-state-denial.pdf>.

<sup>826</sup> Personal communication with expert.

<sup>827</sup> Personal communication with expert.

<sup>828</sup> Personal communication with expert.

<sup>829</sup> LA. REV. STAT. § 49:214.1.

<sup>830</sup> LA. REV. STAT. §§ 49:214.6.1–.8.

<sup>831</sup> LA. REV. STAT. § 49:214.5.4.

<sup>832</sup> LA. CONST. art. IV, § 1(B) (“Except for the offices of governor and lieutenant governor, all offices, agencies, and other instrumentalities of the executive branch and their functions, powers, duties, and responsibilities shall be allocated according to function within not more than twenty departments.”).

<sup>833</sup> LA. REV. STAT. § 49:214.5.2. The membership of the 21-person committee is governed by LA. REV. STAT. § 49:214.5.1.

master plan in 2007,<sup>834</sup> and will release its first major update in 2012.<sup>835</sup> In the intervening years, CPRA has developed mandatory annual plans, a process overseen by specific committees in the state House and Senate.<sup>836</sup> Louisiana has received praise for recognizing the link between wetlands and flood protection and coordinating planning on the two.<sup>837</sup> At the same time, one expert worried that pressure from the Governor's office to implement the plan would make it difficult for permitting authorities to oppose projects included in the Master Plan, e.g., if significant habitat impacts would likely result from construction of levees and other flood protection measures.<sup>838</sup>

OCPR exercises powers and duties delegated by the CPRA.<sup>839</sup> The legislature also gave the office responsibility for overseeing the design and construction of hurricane protection and flood control projects, along with an inspection program for existing infrastructure.<sup>840</sup> When OCPR was first established, it joined staff from the various agencies that had previously contributed to coastal restoration. OCPR carries out all state restoration projects.

There are two other groups in the network that contributes to coastal restoration within the Governor's office. Among other things, the Governor's Advisory Commission on Coastal Protection, Restoration and Conservation advises the Governor, provides a forum for coordinating activity, and reviews programs.<sup>841</sup> Its members represent a variety of government, academic, and private stakeholder groups. Finally, the Governor's Office of Coastal Activities provides leadership and support to CPRA, and directs plan and policy coordination and implementation.

### *Federal*

As discussed previously, Louisiana receives most of the funds that the federal government distributes under the **Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)**. OCPR is the lead state agency in project planning and LDNR reviews projects for Coastal Use Permits. While this program is the state's largest source of federal conservation and restoration funding, experts agree that it is small compared to the needed investment in Louisiana's coastal habitat. Due to the inability of \$20-million projects to make a large impact in the Mississippi Delta, one expert suggested that CWPPRA funds should be concentrated in the Chenier Plane.<sup>842</sup> Further, another expert noted that a large portion of the annual appropriations under CWPPRA are now devoted to maintaining existing projects, rather than

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<sup>834</sup> CPRA, 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>835</sup> One expert noted that CPRA may hope to use Clean Water Act fines from the *Deepwater Horizon* oil spill to initiate restoration projects. See also Louisiana 2012 Coastal Master Plan,

<http://coastal.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&nid=150&pnid=0&pid=172&catid=0&elid=0>.

<sup>836</sup> LA. REV. STAT. § 49:214.5.2(A)(2). The annual plans are available for download at CPRA,

<http://coastal.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&nid=37&pnid=24&pid=22&fmid=0&catid=0&elid=0>.

<sup>837</sup> Personal communication with expert.

<sup>838</sup> Personal communication with expert.

<sup>839</sup> LA. REV. STAT. §§ 49:214.5.2(A)(5), 214.6.1.

<sup>840</sup> LA. REV. STAT. § 49:214.6.3.

<sup>841</sup> LA. REV. STAT. § 49:214.4.1.

<sup>842</sup> Personal communication with expert.

building new ones.<sup>843</sup> Finally, an expert observed that sites restored with CWPPRA funds should be placed under conservation easements, arguing that easements should be a standard practice to maintain restored habitat.<sup>844</sup>

As in several of the other Gulf states, the **Coastal Impact Assistance Program (CIAP)** delivers revenue from offshore oil and gas extraction for projects in coastal areas. One barrier to directing CIAP funds to habitat conservation and restoration is the significant political pressure, especially from local governments, to use CIAP to support levee construction.<sup>845</sup>

### *Restrictions on regulation*

**The Louisiana Right to Farm Law** and the **Louisiana Right to Forest Law** discourage regulations that decrease agricultural and forest property values. Before a state or local government takes an action that will likely diminish agricultural or forest land by 20%, it must conduct an economic analysis of the proposed action.<sup>846</sup> The government must avoid taking actions that would cause these diminutions in property value to agricultural lands.<sup>847</sup> Landowners can sue a government entity that causes a 20% decrease in the value of the owners' agricultural or forest property,<sup>848</sup> in which case the owner is entitled to receive compensation for the decrease or to sell the land for the value prior to the government action.<sup>849</sup> One exemption arises when the action is "taken in compliance with federal law or regulation."<sup>850</sup> A 2008 study found that these private property rights acts have not had a significant impact.<sup>851</sup>

### *Local government activities*

**Local governments** have the ability to finance conservation land acquisition through several mechanisms: general obligation bonds, an annual mill rate allocation, sales tax districts, and parish-wide recreation districts.<sup>852</sup> In the period 1998-2008, only one local ballot initiative created a dedicated source of revenue for conservation. This was a \$45 million property tax initiative in East Baton Rouge Parish.<sup>853</sup>

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<sup>843</sup> Personal communication with expert.

<sup>844</sup> Personal communication with expert.

<sup>845</sup> Personal communication with expert.

<sup>846</sup> LA. REV. STAT. §§ 3:3609, 3:3622.1.

<sup>847</sup> LA. REV. STAT. § 3:3608.

<sup>848</sup> LA. REV. STAT. §§ 3:3610, 3:3623.

<sup>849</sup> LA. REV. STAT. §§ 3:3610, 3:3623.

<sup>850</sup> LA. REV. STAT. §§ 3:3602(13)(g), 3:3622(3)(h).

<sup>851</sup> Echeverria & Hansen-Young, *The Track Record on Takings Legislation*, *supra* note 650, at 38.

<sup>852</sup> *Louisiana Profile of State Programs and Policy Framework*, *supra* note 783.

<sup>853</sup> Conservation Almanac, *Louisiana Landvote Data*, <http://www.conservationalmanac.org/secure/almanac/southeast/la/lvdata.html>.

vii. **Accident Response**

Recognizing that “Louisiana is subject to greater exposure to a major oil spill disaster than any other state,” the legislature passed the **Oil Spill Prevention and Response Act** in 1991.<sup>854</sup> The Act created the Louisiana Oil Spill Coordinator’s Office within the Department of Public Safety and Corrections, which is responsible for preparing a prevention and response plan, coordinating an actual response, and administering a fund for these activities.<sup>855</sup> At its discretion, the Coordinator may contract with colleges and universities for research into spill response and prevention, including wildlife and natural resources protection.<sup>856</sup>

Several agencies contribute to spill planning, with LDWF bearing the specific responsibility to recommend provisions for the protection of wildlife habitat.<sup>857</sup> To structure this interagency effort, the Coordinator must convene at least twice a year a council of representatives of the state’s environmental agencies and relevant legislative committees.<sup>858</sup> While the plan does not need to meet any particular standards for habitat protection or restoration,<sup>859</sup> the Act addresses habitat in several ways. First, the Coordinator may contract with any public agency for baseline environmental studies necessary to comply with the state or national oil spill contingency plans.<sup>860</sup> Second, the Coordinator shall give priority to vessels that endanger habitat in its derelict vessel removal efforts.<sup>861</sup> Finally, the Coordinator is responsible for issuing regulations related to spill prevention and response.<sup>862</sup>

Experts generally commented favorably on the state framework for accident response. One advised that state agencies are involved in a way that is appropriate for their resources and expertise.<sup>863</sup> Another noted that the LOSCO effectively handles frequent, small spills, often relying on contractors because of the office’s limited equipment.<sup>864</sup>

***Deepwater Horizon Oil Spill Restoration in Louisiana***

Louisiana’s coastline bore the brunt of the *Deepwater Horizon* oil that made it to shore, with more than 500 miles of coastline oiled. Louisiana actively participates as a trustee in the NRDA process and has taken substantial steps toward restoration actions. On its website,<sup>865</sup> it provides NRDA research workplans and allows members of the public to submit restoration ideas using a somewhat detailed submission form that gathers information on the parish(es) where restoration will occur, type of habitat

<sup>854</sup> LA. REV. STAT. § 30:2452.

<sup>855</sup> LA. REV. STAT. § 30:2455–56.

<sup>856</sup> LA. REV. STAT. § 30:2495.

<sup>857</sup> LA. REV. STAT. § 30:2459. OCPR and DNR also have the opportunity to recommend provisions that protect wildlife, as those agencies must recommend provisions that will protect and restore the resources under their jurisdiction.

<sup>858</sup> LA. REV. STAT. § 30:2458.

<sup>859</sup> See LA. REV. STAT. § 30:2460.

<sup>860</sup> LA. REV. STAT. § 30:2467.

<sup>861</sup> LA. REV. STAT. § 30:2469.

<sup>862</sup> LA. REV. STAT. § 30:2457. The regulations are codified at LA. ADMIN. CODE § 43:XXIX.109 *et seq.*

<sup>863</sup> Personal communication with expert.

<sup>864</sup> Personal communication with expert.

<sup>865</sup> Louisiana Deepwater Horizon Oil Spill Natural Resource Damages Assessment, <http://losco-dwh.com/>.



or resource affected, and status of the current project (e.g., existing funding or elements completed).

**viii. Water Quality**

*Louisiana established its system for regulating water pollution through its Water Control Law.<sup>866</sup> One unique aspect of the law is that it protects the shellfish industry by charging an extra fee for pollution in bodies of water where that industry is concentrated.<sup>867</sup>*

The **Louisiana Water Control Law** directs LDEQ to set water quality standards that are at least as strict as EPA's standards.<sup>868</sup> Private and public actors must obtain a permit from the Department before discharging any water pollution.<sup>869</sup> Louisiana's Water Control Law is very similar to the other Gulf state laws that allow state officials to assume permitting responsibilities under the Clean Water Act. One unique aspect of the law is that it protects the shellfish industry by charging an extra fee for pollution in the bodies of water where that industry is concentrated.<sup>870</sup> Any unpermitted discharge must be reported and promptly cleaned.<sup>871</sup> The law can be enforced through civil lawsuits or criminal penalties.<sup>872</sup>

Experts generally reviewed the implementation of this law favorably. One cited the regulation of produced waters as a success story.<sup>873</sup> Produced waters from oil and gas drilling once created significant water quality problems in Louisiana, but EPA established stricter regulations in the 1990s (which Louisiana matches) that halted the dumping of produced waters. Another expert noted that successful water quality monitoring allows regulators and nonprofit organizations to pinpoint pollution sources and help landowners improve management of their property.<sup>874</sup> One challenge faced is increased population in areas that currently rely on septic tanks, especially since Hurricane Katrina.

**ix. Water Quantity**

In 2001, the Louisiana state legislature passed an act that established a Ground Water Management Commission and a Ground Water Management Advisory Task Force. Among other things, they were tasked with determining critical ground water areas, taking actions to preserve the resources within them, and developing a long-term statewide ground water management system.<sup>875</sup> Outside consultants prepared a report for the Commission and Task Force that ultimately provided a foundation for a water management act passed in 2003. The 2003 legislation made the Commission and Task Force permanent

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<sup>866</sup> LA. REV. STAT. §§ 30:2071 *et seq.*

<sup>867</sup> LA. REV. STAT. § 30:2075.1.

<sup>868</sup> LA. REV. STAT. § 30:2074.

<sup>869</sup> LA. REV. STAT. § 30:2075.

<sup>870</sup> LA. REV. STAT. § 30:2075.1.

<sup>871</sup> LA. REV. STAT. § 30:2077.

<sup>872</sup> LA. REV. STAT. §§ 30:2076.1–.2.

<sup>873</sup> Personal communication with expert.

<sup>874</sup> Personal communication with expert.

<sup>875</sup> Louisiana Legislature, La. S.B. 965, Act 446, 2001 Regular Session (June 18, 2001), available at [http://www.legis.state.la.us/leg\\_docs/01RS/CVT9/OUT/0000J1ES.PDF](http://www.legis.state.la.us/leg_docs/01RS/CVT9/OUT/0000J1ES.PDF).

entities and tasked them with, among other things, continuing the development of the statewide management program.<sup>876</sup>

The goal of the statewide program is to identify and forecast water demand, conservation, use incentives, and use alternatives. In September 2010, Ecology and Environment, Inc., issued a preliminary draft of the *Statewide Ground Water Management Plan* for the Louisiana Department of Natural Resources.<sup>877</sup> The goal is to devise three tiers of solutions: short-term solutions that can be implemented under existing authorities, long-term solutions that can be implanted under existing authorities, and long-term solutions that require legislative or regulatory change. The draft includes an assessment of surface and ground water use in the state, review of prior notification procedures for ground water wells, and identification and evaluation of management plan components; it then analyzes the costs and benefits of different alternatives, lists funds that could support the alternatives, and identifies relevant nationwide and regional incentives for best management practices.<sup>878</sup>

#### x. Invasive Species

In 2004, the legislature created the Louisiana Aquatic Invasive Species Council and Louisiana Aquatic Invasive Species Council and Task Force. The Council is a nine-member inter-agency body, chaired by the Secretary of the Department of Wildlife and Fisheries.<sup>879</sup> The Task Force brings together 31 representatives from research and industry groups to advise the Council.<sup>880</sup> Together, these bodies are responsible for implementing the Louisiana Invasive Aquatic Species Management Plan, which the Governor adopted in 2002.<sup>881</sup>

LDWF and the Louisiana Department of Agriculture and Forestry share most responsibilities for controlling invasive species within the state. The legislature named certain exotic fish that cannot be possessed without an annual permit, and empowered LDWF to designate other species to be regulated in the same manner.<sup>882</sup> The Department may designate certain wetland, submerged, and floating plants as “noxious aquatic plants,” which nobody may import without a permit.<sup>883</sup> The Department may promulgate rules to control both exotic fish and noxious aquatic plants.<sup>884</sup> In 2002, the legislature created the Aquatic Plant Control Fund, which LDWF uses to fund management, research, and education.<sup>885</sup> The fund’s primary source of revenue is boat trailer registration fees.<sup>886</sup> The Department’s

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<sup>876</sup> Louisiana Legislature, La. S.B. 99, Act 49, 2003 Regular Session (May 23, 2003), available at [http://www.legis.state.la.us/leg\\_docs/03RS/CVT3/OUT/0000KHFT.PDF](http://www.legis.state.la.us/leg_docs/03RS/CVT3/OUT/0000KHFT.PDF). A list of the current Task Force members is available at [http://www.legis.state.la.us/boards/board\\_members.asp?board=739](http://www.legis.state.la.us/boards/board_members.asp?board=739).

<sup>877</sup> Ecology AND ENVIRONMENT, INC., PRELIMINARY DRAFT, STATEWIDE GROUND WATER MANAGEMENT PLAN (prepared for the Louisiana Dep’t of Natural Resources) (Sept. 2010), at 1-1, available at [http://dnr.louisiana.gov/assets/OC/env\\_div/gw\\_res/SGWMP-Draft-9-02.pdf](http://dnr.louisiana.gov/assets/OC/env_div/gw_res/SGWMP-Draft-9-02.pdf).

<sup>878</sup> *Id.*

<sup>879</sup> LA. REV. STAT. § 56:360.1.

<sup>880</sup> LA. REV. STAT. § 56:360.2.

<sup>881</sup> LA. REV. STAT. § 56:360.3.

<sup>882</sup> LA. REV. STAT. § 56:319–319.2.

<sup>883</sup> LA. REV. STAT. § 56:328.

<sup>884</sup> LA. REV. STAT. § 56:328; 56:319.1

<sup>885</sup> LA. REV. STAT. § 56:10.1.

Aquatic Plant Management Program maintains boating and fishing access by applying herbicide to nuisance vegetation.<sup>887</sup> The Coastwide Nutria Control Program provides an incentive for participants to harvest up to 400,000 nutria pelts a year, with incentive payments amount set by the CWPPRA task force.<sup>888</sup>

The Department of Agriculture and Forestry is responsible for controlling the Chinese tallow tree, the only terrestrial noxious plant that the state regulates.<sup>889</sup> The Department's commissioner is also the chairperson of the state's Seed Commission, which has the power to declare plants to be noxious weeds and restrict their distribution.<sup>890</sup> In 2003, the legislature also created a Boll Weevil Eradication Commission that has the power to adopt regulations and carry out eradication activities.<sup>891</sup>

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<sup>886</sup> See LA. REV. STAT. § 47:462.

<sup>887</sup> ELI, EFFECTS OF CLIMATE CHANGE ON AQUATIC INVASIVE SPECIES AND IMPLICATIONS FOR MANAGEMENT AND Research (2008), at A-53.

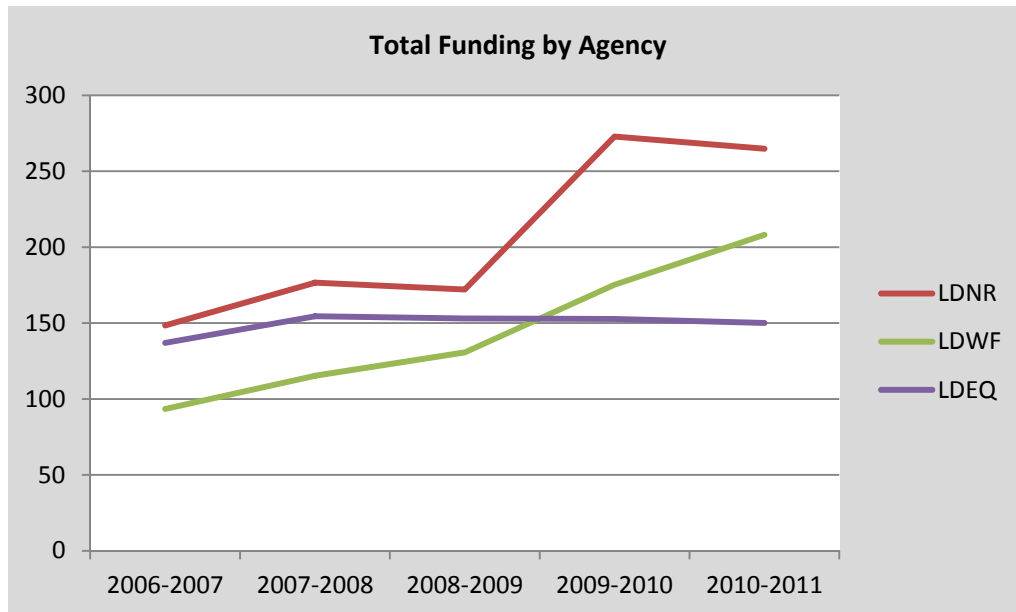
<sup>888</sup> LA. ADMIN. CODE § 76:V.123.

<sup>889</sup> LA. REV. STAT. § 3:1791

<sup>890</sup> LA. REV. STAT. §§ 3:1432–33.

<sup>891</sup> LA. REV. STAT. § 3:1604.1.

## II. Institutions



i. **Louisiana Office of the Governor: Coastal Protection and Restoration Authority, Office of Coastal Activities, and Office of Coastal Protection and Restoration**

**Scope:**

The Louisiana Office of the Governor's coastal protection and restoration activities are accomplished through three bodies: the Coastal Protection and Restoration Authority (LCPRA), Office of Coastal Activities (LOCA), and Office of Coastal Protection and Restoration (LOCPR).<sup>892</sup>

In 2005, the Louisiana Wetland Conservation and Restoration Authority was restructured to form the LCPRA. Act 8 of the legislature's First Extraordinary Session of 2005 expanded the membership, duties and responsibilities of the LCPRA and charged the new Authority to develop and implement a comprehensive coastal protection plan, including both a master plan (to be renewed every five years) and annual plans. LCPRA is the head of LOCA, and is responsible for developing a comprehensive coastal protection plan for the state of Louisiana to integrate coastal restoration and hurricane protection efforts. It is meant to increase work among and between state entities, and coordinate efforts with federal, state, and local entities.

LOCA provides LCPRA with leadership and support. It directs coordination and implementation of plans and policies, with the goal of balancing coastal resource uses among development, conservation, restoration, creation, and nourishment.

<sup>892</sup> See Louisiana Coastal Protection and Restoration, CPRA Implementation, <http://www.coastal.la.gov/index.cfm?md=pagebuilder&tmp=home&nid=99&pnid=73&pid=91&catid=0&elid=0>.

LOCPR is responsible for implementing the policies and plans developed by LCPRA. It receives funds from CWPPRA and is composed of seven divisions: Flood Protection, Louisiana Applied Coastal Engineering and Science (LACES), Operations, Planning, Program/Projects Management, Real Estate/Land Rights, and Restoration.<sup>893</sup>

- The Flood Protection division of LOCPR oversees all flood and hurricane protection projects. It is responsible for inspection and management of levees, participation in hurricane emergency response, and levee inspector certification.
- LOCPR's LACES division is responsible for coordinating science and engineering activities of federal and state agencies, academia, and coastal communities. Their goal is ensuring that research is conducted in areas where it is most needed, and that the best possible technical information is used in decision making. LACES is composed of the Applied Research and Development, Data Management and Training, and Systems Assessment Sections.
- The Operations division of LOCPR monitors all activities relating to the coastal plans, including plan development, plan implementation, and report generation. The division is responsible for construction administration and maintenance of all federal and state coastal restoration projects. It also conducts post-hurricane assessments and adaptive management reports in cooperation with federal or local sponsors.
- The Planning division integrates the planning efforts of the various coastal protection and restoration activities within LOCPR. The division is responsible for completing Ecological Reviews on all proposed protection and restoration projects. It is also tasked with updating the master plan, creating the annual plans, and coordinating public outreach and involvement in plan formulation and implementation. Essentially, the Planning division sets out a long-term perspective through which ecosystem restoration and management activities in Louisiana's Coastal Zone may be coordinated.
- The Program/Project Management division is responsible for ensuring successful implementation of all LOCPR protection and restoration projects, from start to finish. The division keeps records and databases for project contacts, scheduling and status, and does reviews for Coastal Use Permits for possible negative impacts on restoration projects.
- The LOCPR division of Real Estate/Land Rights ensures that all actions necessary to obtain full access to coastal lands are carried out. This involves drafting and negotiating servitude, mineral and pipeline agreements, and rights of entry for construction. The division also drafts agreements with other federal and state agencies involved in coastal protection and restoration projects. It is also responsible for facilitating private landowner coordination and negotiation.
- The Restoration division of LOCPR designs coastal restoration projects, which includes engineering and design, preparing plans, specifications and bid packages for EPA, NMFS and USF&WS projects. It also is responsible for management of professional service contracts and for advertising projects for bids.

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<sup>893</sup> Louisiana Office of Coastal Protection and Restoration, <http://www.ocpr.louisiana.gov/crm/coastres/coastres.asp>.

**Contact:**

Louisiana Office of the Governor – Office of Coastal Activities  
Mailing Address: P.O. Box 44027, Baton Rouge, LA 70804-4027  
Email: chase.melancon@la.gov  
Website: <http://coastal.louisiana.gov/>

**Budget:**

*Could not locate detailed budget information for these entities within the Governor's Office. For FY 2011, the Office of Coastal Protection and Restoration received appropriations of \$140.6 million from federal and state sources.*<sup>894</sup>

**Staff:**

*Could not locate detailed staff information for these entities within the Governor's Office. For FY 2011, a total of 155 positions were budgeted to LOCPR. An additional 2 positions are recommended for 2012.*<sup>895</sup>

**ii. Louisiana Department of Natural Resources (LDNR)****Scope:**

LDNR's mission is to preserve and enhance the nonrenewable natural resources of the state, consisting of land, water, oil and gas, and other materials, through conservation, regulation management, and development to ensure that Louisiana realizes appropriate economic benefits from its asset base. It is a major source of revenue for the state through oil and gas bonuses, rentals, and royalties. Besides the Office of the Secretary and the Undersecretary, LDNR has three main offices: Conservation, Coastal Management, and Mineral Resources.<sup>896</sup>

The Office of Conservation within LDNR, headed by the Commissioner of Conservation, has primary authority over regulation, conservation, and development of oil, gas, lignite, and other natural resources. Its goal is to regulate exploration and production, and to control and allocate supplies and distribution of all of these resources. The Office also seeks to protect the public and the environment from oilfield waste. The six divisions of the Office are Executive, Engineering, Ground Water Resources, Geological Oil and Gas, Injection and Mining, and Pipeline.

LDNR's Office of Coastal Restoration and Management is responsible for the maintenance and protection of the state's coastal wetlands. It regulates human activities and manages coastal resources through two divisions.<sup>897</sup> The Permits/Mitigation Division (PMD) implements the Louisiana Coastal Resources Program (LCRP) under the authority of the Louisiana State and Local Coastal Resources Management Act of 1978. The LCRP strives to achieve balance between conservation and economic

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<sup>894</sup> LOUISIANA EXECUTIVE BUDGET FY 2010-2011, available at <http://doa.louisiana.gov/opb/pub/FY11/FY11ExecutiveBudget.pdf>.

<sup>895</sup> *Id.*

<sup>896</sup> LDNR, *Office of Coastal Management*, <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=85&ngid=5>.

<sup>897</sup> *Id.*

growth. The PMD also regulates development activities and manages resources of the Louisiana Coastal Zone. In addition, the PMD manages the Coastal Use Permit Program.

The Interagency Affairs, Field Services and Compliance Division of the Office of Coastal Management supports local coastal programs, conducts federal consistency reviews, aids in Coastal Nonpoint Pollution Control program efforts (in conjunction with the Louisiana Department of Environmental Quality), administers CELCP, and oversees oil spill planning, response and assessment under the Oil Pollution Act of 1990 and the Oil Spill Prevention and Response Act of 1991. This division is responsible for all biological field investigations and enforcement monitoring activities to ensure compliance with the Louisiana State and Local Coastal Resources Act. The division also performs investigations and assessments to evaluate any potential direct and significant impacts to coastal waters from activities within the coastal zone. Its enforcement authority includes issuing administrative penalties, Cease and Desist Orders, contributions to the coastal resources funds, restoration of the impacted area to preconstruction conditions, and cost of mitigation or restoration via civil or criminal court proceedings.

The Office of Mineral Resources, headed by the Assistant Secretary, manages Louisiana’s mineral assets. The Office advises the State Mineral and Energy Board on leasing state-owned lands and water bottoms for development and production of minerals (primarily oil and gas). The Office has four divisions; the Executive, Geological and Engineering, Mineral Income, and Petroleum Lands.

**Contact:**

Louisiana Department of Natural Resources

Mailing Address: P.O. Box 94396, Baton Rouge, LA 70804-9396

Physical Address: 617 North Third Street, LaSalle Building, Baton Rouge, LA 70802

Phone: (225) 342-4500

Website: <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=85&ngid=5>

**Budget:**

LDNR receives appropriations from a combination of Federal and state sources.

*Funds budgeted by division for FY 2007-2011 (in millions of dollars)<sup>898</sup>*

Office	2006-07	2007-08	2008-09	2009-10	2010-11
Mineral Resources	11.0	10.8	11.3	15.0	15.0
Conservation	16.9	20.7	19.6	20.0	19.2
Coastal Restoration & Management	77.6	101.9	101.1	157.8	150.9
<b>Total*</b>	<b>148.5</b>	<b>176.6</b>	<b>172.1</b>	<b>272.9</b>	<b>264.8</b>

\* The total includes appropriations for the Office of the Secretary.

<sup>898</sup> State of Louisiana, *State Budget Documents*, available at <http://www.doa.louisiana.gov/OPB/state-budget.htm>. The remainder of the total budget is accounted for in the Administrative Office.

**Staff:**

*Staff Positions Budgeted for FY 2008-2011*<sup>899</sup>

Office	2008-2009	2009-2010	2010-2011
Mineral Resources	75	73	68
Conservation	192	187	179
Coastal Restoration & Management	159	159	49
<b>Total*</b>	<b>517</b>	<b>508</b>	<b>380</b>

*\* The other positions were appropriated for the Office of the Secretary.*

**iii. Louisiana Department of Wildlife and Fisheries (LDWF)**

**Scope:**

LDWF is responsible for managing the state's renewable wildlife and aquatic life resources. LDWF's mission is to manage resources and habitat "through replenishment, protection, enhancement, research, development, and education."<sup>900</sup> LDWF is composed of the Office of Fisheries and the Office of Wildlife.

The Office of Fisheries manages fishing and boating activity, commercial and recreational fishing, and the state's fisheries programs. The Office is responsible for overseeing boat registration, administration of fishing licenses and seasons, and creating fishing regulations. The Office of Fisheries also administers the Louisiana Artificial Reef Program, and the Seismic Exploration Activity Program, which was established in 1993 to protect oysters, fish, shrimp and other wildlife from injury due to seismic exploration. The Office also oversees the state's oyster and shrimp programs. It contains an Enforcement Division to ensure compliance with licensing and harvesting regulations.

The Office of Wildlife sets out hunting regulations and license information, in addition to implementing many state programs. The Office will fund conservation actions through the State Wildlife Grant Program. It offers land management assistance to those wishing to improve habitat and manage wildlife on their land, and also allows for Statewide Environmental Investigations, authorized under the Fish and Wildlife Coordination Act. The Office creates Wildlife Action Plans that determine priorities for declining wildlife and habitat to prevent them from becoming endangered, and establish Wildlife Management Areas and Refuges. The Office of Wildlife also has enforcement power to ensure compliance with regulations.

LDWF also oversees the Louisiana Natural Areas Registry and the Louisiana Scenic Rivers Act.

**Contact:**

Louisiana Department of Wildlife and Fisheries  
Physical Address: 2000 Quail Dr., Baton Rouge, LA 70808  
Mailing Address: P.O. Box 98000, Baton Rouge, LA 70898

<sup>899</sup> *Id.*

<sup>900</sup> LDWF, <http://www.wlf.louisiana.gov/about-ldwf>.



Phone: (255) 765-2800

Website: <http://www.wlf.louisiana.gov/>

Email: <http://www.wlf.louisiana.gov/contact>

**Budget:**

LDWF receives appropriations from state and federal sources.

*Funds budgeted by Office for FY 2007-2011 (in millions of dollars)<sup>901</sup>*

Office	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
Fisheries	23.1	40.5	51.2	91.0	106.8
Wildlife	35.2	37.4	41.0	42.5	48.8
Total*	93.4	115.3	130.7	175.3	208.1

\* The other amounts were appropriated for the Office of Management and Finance and Office of the Secretary.

**Staff:**

*Staff Positions Budgeted for FY 2008-2011<sup>902</sup>*

Office	2008-2009	2009-2010	2010-2011
Fisheries	230	224	230
Wildlife	219	211	211
Total*	802	783	775

\* The other positions were appropriated for the Office of Management and Finance and Office of the Secretary.

**iv. Louisiana Department of Environmental Quality (LDEQ)**

**Scope:**

LDEQ aims to promote and protect health, safety, and welfare through comprehensive environmental protection and sound policies concerning Louisiana's air, water, and land resources. The Department is divided into four offices: Secretary, Management and Finance, Environmental Services, and Environmental Compliance.<sup>903</sup>

The Office of Environmental Services regulates pollution sources and implements air, water, and waste permitting processes. The air permitting division implements the Clean Air Act for the state of Louisiana. It maintains a database of emissions information by industry, which is directly reported to LDEQ. The division also works to facilitate public participation, and provides permit support. The water permitting division of the Office of Environmental Services within LDEQ is responsible for water quality regulations and for maintaining surface water quality standards. It also develops TMDLs for impaired water bodies, and implements the relevant Clean Water Act provisions for Louisiana and the Louisiana Water Control Law. The waste permits division implements RCRA, and issues solid and hazardous waste permits. This division offers debris management plans following disasters, and oversees the state's brownfield

<sup>901</sup> State of Louisiana, *State Budget Documents*, *supra* note 898.

<sup>902</sup> *Id.*

<sup>903</sup> LDEQ, <http://www.deq.louisiana.gov/portal>.

cleanup program. The Office of Environmental Services also works to facilitate public participation, and provides permit support.

The Office of Environmental Compliance is responsible for LDEQ's inspection, assessment, and enforcement activities. The inspection division is responsible for inspecting facilities for compliance with their permits. The assessment division evaluates the overall quality of the air and water resources in Louisiana, and carries out emergency response for spills and releases, including those from radiation. The enforcement division settles agreements, engages in enforcement action for permit and other environmental violations, and creates Beneficial Environmental Projects.

**Contact:**

Louisiana Department of Environmental Quality  
 Physical Address: 602 N. Fifth Street, Baton Rouge, LA 70802  
 Phone: 1-866-896-LDEQ  
 Website: <http://www.deq.louisiana.gov/portal/>  
 Email: [webmaster-deq@la.gov](mailto:webmaster-deq@la.gov)

**Budget :**

LDEQ receives appropriations from state and federal sources.

*Funds budgeted by Office for FY 2007-2011 (in millions of dollars)*<sup>904</sup>

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
<b>Environmental Compliance</b>	22.0	22.6	23.4	25.5	51.6
<b>Environmental Services</b>	15.4	16.3	14.7	15.3	31.0
<b>Environmental Assessment</b>	35.7	61.1	44.8	44.5	0.0
<b>Total*</b>	<b>137.0</b>	<b>154.5</b>	<b>153.0</b>	<b>152.7</b>	<b>150.1</b>

\* The other amounts were appropriated for the Office of the Secretary and the Office of Management and Finance.

**Staff:**

*Staff positions appropriated for FY 2008-2011*<sup>905</sup>

	2008-2009	2009-2010	2010-2011
<b>Environmental Compliance</b>	273	295	368
<b>Environmental Services</b>	184	186	275
<b>Environmental Assessment</b>	270	243	0
<b>Total*</b>	<b>953</b>	<b>944</b>	<b>847</b>

\* The other positions were appropriated for the Office of the Secretary and the Office of Management and Finance.

<sup>904</sup> State of Louisiana, *State Budget Documents*, *supra* note 898. The remainder of the total budget was allocated to the Office of the Secretary and the Office of Management and Finance. For fiscal years prior to 2011, the remainder was also allocated to the Office of Environmental Assessment, which folded in 2010.

<sup>905</sup> State of Louisiana, *State Budget Documents*, *supra* note 898. The remainder of the total positions is accounted for in the Secretary and Management and Finance Offices.

### III. State Habitat Issues & Causes

Louisiana <sup>906</sup>	
Issue	Primary Cause
1) Quantifying the Components of Coastal Land Subsidence – Subsidence is a major consideration in restoration project design. Most restoration projects require a detailed knowledge of the shallow geologic strata of the coastal zone for identification of the best sediment resources, and it is critical to understand subsurface processes that can strongly influence coastal system evolution at the surface.	n/a
2) Accurately Predicting High Rates of Relative Sea-Level Rise – Historic sea-level rise data for the Louisiana coast over the last century and current understanding of increasing rates of relative sea-level rise regionally suggest that large areas of the coast will be regularly inundated by the end of the century. Quantifying how much RSLR will occur is necessary to plan coastal protection and restoration activities.	n/a
3) Reduction of Nearshore Hypoxia – High nutrient concentrations in the Mississippi River contribute to water quality problems. The second largest human-caused zone of hypoxia in the world's coastal waters is found in the Gulf of Mexico adjacent to the Mississippi River system. Important commercial and recreational fisheries are impacted as reduced oxygen levels force fish, shrimp and crabs from the area.	n/a
4) Increase the Beneficial Use of Dredged Sediments – To facilitate planned coastal wetland creation and nourishment projects, it will be necessary to use to the maximum extent possible sediments dredged from navigation channel maintenance projects. Both policy and technical constraints now exist that preclude this from occurring.	n/a
5) Understand & Manage Sediment Availability & Dynamics – Related to 7) below?, a full array of approaches are needed to understand both riverine and nearshore sediment dynamics (e.g. deposition, erosion and transport) to determine availability and needs for coastal protection and restoration activities.	n/a
6) Conserve and Increase the Extent of Coastal Forests – Coastal forests have been significantly impacted by development, harvesting, and flooding and salinity stress from environmental changes. These forests can serve not only as an important sustainable component of the coastal economy, but also to help protect coastal infrastructure from storm surges associated with storm events.	n/a

<sup>906</sup> Priority issues identified in GMF, HCRT PRIORITY ISSUE RECOMMENDATIONS SYNTHESIS, *supra* note 461, at 19–20. Causes were not identified by state staff.

<p>7) Reintroduce Natural River Processes to the Mississippi River Delta – The delta is a product of thousands of years of shifting deposition of river sediments, and the wetlands in the interdistributary basins were historically nourished by periodic overbank flooding events. River sediment transport and hydrology must be understood well enough that we are certain that attempts to reintroduce river flow via engineered diversions will be successful.</p>	n/a
<p>8) Ensure the Resilience of Coastal Human Communities – The Louisiana coastal zone is heavily populated by those who earn a living off coastal resources. As demonstrated by the loss of over 200 square miles of wetlands following the hurricanes of 2005, both natural and adjacent human systems on the Louisiana coast are increasingly susceptible to impacts from storms due to the other stressors to which these systems are subjected. Achieving sustainable coastal communities thus means providing for resilient human development adjacent to healthy natural systems. Understanding how to structure human development so that it does not interfere with natural system health, and thus allowing positive feedbacks from the ecosystem, is critical.</p>	n/a
<p>9) Provide for Sustainable Extraction of Mineral Resources – Oil and gas activities are critical to the State’s economy. Historically, these activities were a significant source of stress to the coastal environment. Mechanisms that minimize the environmental footprint of extraction are important to sustain economic opportunities and coastal integrity.</p>	n/a
<p>10) Ensure Coordination between Federal &amp; State Agencies – Historical planning decisions were made individually by federal and state entities pursuing strict agency-specific missions. Institutional barriers and policy limitations must be managed to maximize interagency involvement and promote programmatic success.</p>	n/a
<p>11) Maintain Economic Opportunities for Displaced Communities – Future management, protection and restoration decision-making may require the dislocation of economic opportunities by some stakeholders to ensure coastal sustainability. That needs to be communicated to ensure buy-in, and the nature of those changes needs to be understood to responsibly provide stakeholders with alternatives.</p>	n/a

## F. State Profile: Mississippi’s Legal and Institutional Framework

### I. Laws, Policies, and Programs

	Restoration	Conservation	Research
<b>Wetlands &amp; Estuaries</b>	<ul style="list-style-type: none"> <li>Coastal Wetlands Protection Act</li> <li>Coastal Program</li> </ul>	<ul style="list-style-type: none"> <li>Coastal Wetlands Protection Act</li> <li>Trust Tidelands Act</li> <li>Grand Bay NERR</li> <li>Coastal Preserves Program</li> <li>Scenic Streams Stewardship Act</li> <li>Coastal Program</li> <li>Seafood Laws</li> </ul>	
<b>Beaches &amp; Dunes</b>		<ul style="list-style-type: none"> <li>Gulf Islands National Seashore</li> <li>Coastal Wetlands Protection Act</li> <li>Coastal zone management program</li> </ul>	
<b>Harvested Species Habitat</b>	<ul style="list-style-type: none"> <li>Oyster reef enhancement</li> <li>Artificial reef development</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive fisheries regulation</li> <li>Protections for Pascagoula River System</li> <li>Estuary sanctuaries</li> </ul>	<ul style="list-style-type: none"> <li>Estuary research</li> </ul>
<b>Protected Species Habitat</b>		<ul style="list-style-type: none"> <li>Nongame &amp; Endangered Species Conservation Act</li> </ul>	<ul style="list-style-type: none"> <li>Nongame &amp; Endangered Species Conservation Act</li> </ul>
<b>Protected Places</b>		<ul style="list-style-type: none"> <li>Wildlife Management Areas</li> <li>Coastal Preserves Program</li> <li>Natural Heritage Law</li> <li>Landowner Incentive Program</li> <li>National Wildlife Refuges Gulf Shores National Seashore</li> <li>Conservation easement statute</li> </ul>	<ul style="list-style-type: none"> <li>Natural Heritage Program</li> </ul>
<b>Coastal Management</b>	<ul style="list-style-type: none"> <li>CIAP</li> </ul>	<ul style="list-style-type: none"> <li>Coastal Program</li> <li>Comprehensive Resource Management Plan</li> <li>CIAP</li> </ul>	
<b>Accident Response</b>	<ul style="list-style-type: none"> <li>Water and air pollution liability for fish and wildlife</li> </ul>		
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>Respond to violations of Air and Water Pollution Control Law</li> </ul>	<ul style="list-style-type: none"> <li>Set water quality standards and issue water pollution permits</li> <li>Marine Litter Act</li> </ul>	<ul style="list-style-type: none"> <li>CEQ can research water pollution</li> </ul>
<b>Water Quantity</b>		<ul style="list-style-type: none"> <li>Groundwater permitting and planning</li> </ul>	
<b>Invasive Species</b>	<ul style="list-style-type: none"> <li>Control activities for specific species</li> </ul>	<ul style="list-style-type: none"> <li>Regulation of non-native animals and aquatic species</li> </ul>	

In Mississippi, there are four state institutions with authority relevant to coastal habitat conservation and restoration. The Department of Environmental Quality focuses on ensuring the quality of water, air,

and land for the state, and implements pollution control and prevention programs for these resources. The Department of Marine Resources strives to protect all marine interests in Mississippi through balanced commercial, recreational, educational and economic uses of marine resources consistent with environmental concerns and social changes. The Department of Wildlife, Fisheries and Parks protects state wildlife, fish, and parks through implementation of many federal and state programs and can serve as trustee on conservation easements. For each of these departments, there is a commission of five or seven governor-appointed members that provides policy leadership and adopts regulations. Finally, the Secretary of State is the state land commissioner and trustee of all state-owned lands in Mississippi, including the Public Trust Tidelands.<sup>907</sup> In addition to state entities, several federal bodies have overlapping jurisdiction in the coastal zone.

i. **Wetlands & Estuaries**

*Two laws work together to regulate activities in submerged lands in Mississippi: the Coastal Wetlands Protection Act and the Public Trust Tidelands Act. The Coastal Wetlands Protection Act protects wetlands below the high-tide mark by requiring private and public actors to obtain a permit before making any direct or indirect impacts to coastal wetlands through dredging, filling, materially damaging flora or fauna, or erecting certain structures. It also mandates coastal wetlands evaluations.<sup>908</sup> The Tidelands Act ordered the mapping of state-owned submerged lands and created a Tidelands Fund for directing revenue from tidelands leasing into new programs, if entering into the lease serves a higher public interest. The two laws work both individually and in tandem. For example, based on the authority of the Coastal Wetlands Protection Act and significant funding from the Tidelands Fund, Mississippi has created the Coastal Preserves Program, which acquires and manages sensitive coastal habitats. The Grand Bay National Estuarine Research Reserve and the Mississippi Scenic Streams Stewardship Act provide additional opportunities for place-based conservation efforts. There are no state laws that protect freshwater wetlands from development, so the U.S. Army Corps of Engineers is primarily responsible for permitting development of freshwater wetlands outside the coastal zone under its Clean Water Act jurisdiction.*

On the regulatory side, the purpose of the **Coastal Wetlands Protection Act** is to protect state-owned coastal wetlands that sit below the high-tide mark and related ecosystems.<sup>909</sup> The Act establishes the policy that coastal wetlands shall be preserved in their natural state unless an alteration would serve a higher public interest. The framework covers both direct and indirect impacts, which enables protection of some freshwater wetlands connected to the coastal wetlands as well.<sup>910</sup> Both private and public actors must obtain a permit from Department of Marine Resources before conducting any of the following activities in a coastal wetland: dredging, filling, materially damaging flora or fauna, or erecting

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<sup>907</sup> See Secretary of State, State of Mississippi, *Public Lands—Public Trust Tidelands*, [http://www.sos.ms.gov/public\\_land\\_public\\_trust\\_tidelands.aspx](http://www.sos.ms.gov/public_land_public_trust_tidelands.aspx).

<sup>908</sup> MISS. CODE ANN. §§ 49-27-3, 49-27-5, 49-27-7, 49-27-65.

<sup>909</sup> MISS. CODE ANN. §§ 49-27-3; 49-27-5 (defining “Coastal wetlands”).

<sup>910</sup> Personal communication with expert; see also MDMR, WETLANDS PERMITTING: THE PROCESS, available at [http://www.deq.state.ms.us/mdeq.nsf/pdf/WMB\\_WetlandsPermitting:TheProcess](http://www.deq.state.ms.us/mdeq.nsf/pdf/WMB_WetlandsPermitting:TheProcess).

certain structures.<sup>911</sup> Several activities are explicitly exempt from regulation, including hunting and the operations of state port and mosquito control authorities.<sup>912</sup>

Permitting activities are conducted within the Department's Bureau of Wetlands Permitting, and funded primarily through federal Coastal Zone Management Grants.<sup>913</sup> To enforce the Act, the state Commission on Marine Resources may conduct inspections and revoke or suspend permits when applicants fail to comply with permit conditions.<sup>914</sup> Violations of the Act are misdemeanors punishable with imprisonment or fines of between \$100 and \$1000 per day.<sup>915</sup> The Act also mandates wetlands research: the Commission must evaluate coastal wetlands and share its findings with affected counties, in collaboration with the Gulf Regional Planning Commission and the Gulf Coast Research Laboratory.<sup>916</sup> Finally, the Commission must promulgate rules for implementing the Act.<sup>917</sup>

Although not required by law, the Department of Marine Resources has used its authority under the Coastal Wetlands Protection Act to create a **Coastal Preserves Program** to acquire and manage sensitive coastal habitats.<sup>918</sup> The program's goal is to manage such areas to provide long-term benefits, both to the resources and to regional economies, ultimately contributing to the preservation of 83,000 acres of coastal wetlands.<sup>919</sup> The program currently oversees 20 coastal preserve sites, totaling 72,000 acres, of which the state has title to about 30,000 acres. The Department implements the program in partnership with the Mississippi Secretary of State's Office, the Nature Conservancy, U.S. Fish and Wildlife Service, Grand Bay NERR, and other local, state, and federal agencies.<sup>920</sup>

Several interviewees praised the Coastal Preserves Program as one of the state's most important mechanisms for conserving coastal property.<sup>921</sup> The program has a four-person staff most of whose salaries are federally funded through the Coastal Zone Management Program. State funds for the program's land acquisition primarily come from the Tidelands Trust Fund (discussed below); the legislature also specifically appropriated funds for acquisition on Deer Island. Federal funding has come from NOAA's CELCP program, and remaining CIAP funds may provide an additional source of future funding. When private lands become available for permanent conservation in southern Mississippi, the Coastal Preserves Program, The Nature Conservancy, and the Land Trust for the Mississippi Coastal Plain collaborate successfully to decide where the land best fits. While Mississippi does not have a formal,

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<sup>911</sup> MISS. CODE ANN. § 49-27-5 (defining "Regulated activity").

<sup>912</sup> MISS. CODE ANN. § 49-27-7.

<sup>913</sup> ELI, STATE WETLAND PROTECTION—MISSISSIPPI, *supra* note 32.

<sup>914</sup> MISS. CODE ANN. §§ 49-27-63; 49-27-33 (suspension or revocation after notice and hearing).

<sup>915</sup> MISS. CODE ANN. § 49-27-57. Fines and other fees collected under the Act shall go toward the state Seafood Fund. MISS. CODE ANN. § 49-27-69.

<sup>916</sup> MISS. CODE ANN. § 49-27-65(a).

<sup>917</sup> MISS. CODE ANN. § 49-27-59.

<sup>918</sup> MDMR, *Coastal Preserves Bureau*, <http://www.dmr.state.ms.us/coastal-ecology/preserves/cp-home.htm>.

<sup>919</sup> MDMR, *Mission, Vision, and Goals*, <http://www.dmr.state.ms.us/coastal-ecology/preserves/mission-cp.htm>.

<sup>920</sup> MEMORANDUM OF UNDERSTANDING BETWEEN MISSISSIPPI SECRETARY OF STATE AND MISSISSIPPI DEPARTMENT OF MARINE RESOURCES, available at <http://www.dmr.state.ms.us/Coastal-Ecology/Preserves/Laws/MemorandumofUnderstanding.pdf>.

<sup>921</sup> Personal communication with experts.

state-level wetland restoration program, MDMR does conduct restoration activities through the Coastal Preserves Program when funding is available.<sup>922</sup>

The **Mississippi Public Trust Tidelands Act** passed in 1989 with the goals of resolving uncertainty about the boundaries of the state's public trust lands and of preserving the tidelands in the public trust.<sup>923</sup> The state owns all submerged lands that are naturally affected by the tide, from the mean high tide line out to three nautical miles from shore. The Secretary of State is the trustee of all state-owned lands and is in a position to consider all factors associated with their long-term stewardship; as trustee, his decisions on their use is independent of other agencies' permit approvals or denials.<sup>924</sup> The Act ordered the Secretary, in collaboration with other agencies, to create a preliminary map of Public Trust Tidelands and then settle disputes with landowners.<sup>925</sup> After the preliminary mapping, the Commission on Marine Resources was directed to complete a comprehensive map.<sup>926</sup> The subsequent mapping initiative was successful in establishing clarity regarding the boundaries of the state's sovereign submerged lands, and has been highly praised by both in-state and out-of-state individuals.<sup>927</sup>

In addition, the Act establishes a special fund that receives lease revenues from non-mineral leases of public trust tidelands. The funds are distributed to local taxing authorities to replace lost *ad valorem* taxes, if any, and to the Commission on Marine Resources for "new and extra programs," including conservation, reclamation, preservation, and education programs.<sup>928</sup> As mentioned previously, the Tidelands Fund has been used to fund land acquisition in the Coastal Preserves Program. It has also been used to provide state matching funds for federal CELCP grants. Deposits in the Tidelands Trust Fund were greatest in the Fund's early years for two reasons. First, the mapping of the tidelands led to a boundary settlement program, in which landowners compensated the state for filling in tidelands without permits; in exchange, the landowners obtained secure title to areas above mean high tide where they had carried out unpermitted filling. Second, after the state legislature legalized dockside gambling in 1990, casino owners had the option to lease tidelands for gambling vessels or participate in a land "swap," obtaining title to small acreages of tidelands by funding the public acquisition of larger tracts of coastal wetlands elsewhere.<sup>929</sup>

As trustee for the public trust tidelands, the Secretary of State has the discretionary power to reject leases of them. This was affirmed in 2004 when, in an unpublished opinion, the Supreme Court of Mississippi concluded that "[o]ur Legislature has wisely granted authority and responsibilities of certain issues relating directly to the tidelands, particularly those relating to the gaming industry, to various

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<sup>922</sup> ELI, STATE WETLAND PROTECTION, MISSISSIPPI, *supra* note 913.

<sup>923</sup> MISS. CODE ANN. § 29-15-3.

<sup>924</sup> Personal communication with expert; *Columbia Land Dev., LLC v. Sec. of State of the State of Mississippi*, Eric Clark, 868 So.2d 1006 (Miss. 2004) (affirming the lower court's decision) (affirming the lower court's decision) (citing Secretary of State v. Wiesenberg, 633 So.2d 983, 997 (Miss. 1994); MISS. CODE ANN. §§ 7-11-11, 29-1-1 *et seq.*).

<sup>925</sup> MISS. CODE ANN. § 29-15-7 (unresolved disputes may go to the court of chancery).

<sup>926</sup> MISS. CODE ANN. § 29-15-17.

<sup>927</sup> Personal communication with expert.

<sup>928</sup> MISS. CODE ANN. § 29-15-9.

<sup>929</sup> Personal communication with expert; *see also* KRISTEN M. FLETCHER & REBECCA JORDAN, MISSISSIPPI LAND SWAP MAKES PUBLIC TRUST HISTORY, MISSISSIPPI-ALABAMA SEA GRANT LEGAL PROGRAM (1998), available at <http://www.masgc.org/pdf/masgp/98-015.pdf>.



agencies. However, the Secretary of State's decision to grant a lease of the public trust tidelands is a separate and independent decision from those agencies."<sup>930</sup> However, the Secretary rarely exercises that authority. The Secretary's Public Trust Tidelands office has a three-person staff and has no staff scientists.<sup>931</sup>

As discussed previously, under the **Clean Water Act** the U.S. Army Corps of Engineers is responsible for permitting the discharge of dredge and fill of all federally jurisdictional wetlands. Section 10 of the Rivers and Harbors Act prohibits construction in or the removal or discharge of materials from navigable waters unless recommended and authorized by the U.S. Army Corps.<sup>932</sup> This system is one of the major mechanisms for regulating development in freshwater wetlands, as the state does not have a regulatory program for non-tidal wetlands. However, as discussed above, the state framework covers both direct and indirect impacts to coastal wetlands thereby providing some means of protection for connected freshwater wetlands.<sup>933</sup>

In the state's coastal areas, the Army Corps conducts section 404 permitting activities through the joint permitting system discussed below (under *Coastal Management*).

The system allows people to use a single application to obtain a 404 permit from the Army Corps and a section 401 water quality certification from the state. Most of Mississippi's Gulf coast falls under the jurisdiction of the Army Corps' Mobile Bay District, which has staff in Biloxi who are able to collaborate directly with state agency staff on the coast. The Vicksburg District has jurisdiction over a small part of the state's western coast; it does not have any staff based on the coast. The state does not have legislation on compensatory wetlands mitigation and MDEQ generally defers to the Corps on mitigation issues, although MDEQ policy requires wetland mitigation to occur in the same stream basin as the impact. MDEQ has the authority to bring enforcement actions when there is a permit violation, but in practice the Corps is usually the one to act or refers a case to the EPA.<sup>934</sup>

As of 2008, Mississippi did not have an active wetlands monitoring program.<sup>935</sup> MDEQ's Field Services Division did not have monitoring protocols or dedicated employees for wetlands monitoring. In addition, MDEQ has not developed wetlands-specific water quality standards. However, several federal agencies, such as the US Geological Survey and NOAA, monitor coastal wetlands in whole or in part.<sup>936</sup>

Aside from regulatory tools, Mississippi laws and programs also provide opportunities for various kinds of place-based protections for estuaries and wetlands.

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<sup>930</sup> *Columbia Land Dev., LLC v. Sec. of State of the State of Mississippi*, Eric Clark, 868 So.2d 1006 (Miss. 2004) (affirming the lower court's decision), \*1017.

<sup>931</sup> Personal communication with expert.

<sup>932</sup> 33 USC § 403.

<sup>933</sup> Personal communication with expert.

<sup>934</sup> ELLI, STATE WETLAND PROTECTION, MISSISSIPPI, *supra* note 913.

<sup>935</sup> *Id.*

<sup>936</sup> Personal communication with expert.

The **Mississippi Scenic Streams Stewardship Act** is designed to protect streams with outstanding scenic, recreational, cultural, or ecological characteristics.<sup>937</sup> The Mississippi Department of Wildlife, Fisheries, and Parks – or any state resident – may nominate a stream for the State Scenic Streams Stewardship Program, but stream segments do not join the program until the legislature approves the nomination in a bill.<sup>938</sup> Once a scenic stream designation is complete, the Department cooperates with local governments and landowners to develop a stewardship plan that is completely voluntary; the scenic stream designation does not restrict land uses or create public access rights.<sup>939</sup> A portion of the Wolf River in Pearl River, Hancock, Stone, and Harrison Counties is the only body of water to date that has been designated as a scenic stream in Mississippi.<sup>940</sup> The Department encourages landowners to implement best practices and stream buffers with tax credits and other financial incentives.<sup>941</sup> Most importantly, there is a tax credit of up to \$10,000 for the transaction costs associated with donating or placing a conservation easement on land along a scenic stream.<sup>942</sup>

The **Grand Bay National Estuarine Research Reserve (Grand Bay NERR)** comprises approximately 18,000 acres in southern Mississippi, largely overlapping with the Grand Bay NWR and the Grand Bay Coastal Preserve (a site in the state’s Coastal Preserves Program). The NERR is operated in partnership between NOAA and the Mississippi DMR. Current research activities include mercury monitoring and the development of a tool to assess habitat degradation.<sup>943</sup> Most land within the NERR is publicly owned, either by the federal or state government, and there is a plan to acquire additional conservation lands as willing sellers make parcels available and to conserve other lands through easements and other means.<sup>944</sup>

As discussed below under *Harvested Species Habitat*, the Mississippi Commission on Marine Resources has not exercised its authority to establish **fish sanctuaries** in estuaries and bays to protect the state’s fishing resources.

In 2006, Congress initiated the **Mississippi Coastal Improvements Program** as part of its response to Hurricane Katrina. In the Department of Defense Appropriations Act of 2006, Congress ordered the Department to analyze and design comprehensive improvements to Mississippi’s coast “in the interest of hurricane and storm damage reduction, prevention of saltwater intrusion, preservation of fish and wildlife, prevention of erosion, and other related water resource purposes at full Federal expense.”<sup>945</sup> Within six months, the Army Corps identified fifteen “interim” projects that received, in total, \$110

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<sup>937</sup> MISS. CODE ANN. § 51-4-5.

<sup>938</sup> MISS. CODE ANN. § 51-4-7.

<sup>939</sup> MISS. CODE ANN. §§ 51-4-11, 51-4-19.

<sup>940</sup> MISS. CODE ANN. § 51-4-23.

<sup>941</sup> MDWFP, *Scenic Streams Program*, <http://home.mdwfp.com/ContentManagement/Html/htmldownload.aspx?id=280>.

<sup>942</sup> Miss. Code Ann. § 27-7-22.21.

<sup>943</sup> Grand Bay National Estuarine Research Reserve, *All Projects: Research and Stewardship*, <http://grandbaynerr.org/archives/category/projects>.

<sup>944</sup> Grand Bay National Estuarine Research Reserve, *Land Acquisition*, <http://grandbaynerr.org/land-acquisition>.

<sup>945</sup> Pub. L. 109-148 (Dec. 30, 2005).

million in a one-time federal assistance program.<sup>946</sup> In 2009, the Army Corps completed a comprehensive plan for Mississippi Coastal Improvements,<sup>947</sup> and Congress appropriated \$439 million for barrier island restoration and other projects.<sup>948</sup> Restoration efforts have begun at west Ship Island.<sup>949</sup>

## ii. Beaches & Dunes

*The primary mechanism for protecting natural beach and dune habitat in Mississippi is public ownership. In addition, permitting requirements apply to construction on areas below the mean high tide line; beach nourishment projects have created artificial beach habitat.*

The majority of Mississippi's natural beach and dune habitat is under public ownership. The most significant holding is the **Gulf Islands National Seashore**, where the National Park Service (NPS) manages over 400 acres on four barrier islands in Mississippi state waters. NPS finalized the current management plan for the seashore in 1978, and is working on a new management plan that will adequately address the issues facing the seashore.<sup>950</sup> A draft Waterfowl Hunting Management Plan is currently available and open for public comment.<sup>951</sup>

As discussed above, the state **Coastal Wetlands Protection Act** creates a permitting system for activities that have direct or indirect impacts to the state-owned lands below the mean high tide line and their ecosystems. Under this system, private and public actors must obtain permits from the Mississippi Department of Marine Resources before performing certain activities on the wet beach.<sup>952</sup>

Local county governments are responsible for managing the **manmade beaches** that line mainland Mississippi, along with the Army Corps as part of its property protection mission. After Hurricane Katrina, there were large investments in manmade beaches to protect roads and seawalls. These beaches provide habitat to some rare species, such as the southeastern snowy plover.<sup>953</sup> Among upland maritime and estuarine fringe habitats, this is the only habitat subtype that the Mississippi Comprehensive Wildlife Conservation Strategy classifies as "secure."<sup>954</sup>

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<sup>946</sup> COUNCIL ON ENVIRONMENTAL QUALITY (CEQ), ROADMAP FOR RESTORING ECOSYSTEM RESILIENCY AND SUSTAINABILITY (2010), <http://www.whitehouse.gov/administration/eop/ceq/initiatives/gulfcoast/roadmap>.

<sup>947</sup> U.S. ARMY CORPS OF ENGINEERS, MISSISSIPPI COASTAL IMPROVEMENTS PROGRAM, COMPREHENSIVE PLAN AND INTEGRATED PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (June 2009), available at

<http://www.sam.usace.army.mil/mscip/docs/MSCIP%20Main%20Report%20062209-Errata.pdf>.

<sup>948</sup> CEQ, ROADMAP FOR RESTORING ECOSYSTEM RESILIENCY AND SUSTAINABILITY, *supra* note 946.

<sup>949</sup> Personal communication with expert.

<sup>950</sup> NPS, General Management Plan, <http://www.nps.gov/guis/parkmgmt/general-management-plan.htm>.

<sup>951</sup> NPS, Waterfowl Hunting Management Plan – Draft 8-22-2011, available at <http://parkplanning.nps.gov/document.cfm?parkID=384&projectID=34469&documentID=42855>.

<sup>952</sup> MISS. CODE ANN. § 49-27-5.

<sup>953</sup> MDWFP, MISSISSIPPI'S COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY 2005–2015 (2005), at 238, available at <http://www.mdwfp.com/homeLinks/More/Final/Chapter%204.%20Habitat%20Type%2013.pdf>.

<sup>954</sup> *Id.*

### iii. Harvested Species Habitat

*Mississippi has comprehensive regulation for the fish and shellfish industry.<sup>955</sup> The fisheries laws promote conservation by banning certain types of gear,<sup>956</sup> restricting fishing in the Pascagoula River System,<sup>957</sup> and ordering the Commission on Marine Resources to establish fishing sanctuaries.<sup>958</sup> The state restores and creates harvested species habitat by cultivating and redistributing oysters, channeling needed water to oyster beds,<sup>959</sup> and creating artificial reefs.<sup>960</sup>*

The Mississippi seafood laws asserts that the state’s public policy is “to recognize the need for a concerted effort to work toward the protection, propagation and conservation of its seafood and aquatic life in connection with the revitalization of the seafood industry” in the state.<sup>961</sup> The statute then delineates certain standards for the state’s fishery management plan conservation and management measures to meet, such as that they shall be based upon the best scientific information available and, where practicable, minimize cost and avoid unnecessary duplication.<sup>962</sup>

The Mississippi Commission of Marine Resources has the statutory authority to promulgate rules necessary to protect, propagate, or conserve seafood resources, and to develop limited entry fisheries management programs for each resource, which may entail licensing requirements or the imposition of moratoria on new licenses.<sup>963</sup> While the Commission exercises rulemaking power, the Mississippi Department of Marine Resources is responsible for implementing the state’s comprehensive regulations for its seafood industry through enforcement and day-to-day management.<sup>964</sup> Violations are punished with civil penalties and loss of license.<sup>965</sup> Assets used in prohibited activities are forfeited, and the proceeds are deposited in a Seafood Fund used to support the Department’s activities, artificial reefs, and coastal preservation.<sup>966</sup> All seafood in state waters is considered property of the state.<sup>967</sup>

The state’s commercial fishing laws contain some conservation measures. First, the laws restrict the use of various types of gear that are destructive to habitat. It is unlawful to use large (> 12 feet) Brill and cast nets in state marine waters, or to use gill or trammel nets in waters north of Highway 90 (which parallels the coast across much of the state).<sup>968</sup> The Commission has broad authority to close mussel

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<sup>955</sup> MISS. CODE ANN. §§ 49-15-1–321.

<sup>956</sup> MISS. CODE ANN. §§ 49-15-95; 49-15-100.

<sup>957</sup> MISS. CODE ANN. § 49-15-315.

<sup>958</sup> MISS. CODE ANN. § 49-15-321.

<sup>959</sup> MISS. CODE ANN. §§ 49-15-36–40.

<sup>960</sup> MISS. CODE ANN. § 49-15-15(q).

<sup>961</sup> MISS. CODE ANN. § 49-15-1.

<sup>962</sup> MISS. CODE ANN. § 49-15-2.

<sup>963</sup> MISS. CODE ANN. § 49-15-15–16.

<sup>964</sup> MISS. CODE ANN. §§ 49-15-1–321. Laws governing mussels are codified separately from other seafood laws, but the regulatory regimes are very similar. MISS. CODE ANN. §§ 49-9-1–49-9-17.

<sup>965</sup> MISS. CODE ANN. § 49-15-63.

<sup>966</sup> MISS. CODE ANN. § 49-15-63(1)(b)(d).

<sup>967</sup> MISS. CODE ANN. § 49-15-5.

<sup>968</sup> MISS. CODE ANN. §§ 49-15-95; 49-15-100.

beds from harvesting and prohibits harvesting with any method other than hand tongs.<sup>969</sup> Second, the state legislature has taken special steps to protect the Pascagoula River System. Subject to certain exceptions, it banned commercial crabbing, oyster harvesting, shrimping, and saltwater fishing north of a certain point in Jackson County.<sup>970</sup>

Third, the legislature directed the Commission on Marine Resources to establish sanctuaries that are sufficient to protect the state's fishing resources. Sanctuaries must support prudent fisheries management, research, and the overall public interest.<sup>971</sup> The Commission must also establish nursery grounds in estuaries and bays for the same purpose, and the Gulf Coast Research Laboratory must study them and may recommend creating nursing grounds if deemed necessary to protect the resources.<sup>972</sup> Although this law provides an opportunity to conserve harvested species habitat, no sanctuaries have yet been established under this law.

The Commission on Marine Resources is also responsible for managing oyster reefs and artificial reefs. To enhance oyster reefs, the Commission must oversee the cultivation of reefs and the transfer of oysters from reefs that are too thick to those that are too thin.<sup>973</sup> The DMR's shellfish bureau actively manages oyster beds for production, and collects oyster shell fees to help fund restoration of the reefs.<sup>974</sup> Nonprofit organizations such as The Nature Conservancy improve unharvested reefs.<sup>975</sup> Mississippi has few private commercial oyster beds.

The state's artificial reef activities are guided by the 1999 Mississippi Artificial Reef plan.<sup>976</sup> Since the passage of the federal Liberty Ship Act in 1972, Mississippi has cooperated with the Department of Defense to receive five derelict ships for building reefs. The Mississippi Commission on Marine Resources and the Mississippi Gulf Fishing Banks, Inc. (MGFB), a local non-profit fishermen's organization, also work together to manage reefs ranging from 8 to 10,000 acres. In addition, the Mississippi legislature has appropriated money for reef building. After Hurricane Katrina destroyed the bridge connecting Biloxi and Ocean Springs, the legislature funded the deposit of the bridge rubble south of Deer Island. The result is the state's largest artificial reef, which provides both fishing opportunities and wave attenuation.

#### **iv. Protected Species Habitat**

*Mississippi landowners may "register" natural areas with habitat for protected species or other valuable natural features with the Commission on Wildlife, Fisheries and Parks and volunteer to manage those*

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<sup>969</sup> MISS. CODE ANN. §§ 49-9-5, 49-9-13.

<sup>970</sup> MISS. CODE ANN. § 49-15-315. The prohibition applies in the Pascagoula River System north of the CSX Railroad in Jackson County, Mississippi. *Id.* §49-15-315(1).

<sup>971</sup> MISS. CODE ANN. § 49-15-321.

<sup>972</sup> MISS. CODE ANN. §§ 49-15-315, 49-15-321.

<sup>973</sup> MISS. CODE ANN. § 49-15-37.

<sup>974</sup> Personal communication with expert

<sup>975</sup> Personal communication with expert.

<sup>976</sup> MDMR, *Artificial Reef Bureau*, <http://www.dmr.state.ms.us/fisheries/reefs/artificial-reefs.htm>; MDMR, MISSISSIPPI ARTIFICIAL REEF PLAN (1999), available at <http://www.dmr.state.ms.us/fisheries/reefs/artificial-reef-development.pdf>.

areas according to Commission regulation.<sup>977</sup> The Commission is also responsible for managing hunting and fishing refuges, funded by appropriations or federal or local partner cooperation.<sup>978</sup> Mississippi's counterpart to the federal Endangered Species Act covers state and federally listed species. The Commission holds supporting funds received from federal or private entities in an "endangered species protection fund."<sup>979</sup>

The **Mississippi Nongame and Endangered Species Conservation Act** is Mississippi's counterpart to the federal Endangered Species Act and is administered by the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP). It covers federally protected species and any species that the Commission on Wildlife, Fisheries, and Parks classifies as endangered.<sup>980</sup> Anybody who kills, harasses, or captures an endangered species without a permit may be punished with fines and imprisonment.<sup>981</sup> The Act does not provide for the regulation of habitat on private lands. The Commission must carry out programs to manage endangered species, which may include the acquisition of land or aquatic habitat.<sup>982</sup> However, there is no dedicated source of funding or mechanism for raising state funds for conservation lands. If the Commission receives money from the federal government or private entities for these programs, it must hold that money in a separate "endangered species protection fund." The Foundation for Mississippi Wildlife, Fisheries, and Parks is a nonprofit organization that seeks to help conserve Mississippi wildlife by providing financial support for MDWFP projects.<sup>983</sup>

The law gives the state wildlife agency the power to research species that have not been listed as endangered in order to determine whether they require management under the Act. The Commission must study the populations, habitat needs, and other biological data to determine the management needs of nongame wildlife.<sup>984</sup> Based on these studies, the Commission must issue regulations and development management programs that are designed to insure the continued ability of the species to perpetuate themselves. The Act authorizes a range of management activities ("research, census, law enforcement, habitat acquisition and improvement, and education"), although it does not include regulation of private lands.<sup>985</sup>

Under the federal **Endangered Species Act**, the U.S. Fish and Wildlife Service and National Marine Fisheries Service have designated critical habitat in Mississippi for threatened and endangered coastal species, including the Gulf sturgeon, piping plover, and Mississippi sandhill crane.<sup>986</sup>

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<sup>977</sup> MISS. CODE ANN. §§ 49-5-141–157.

<sup>978</sup> MISS. CODE ANN. §§ 49-5-11–29.

<sup>979</sup> MISS. CODE ANN. §§ 49-5-101–119.

<sup>980</sup> MISS. CODE ANN. §§ 49-5-101–119.

<sup>981</sup> MISS. CODE ANN. § 49-5-105(i) (defining take).

<sup>982</sup> MISS. CODE ANN. § 49-5-111.

<sup>983</sup> Foundation for Mississippi Wildlife, Fisheries, and Parks, *Mission*, <http://www.foundationmwfp.com/mission.aspx>.

<sup>984</sup> MISS. CODE ANN. § 49-5-107.

<sup>985</sup> MISS. CODE ANN. § 49-5-105(e).

<sup>986</sup> See FWS, *Critical Habitat Mapper*, <http://criticalhabitat.fws.gov/crithab/flex/crithabMapper.jsp>; NMFS, Office of Protected Resources, *Critical Habitat*, <http://www.nmfs.noaa.gov/pr/species/criticalhabitat.htm>.

v. **Protected Places**

The Commission on Wildlife, Fisheries, and Parks regulates the state’s **hunting and fishing refuges**.<sup>987</sup> To fund the expansion of the refuges, the Commission may receive appropriations from the legislature or cooperate with federal or local partners.<sup>988</sup>

An important source of funding for the expansion and acquisition of Wildlife Management Areas (WMAs) is the Wildlife Conservation Fund. The Fund receives money from nonresident hunting fees, legislative appropriations, and donations (including a donation option on state tax forms). The Commission uses the fund “for the purpose of acquiring by lease, or purchase any area for hunting or fishing use, outdoor recreation, or for the preservation of any species of wildlife or fish.”<sup>989</sup> In the period 1998-2005, the Commission used \$5,776,848 from the fund to conserve 11,479 acres statewide.<sup>990</sup> While most of Mississippi’s 50 WMAs are not near the coast, a few provide protections for coastal habitat.<sup>991</sup> For instance, the Ward Bayou Wildlife Management Area protects coastal marshes in Jackson County.

The Department of Wildlife, Fisheries, and Parks also receives funds from the Fisheries and Wildlife Fund. It comprises of all funds from license sales, fees, fines, and other revenues, and any interest earned. The funds may be used by the Department for operation and maintenance expenses, and “for any other purpose the department is authorized to expend funds by law.”<sup>992</sup>

The **Mississippi Natural Heritage Law of 1978** creates a framework for habitat management on private land.<sup>993</sup> Landowners can participate by “registering” natural areas with the Commission on Wildlife, Fisheries, and Parks and volunteering to manage them according to Commission regulations. An area qualifies for this program if it contains habitat for protected species or some other valuable natural feature. The state describes these agreements as “non-binding” because either party may terminate them with 30 days notice.<sup>994</sup> To register their property, landowners must agree to preserve the area to the best of their ability, notify the Mississippi Museum of Natural Science (the division of MDWFP that operates the program) of any threats to the area, and give the Mississippi Commission on Wildlife Fisheries and Parks the first option to purchase the area if they decide to offer it for sale.<sup>995</sup> The landowners receive various benefits, including technical assistance on land management.<sup>996</sup>

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<sup>987</sup> MISS. CODE ANN. § 49-5-13.

<sup>988</sup> MISS. CODE ANN. § 49-5-11.

<sup>989</sup> MISS. CODE ANN. § 49-5-77.

<sup>990</sup> Conservation Almanac, *Mississippi Profile of State Programs and Policy Framework*, <http://www.conservationalmanac.org/secure/almanac/southeast/ms/programs.html>.

<sup>991</sup> MDWFP, *Mississippi Wildlife Management Areas*, <http://home.mdwfp.com/wildlife/species/gis/info.aspx?id=750>.

<sup>992</sup> MISS. CODE ANN. § 49-5-21.

<sup>993</sup> MISS. CODE ANN. §§ 49-5-141–157.

<sup>994</sup> Mississippi Museum of Natural Science, *Natural Areas Registry*,

[http://museum.mdwfp.com/science/nhp\\_natural\\_areas\\_registry.html](http://museum.mdwfp.com/science/nhp_natural_areas_registry.html); MISS. CODE ANN. § 49-5-153.

<sup>995</sup> *Id.*

<sup>996</sup> *Id.*

Alternatively, landowners may give qualifying natural areas to the state.<sup>997</sup> Through this “dedication” process, the land becomes a “natural area preserve.” Landowners who donate or place a conservation easement on land in the Program’s priority sites may receive a tax credit of up to \$10,000 to compensate for transaction costs.<sup>998</sup>

As the Commission carries out its duties under the Natural Heritage Law, it utilizes the data compiled through the state’s **Natural Heritage Program**.<sup>999</sup> The program was established in 1996 through an agreement between the state and The Nature Conservancy and maintains a comprehensive inventory of Mississippi’s ecological resources, using field surveys to collect new information.<sup>1000</sup>

The MDWF also operates a **Landowner Incentive Program** (LIP) to conserve and restore imperiled habitats on private land. Of the four habitat types that this program targets, two are native to coastal Mississippi: longleaf pine habitats and Delta hardwood bottomlands.<sup>1001</sup> Landowners who participate in the program can receive technical assistance and cost-share for management activities.

All conservation easements in Mississippi are subject to the provisions of the Mississippi Conservation Easement Act. The Easement Act codifies, with modifications, the Uniform Conservation Easement Act.<sup>1002</sup> The statute provides that conservation easements must be held by an empowered state or federal governmental body or a private, nonprofit charitable organization. In addition to the property owner, easement holder, and other authorized parties, the statute also authorizes enforcement actions by the state Attorney General, MDWFP, and those with a third-party right of enforcement (who must be eligible easement holders).<sup>1003</sup>

### *Federally protected places*

The U.S. Fish and Wildlife Service operates three **National Wildlife Refuges** with wetland habitat in southern Mississippi: Bogue Chitto, Grand Bay, and Sandhill Crane.<sup>1004</sup> Several experts have praised the habitat management activities at Sandhill Crane NWR, which protects rare wet pine savannah. The refuge has a preeminent controlled burn program, and the state DMR has a Memorandum of Understanding with the Fish and Wildlife Service to cooperate on prescribed burns.

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<sup>997</sup> MISS. CODE ANN. § 49-5-155.

<sup>998</sup> MISS. CODE ANN. § 27-7-22.21.

<sup>999</sup> MISS. CODE ANN. § 49-5-149(a).

<sup>1000</sup> *Natural Heritage Program, supra* note 994.

<sup>1001</sup> MDWFP, Private Lands Habitat Program, *Mississippi Landowner Incentive Program*, <http://www.mdwfp.com/Level2/Wildlife/Game/Private%20Lands/Articles.asp?article=440>.

<sup>1002</sup> MISS. CODE ANN. §§ 89-19-1 *et seq.*; *see* MISSISSIPPI-ALABAMA SEA GRANT LEGAL PROGRAM, A CITIZEN’S GUIDE TO CONSERVATION EASEMENTS IN ALABAMA AND MISSISSIPPI (2007), available at <http://masglp.olemiss.edu/citizen2007.pdf>.

<sup>1003</sup> MISS. CODE ANN. §§ 89-19-3, 89-19-7.

<sup>1004</sup> FWS, *Mississippi*, <http://www.fws.gov/refuges/refugeLocatorMaps/Mississippi.html>.



vi. **Coastal Management**

*The only Mississippi law that specifically focuses on coastal management orders the Commission on Marine Resources to implement a coastal program, in compliance with the federal Coastal Zone Management Act.<sup>1005</sup> To streamline relevant processes, the Commission is required to work with other agencies on a “one-stop permitting” system for activities in the coastal zone. State and local governments also have the opportunity to promote coastal management through the state’s Comprehensive Resource Management Plan, the federal Coastal Impact Assistance Program, and local financing.*

The **Mississippi Coastal Program** is a regulatory framework that addresses coastal management in the state. The Mississippi state legislature ordered its Commission on Marine Resources to implement a coastal program that both provides for efficient industrial expansion and the conservation of natural resources, and that meets the standards outlined in the federal Coastal Zone Management Act.<sup>1006</sup> The state coastal zone covered by the resulting program is small, limited to Hancock, Harrison, and Jackson Counties. To minimize bureaucratic obstacles, the Commission is required to work with other agencies on a “one-stop permitting” system for activities in the coastal zone. (Joint permitting activities are discussed above under *Wetlands and Estuaries*).

Under MDMR leadership, the MDMR, MDEQ, and Army Corps have successfully adopted a joint permit system for activities in coastal wetlands. The statute does not explicitly limit the permit system to wetlands, but they are the only subject of joint permits as they are the only habitat type with overlapping jurisdiction. Experts noted that this collaboration is generally successful, although there are several imitations: it is relatively easy for applicants to obtain variances, there is insufficient data to understand cumulative impacts, there is no good system for avoiding piecemealing in permitting decisions, and there is insufficient enforcement capacity.

The program document for the Mississippi Coastal Program is out of date.<sup>1007</sup> The most recent update occurred in 1998, and NOAA’s most recent evaluation required the state to develop a schedule for another update. The program does not reflect the substantial changes in development patterns and natural resources uses, changes to DMR regulations, and agency reorganizations that took place in the intervening years.<sup>1008</sup>

To guide coastal management in a non-regulatory manner, Mississippi has created the **Comprehensive Resource Management Plan (CRMP)**. This program is designed to build capacity in state and local governments for managing Mississippi’s coastal wetlands and marine resources.<sup>1009</sup> The CRMP has

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<sup>1005</sup> MISS. CODE ANN. § 57-15-6.

<sup>1006</sup> MISS. CODE ANN. § 57-15-6.

<sup>1007</sup> NOAA OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT, FINAL EVALUATION FINDINGS MISSISSIPPI COASTAL PROGRAM JANUARY 2005-MARCH 2009 (Apr. 2010), available at <http://coastalmanagement.noaa.gov/mystate/docs/mscp2010.pdf>.

<sup>1008</sup> *Id.* at 19–20.

<sup>1009</sup> MDMR, *Coastal Management and Planning Office*, <http://www.dmr.state.ms.us/cmp/crmp/crmp-home.htm>.

created in Mississippi's six southern counties a network of city and county staff with expertise in smart growth and GIS technology. The program has also funded the Coastal Mississippi Land Suitability Model, a non-regulatory tool that assesses the suitability of coastal areas for development.<sup>1010</sup> It is not specifically required by law.

MDMR operates a **Beneficial Use of Dredged Material Program** that focuses on increasing the beneficial use of sediment in the state. In 2010 the state legislature passed a law outlining discretionary versus mandatory participation in the program. For extractions from wetlands of less than 100 cubic yards, there is no fee or requirement. For extractions more than 100 cubic yards but less than 2,500 cubic yards, the Commission on Marine Resources established a fee of 50 cents per cubic yard extracted for sand or gravel, and 25 cents per cubic yard for other materials. Parties are exempt from the fee, however, if they participate in the beneficial use of dredge materials program. For extractions of more than 2,500 cubic yards, the applicant is required to participate in the beneficial use of dredge materials program, presuming the material is "suitable" for such use and there is an "available" beneficial use site. The Executive Director of MDMR can approve deposits in designated locations at a cost less than 50% of the fair market value of transporting the material and disposing of it in an upland area.<sup>1011</sup> The Commission on Marine Resources recently approved two beneficial use projects that focus on marsh restoration.<sup>1012</sup>

The Mississippi beneficial use law is lauded for its potential as a conservation tool and as a funding mechanism.<sup>1013</sup> MDMR is still determining the best ways to implement it, however. The Department has not adopted definitions for what constitutes "suitable" material or an "available" site; nonetheless, it is making concerted efforts to be consistent in its application of the standards. Aside from structural challenges, an expert noted that the single greatest impediment is funding. Ideally MDMR would be able to construct a containment facility for sediment, in advance of proposed projects, and then charge user fees. An expert also noted that another obstacle to beneficial use is the breadth of the designation of critical habitat for Gulf sturgeon under the Endangered Species Act, as NMFS constrains beneficial use of dredge materials to the recent historical footprint.<sup>1014</sup>

Mississippi has two additional sources of potential funding for conservation and restoration activities: the federal **Coastal Impact Assistance Program (CIAP)** and **local financing**. The Mississippi Department of Marine Resources oversees the state's participation in CIAP.<sup>1015</sup> The state and three coastal counties are eligible for funding to support a variety of projects relating to conservation, mitigation of mineral extraction impacts, or public infrastructure. From 2007–2010 over \$109 million has been allocated to

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<sup>1010</sup> *Id.*

<sup>1011</sup> MISS. CODE ANN. § 49-27-61 (eff. July 1, 2010). The Commission may also waive the fees if the project is undertaken by a government entity or results from a government grant or bond.

<sup>1012</sup> Harlan Kirgan, *State approves use of dredged material for 2 marsh restoration projects*, MISSISSIPPI PRESS, Apr. 21, 2011, [http://blog.gulflife.com/mississippi-press-news/2011/04/state\\_approves\\_use\\_of\\_dredged.html](http://blog.gulflife.com/mississippi-press-news/2011/04/state_approves_use_of_dredged.html).

<sup>1013</sup> Personal communication with experts.

<sup>1014</sup> Personal communication with expert.

<sup>1015</sup> MDMR, EXECUTIVE SUMMARY, FINAL MISSISSIPPI COASTAL ASSISTANCE PLAN (REVISED) 2007-2010, available at <http://www.dmr.state.ms.us/ciap/executive-summary.pdf>.

Mississippi through CIAP, with over \$38 million of the total funding allocated to county projects. The Department and counties have recommended some projects that support habitat goals, such as land acquisition and monitoring activities. However, CIAP has not yet provided money for acquiring state conservation lands.

Local governments have the authority to raise revenue for land acquisition through general obligation bonds. However, no city or county on the Mississippi coast has used that option to fund habitat conservation in the period 1998-2005.<sup>1016</sup>

One potential obstacle to regulation is the **Mississippi Agricultural and Forestry Activity Act**. This law allows a landowner to sue the state for inverse condemnation whenever a state action “prohibits or severely limits” the owner’s right to conduct forestry or agricultural activities and reduces the fair market value of the land by more than 40%.<sup>1017</sup> A 2008 study by the Georgetown Environmental Law and Policy Institute found that the legislation has not had any impact.<sup>1018</sup>

#### vii. **Accident Response**

The Mississippi Department of Environmental Quality acts as the state trustee in NRDA cases.<sup>1019</sup> In addition to Mississippi’s role as state trustee for state resources damaged by accidental discharges of oil and hazardous waste, Mississippi has a provision that creates liability for a water and air polluters who cause the death of fish or other wildlife.<sup>1020</sup> This includes the cost to restock or replenish injured wildlife or fish.

#### ***Deepwater Horizon Oil Spill Restoration in Florida***

Mississippi is an active state trustee in the *Deepwater Horizon* oil spill restoration process. Mississippi maintains a website that provides an overview of the NRDA process, a list of recently submitted early restoration project ideas, and a mechanism to submit additional project ideas.<sup>1021</sup>

#### viii. **Water Quality**

*The Mississippi Air and Water Pollution Control Law guides the state’s participation in the regulatory framework established by the federal Clean Water Act.<sup>1022</sup> It also allows the Commission on Environmental Quality to study water pollution.<sup>1023</sup> The Mississippi Marine Litter Act makes it a crime to deposit garbage in any state waters, and directs the Commission on Marine Resources to regulate disposal facilities.*

<sup>1016</sup> Conservation Almanac, Mississippi, *supra* note 990.

<sup>1017</sup> Miss. CODE ANN. §§ 49-33-7; 49-33-9.

<sup>1018</sup> Echeverria & Hansen-Young, *The Track Record on Takings Legislation*, *supra* note 650, at 38.

<sup>1019</sup> ISRAEL, *supra* note 233.

<sup>1020</sup> Miss. Code Ann. § 49-17-43

<sup>1021</sup> Mississippi Department of Environmental Quality, Natural Resource Damage Assessment, <http://www.mdeqnrda.com/>.

<sup>1022</sup> Miss. CODE ANN. §§ 49-17-1 *et seq.*

<sup>1023</sup> Miss. CODE ANN. § 49-17-17(e).

The **Mississippi Air and Water Pollution Control Law** regulates water pollution for the benefit of public health, wildlife, and water's many beneficial uses.<sup>1024</sup> It also guides Mississippi's participation in the regulatory framework established by the federal Clean Water Act. The state law explicitly restricts protections to surface waters protected by the CWA.<sup>1025</sup> The Commission on Environmental Quality has the power to take a variety of actions to protect all the state's inland, ground, and coastal waters. Perhaps most importantly, the Commission may set water quality standards.<sup>1026</sup> However, it may not enact a regulation that is more stringent than federal standards for water quality.<sup>1027</sup> In the absence of federal rules, the Commission may promulgate regulations that it determines are "necessary to protect human health, welfare or the environment." Similarly, the law governing storm water management districts prohibits the districts from adopting regulations that are more stringent than any regulations adopted by the U.S. EPA.<sup>1028</sup>

Once set, the water quality standards become the basis for decisions by the Permit Board, and no discharge of water pollution is allowed without a permit.<sup>1029</sup> Any violations of the law may be redressed through an administrative process or through a civil process in court.<sup>1030</sup> Violators are punished with fines, which go to the Pollution Emergency Fund, and are also liable for the cost of any emergency clean-up.

As the state strives to reduce water pollution, the Commission is responsible for receiving federal grants and administering Mississippi's pollution abatement grant program.<sup>1031</sup> The Act also has a research component, as it allows the Commission to study water pollution. MDEQ also uses federal funding to implement its Nonpoint Source Management Program. The program operates according to a "Basin Management Approach" and the basin group that encompasses the coastal area focuses on acquiring conservation easements and installing best management practices.<sup>1032</sup>

The **Mississippi Marine Litter Act of 1989** makes it a crime to put garbage in any state waters, although the Act makes exceptions for cases where a good-faith attempt is made to clean up after accidents.<sup>1033</sup> Violations are misdemeanors, punishable with fines, community service, or revocation of boating licenses. The Commission on Marine Resources must issue regulations directing marinas and other access areas to have proper disposal facilities.<sup>1034</sup> The Commission is also authorized to implement the

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<sup>1024</sup> MISS. CODE ANN. § 49-17-3.

<sup>1025</sup> MISS. CODE ANN. § 49-17-5(1)(f).

<sup>1026</sup> MISS. CODE ANN. § 49-17-17; 49-17-19.

<sup>1027</sup> MISS. CODE ANN. § 49-17-34(2)-(3).

<sup>1028</sup> MISS. CODE ANN. § 51-39-27.

<sup>1029</sup> MISS. CODE ANN. §§ 49-17-28, 49-17-29.

<sup>1030</sup> MISS. CODE ANN. § 49-17-43.

<sup>1031</sup> MISS. CODE ANN. § 49-17-17.

<sup>1032</sup> MDEQ, MISSISSIPPI'S NONPOINT SOURCE MANAGEMENT PROGRAM, 2011, available at [http://www.deq.state.ms.us/mdeq.nsf/page/NPS\\_ManagingPollutedRunoffInMississippi?OpenDocument](http://www.deq.state.ms.us/mdeq.nsf/page/NPS_ManagingPollutedRunoffInMississippi?OpenDocument).

<sup>1033</sup> MISS. CODE ANN. § 51-2-3.

<sup>1034</sup> MISS. CODE ANN. § 51-2-7.

Act with other regulations, such as adopting provisions from Annex V of the Protocol of 1978 of the International Convention for the Pollution by Ships (MARPOL).<sup>1035</sup>

**ix. Water Quantity**

The Mississippi Department of Environmental Quality Office of Land and Water Resources oversees water management in the state. Among other things, the Office issues permits for ground water withdrawals and surface water diversions or impoundments, monitors water use, and is responsible for developing a statewide water plan.<sup>1036</sup>

For water quality planning purposes, the state is divided into nine basins and water quality plans are developed by watershed groups coordinated by a state employee. With regard to water quantity management, the Department plans to adopt a statewide approach. It is working on a statewide water quantity planning program, based on a system wherein water management districts develop local plans that are incorporated into regional and statewide planning documents and plans.<sup>1037</sup>

**x. Invasive Species**

The Mississippi Department of Wildlife, Fisheries and Parks is responsible for regulating the importation, possession, sale, and escape of aquatic species and non-native animals.<sup>1038</sup> The department maintains a list of approved, restricted, and prohibited species in these categories. Nobody may release aquatic species or non-native animals without a permit from the department.

Under Mississippi's Aquaculture Act, permits from the Mississippi Department of Agriculture and Commerce are necessary for cultivating and marketing "[a]ll nonnative aquatic plants and animals, including those that are well established in limited or extensive areas of natural lakes, rivers and streams in this state."<sup>1039</sup> Further, the Mississippi Commission on Wildlife, Fisheries, and Parks and the Commission on Marine Resources may issue regulations "to protect the resources under their jurisdiction and to prevent the release of undesirable species from an aquaculture facility into the environment."<sup>1040</sup>

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<sup>1035</sup> MISS. CODE ANN. § 51-2-5. MARPOL Annex V concerns the prevention of pollution by garbage from ships and entered into force Dec. 31, 1988. See International Maritime Organization, MARPOL, [http://www.imo.org/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-\(marpol\).aspx](http://www.imo.org/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-(marpol).aspx).

<sup>1036</sup> MDEQ, *Office of Land and Water Resources*, [http://www.deq.state.ms.us/MDEQ.nsf/page/L&W\\_Home?OpenDocument](http://www.deq.state.ms.us/MDEQ.nsf/page/L&W_Home?OpenDocument).

<sup>1037</sup> U.S. ARMY CORPS OF ENGINEERS, BUILDING STRONG COLLABORATIVE RELATIONSHIPS FOR A SUSTAINABLE WATER RESOURCES FUTURE: STATE OF MISSISSIPPI SUMMARY OF STATE WATER PLANNING (Dec. 2009), at 1–2, available at <http://www.building-collaboration-for-water.org/Documents/StateSummaries/MS%201209.pdf>.

<sup>1038</sup> MISS. CODE ANN. § 49-7-80.

<sup>1039</sup> MISS. CODE ANN. § 79-22-9.

<sup>1040</sup> MISS. CODE ANN. § 79-22-15(5).

Multiple departments contribute to invasive species control (see Table 19).<sup>1041</sup> As of 2008, an aquatic invasive species management plan was under development.

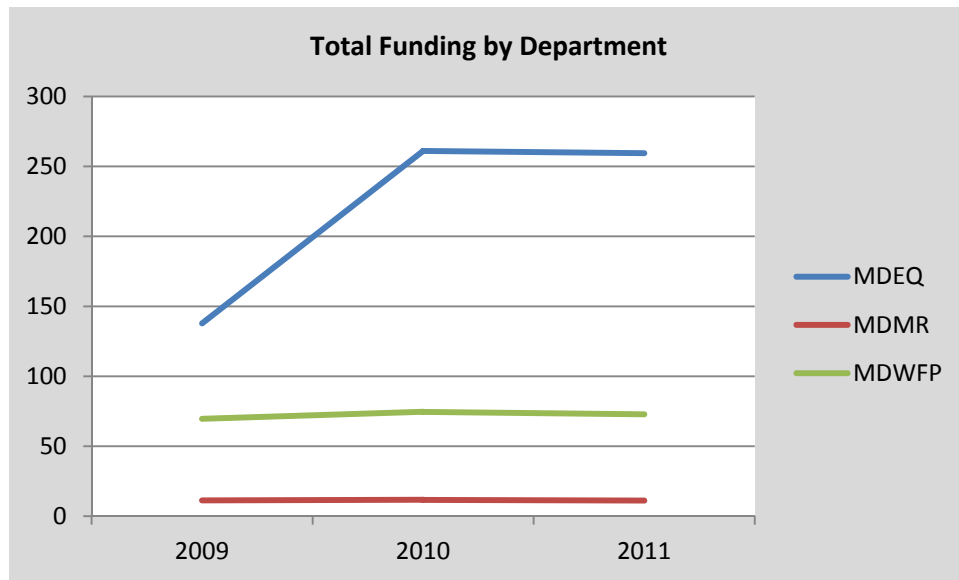
**Table 19. Invasive Species Control in Mississippi**<sup>1042</sup>

Invasive species	Area controlled	Agency
Water hyacinth	Chemical treatment in state parks	DWFP
Common salvinia	Chemical treatment in state parks	DWFP
Grass carp	Stocks populations	DWFP
Salvinia beetles	Stocks populations	DWFP
Giant salvinia	Controlling infestation in a private lake	DAC
Salvinia weevil	Assessing utility as a control for giant salvinia	DMR – CPP
Tallow tree	Using surveys, herbicides, and mechanical removal to control	DMR – CPP
Cogongrass	Using surveys, herbicides, and mechanical removal to control	DMR – CPP
All species	Surveying coastal waters	Alabama-Mississippi Rapid Assessment Team

<sup>1041</sup> NATIONAL CENTER FOR ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL PROTECTION AGENCY, EFFECTS OF CLIMATE CHANGE ON AQUATIC INVASIVE SPECIES AND IMPLICATIONS FOR MANAGEMENT AND RESEARCH A-67 (Feb. 2008).

<sup>1042</sup> *Id.*

## II. Institutions



### i. Mississippi Department of Environmental Quality (MDEQ)

#### Scope:

In 1989, the state legislature created the Department of Environmental Quality to replace the Department of Natural Resources, and moved the Office of Recreation and Parks to the Mississippi Department of Wildlife, Fisheries, and Parks. The Commission on Environmental Quality, composed of seven members appointed by the Governor for staggered seven-year terms, is empowered to formulate Department policy, enforce rules and regulations, receive funding, conduct studies for using the State's resources, and discharge duties, responsibilities and powers as necessary. The agency consists of four offices: the Office of Pollution Control, Office of Land and Water Resources, Office of Geology, and Office of Administrative Services.<sup>1043</sup>

The Office of Pollution performs permitting, monitoring and compliance activities related to air and water. It also provides financial and technical assistance for pollution control measures. The Office maintains both air and water quality standards, and implements major federal environmental legislation including CAA, CWA, and CERCLA. The surface water division within the Office of Pollution carries out beach monitoring, sets TMDLs, and administers MDEQ-funded loan programs for wastewater facilities and nonpoint source pollution control projects.

<sup>1043</sup> MDEQ, *History*, [http://www.deq.state.ms.us/MDEQ.nsf/page/About\\_History?OpenDocument](http://www.deq.state.ms.us/MDEQ.nsf/page/About_History?OpenDocument).

The Office of Land and Water Resources within the MDEQ oversees water quantity issues. To do so, the Office monitors water use, issues permits for groundwater withdrawal, monitors stream flows and water-level changes, and maintains water-related information databases.

The Office of Geology oversees the state’s mineral resources. It regulates all surface mines in the state and manages reclamation efforts. It also implements the Surface Mining Control and Reclamation Act. The Office has a Coastal Geology Section that monitors and assesses coastal habitats in Mississippi, and collects data and information related to specific needs of coastal habitats. The Section carries out coastal monitoring, preservation and research, and publishes reports through its website.

The MDEQ has an enforcement division that is responsible for ensuring compliance with state air, water, and waste permits and regulations.

**Contact:**

Mississippi Department of Environmental Quality

Location: 515 Amite Street, Jackson, MS 39201

Phone: 601-961-5025

Website: <http://www.deq.state.ms.us/>

Emails: <http://www.deq.state.ms.us/newweb/MDEQDirNew.nsf?OpenDatabase>

**Budget:**

*Funds budgeted for FY 2009–2011 (in millions of dollars)*

	FY 2009 <sup>1044</sup>	FY 2010 <sup>1045</sup>	FY 2011 <sup>1046</sup>
<b>State General Funds</b>	13.8	14.3	11.2
<b>Special Funds: Federal</b>	25.3	154.4	150.8
<b>Special Funds: Other</b>	98.7	92.4	97.5
<b>Total</b>	<b>137.8</b>	<b>261.1</b>	<b>259.4</b>

**Staff:**

*MDEQ employees FY 2006–2010<sup>1047</sup>*

<b>2006</b>	426
<b>2007</b>	433
<b>2008</b>	428
<b>2009</b>	448
<b>2010</b>	435

<sup>1044</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2009 (undated), at 15, available at <http://www.dfa.state.ms.us/Offices/OBFM/Forms/FY2009Budget.pdf>.

<sup>1045</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2010 (revised) (compiled July 20, 2009), at 15, available at <http://www.dfa.state.ms.us/Offices/OBFM/Forms/FY2010Budget.pdf>.

<sup>1046</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2011 (compiled June 15, 2010), at 19, available at <http://www.dfa.state.ms.us/Offices/OBFM/Forms/FY2011Budget.pdf>.

<sup>1047</sup> MISSISSIPPI DEPARTMENT OF FINANCE AND ADMINISTRATION, COMPREHENSIVE ANNUAL FINANCIAL REPORT 2010 (Fiscal Year ended June 30, 2010), tbl. 15, available at <http://www.dfa.state.ms.us/Offices/OBFM/BFR%20Files/CAFR%20Files/2010%20CAFR.pdf>.



ii. **Mississippi Department of Marine Resources (MDMR)**

**Scope:**

MDMR was established in 1994 as a separate governing agency to enhance, protect, and conserve the state's marine resources. It is responsible for all aspects of marine resource use and conservation, including the establishment of nursery sanctuaries, and enforcement in the state. MDMR manages all marine life, public trust wetlands, and adjacent uplands and waterfront areas, and provides for the balanced commercial, recreational, educational, and economic uses of these resources. The Department supports a Commission on Marine Resources, composed of five members appointed by the governor for four-year terms, to represent commercial seafood processors, nonprofit environmental organizations, charter boat operators, and recreational and commercial fishermen. MDMR has a variety of program areas, including Coastal Preserves, Coastal Management and Planning, Fishing, Marine Fisheries, and Marine Patrol.<sup>1048</sup>

The Coastal Preserves Program, developed under the authority of the Wetlands Protection Act, acquires, protects, and manages sensitive coastal wetland habitats along the Mississippi Gulf Coast. The program currently oversees twenty coastal preserve sites, totalling 72,000 acres of coastal wetland habitat. The Coastal Preserves Program implements many state and federal laws, including the Mississippi Coastal Wetlands Protection Act, CZMA, CWPPRA, Wild and Scenic Rivers Act, Coastal Wetlands Protection Act, Coastal Barrier Resources Act, and others.

The Coastal Management and Planning Program is responsible for the creation of the Comprehensive Resource Management Plan (CRMP) for Mississippi's coastal resources. The CRMP seeks to coordinate agency efforts and involve the community in managing and protecting coastal habitat.

Under its Fishing Program, the MDMR manages oyster and shrimp harvests, as well as the habitat for such species. The program oversees the permitting process for fishing, oystering, shrimping, and crabbing. It also implements the Oyster Stewardship Program, and aims to conserve and create oyster reefs.

The Marine Fisheries Program implements the Mississippi Artificial Reef Program. They work with the MMS on the "Rigs to Reef" program to further artificial reef development. The Marine Fisheries Program administers Mississippi seafood laws, and contains a Seafood Technology Bureau that is tasked with ensuring commercial seafood is processed and prepared safely for market and consumption.

The Marine Patrol program oversees boat and safety regulations for the state's waterways.

The MDMR is responsible for overseeing coastal zone wetland permitting in conjunction with the U.S. Army Corps and the MDEQ. The Department also administers the Coastal Impact Assistance Program, Public Trust Tidelands Act, the Boat and Water Safety Act, the Derelict Vessel Act, the Non-Point Source

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<sup>1048</sup> MDMR, *About Us*, [http://www.dmr.state.ms.us/DMR/about\\_us.htm](http://www.dmr.state.ms.us/DMR/about_us.htm).

Pollution Act, the Magnuson Act, the Wallop-Breaux Sportfish Restoration Act, Marine Litter Act, and other state and federal mandates.<sup>1049</sup> This includes the department’s authority to establish sanctuaries in estuaries and bays to protect nursery grounds.

**Contact:**

Mississippi Department of Marine Resources  
 Location: Main office – 1141 Bayview Avenue, Biloxi MS 39530  
 Phone: 228-374-5000 (or toll free: 800-374-3449)  
 Website: <http://www.dmr.state.ms.us/>  
 Email list: [http://www.dmr.state.ms.us/DMR/contact\\_us.htm](http://www.dmr.state.ms.us/DMR/contact_us.htm)

**Budget:**

*Funds budgeted for FY 2009-2011 (in millions of dollars)*

	FY 2009 <sup>1050</sup>	FY 2010 <sup>1051</sup>	FY 2011 <sup>1052</sup>
<b>State General Funds</b>	2.0	1.9	1.4
<b>Special Funds: Federal</b>	2.2	2.6	5.3
<b>Special Funds: Other</b>	7.1	7.2	4.5
<b>Total</b>	<b>11.3</b>	<b>11.7</b>	<b>11.2</b>

**Staff:**

*Individualized staff information not available for MDMR.*<sup>1053</sup>

iii. **Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)**

**Scope:**

MDWFP, formerly the Mississippi Game and Fish Commission, was formed in 1956. The Department is headed by the Mississippi Commission on Wildlife, Fisheries and Parks, which has five members appointed by the Governor for five-year terms. Each Commissioner must have demonstrated experience in relevant matters and must be an active outdoorsman that has held a resident hunting or fishing license in at least five of the preceding ten years.<sup>1054</sup> The Commission has authority to “adopt, amend and repeal such regulations and rules as may be necessary for the operation of the department” and to issue all licenses and permits under the Department’s jurisdiction. It also has “all power for conserving, managing and developing wildlife and fishery resources” other than those saltwater and marine resources that fall under the Mississippi Commission on Marine Resources’ jurisdiction.<sup>1055</sup>

<sup>1049</sup> *Id.*

<sup>1050</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2009, *supra* note 1044, at 15.

<sup>1051</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2010, *supra* note 1045, at 15.

<sup>1052</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2011, *supra* note 1046, at 19.

<sup>1053</sup> Mississippi Department of Finance and Administration, Comprehensive Annual Financial Report, *supra* note 1047.

<sup>1054</sup> MISS. CODE ANN. 49-4-4 (2011); MDWFP, *Commission on Wildlife, Fisheries, and Parks*, <http://home.mdwfp.com/Education/Info.aspx?id=25>.

<sup>1055</sup> MISS. CODE ANN. 49-4-4(5), (6), (8).

MDWFP is authorized to conserve, manage, develop and protect state wildlife, manage state parks, and cooperate with other institutions to develop and implement environmental and living natural resources conservation plans.<sup>1056</sup> Specifically, the Department is responsible for the implementation and management of the Endangered Species Act, management of Natural Heritage Areas, and the state's wildlife refuges. MDWFP oversees all 25 of Mississippi's state parks. It is responsible for issuing permits for fishing, hunting, and boating activities, and has enforcement authority over violations. The Department also engages in public education and conducts various hunter and boater safety courses.<sup>1057</sup>

MDWFP has an Environmental Program that aims to protect, conserve, enhance, and restore native populations and their habitats through consultation on environmental projects and permit reviews. Part of this program involves maintaining the Natural Heritage Program database. This database documents the presence of state and federally listed threatened and endangered species. The Environmental Program also carries out consultations with other state agencies regarding fish kills and fish consumption, and the Department is responsible for the closing of fisheries if stocks are overfished.

MDWFP oversees all 50 Mississippi Wildlife Management Areas (some of which are coastal marshes), which amounts to more than 1,000 square miles.

**Contact:**

Mississippi Department of Wildlife, Fisheries, and Parks

Location: 1505 Eastover Dr., Jackson, MS 39211

Phone: (601) 432-2400

Website: <http://home.mdwfp.com/>

Email: <http://home.mdwfp.com/ServiceCard.aspx>

**Budget:**

*Funds budgeted for FY 2009-2011 (in millions of dollars)*

	FY 2009 <sup>1058</sup>	FY 2010 <sup>1059</sup>	FY 2011 <sup>1060</sup>
<b>State General Funds</b>	8.9	8.5	6.7 <sup>1061</sup>
<b>Special Funds: Federal</b>	10.6	15.7	19.2
<b>Special Funds: Other</b>	60.7	50.4	46.8
<b>Total</b>	<b>69.6</b>	<b>74.6</b>	<b>72.8</b>

<sup>1056</sup> Miss. CODE ANN. 49-4-8.

<sup>1057</sup> MDWFP, <http://home.mdwfp.com/Default.aspx>.

<sup>1058</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2009, *supra* note 1044, at 15.

<sup>1059</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2010, *supra* note 1045, at 15.

<sup>1060</sup> STATE OF MISSISSIPPI, JOINT LEGISLATIVE BUDGET COMMITTEE, BUDGET: FISCAL YEAR 2011, *supra* note 1046, at 19.

<sup>1061</sup> Includes \$125,335 labeled "state support special funds."

**Staff:**

MDWFP employees FY 2006–2010<sup>1062</sup>

2006	777
2007	788
2008	710
2009	807
2010	665

**iv. Mississippi Secretary of State****Scope:**

The Office of the Mississippi Secretary of State is divided into seven sections: Business Regulation and Enforcement, Business Services, Education and Publications, Elections, Policy and Research, Public Lands, and Securities and Charities.

The Public Lands Division oversees all state public lands, including the development and implementation of management programs for the Public Trust Tidelands and submerged lands. They extend from the mean high tide line to the seaward boundary of state waters (three nautical miles offshore). The website states that “Public Trust Tidelands are managed with a view towards preservation and revenues are deposited into the Tidelands Fund and disbursed to the Department of Marine Resources for programs and projects relating to conservation, reclamation, preservation, acquisition, education and enhancement of public access to the tidelands.”<sup>1063</sup>

**Contact:**

Gulf Coast Office

Location: 1701 24th Ave., Gulfport MS 39501

Phone: (228) 864-0254

Fax: (228) 864-0325

Website: [http://www.sos.ms.gov/public\\_land\\_public\\_trust\\_tidelands.aspx](http://www.sos.ms.gov/public_land_public_trust_tidelands.aspx) (Public Trust Tidelands)

Email: [http://www.sos.ms.gov/about\\_us-staff.aspx](http://www.sos.ms.gov/about_us-staff.aspx) (Staff Directory)

**Budget:**

*Could not find detailed information on the Office’s budget.*

**Staff:**

The Public Trust Tidelands section has three employees.<sup>1064</sup>

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<sup>1062</sup> Mississippi Department of Finance and Administration, Comprehensive Annual Financial Report, *supra* note 1047.

<sup>1063</sup> Mississippi Secretary of State, *Public Lands–Public Trust Tidelands*, [http://www.sos.ms.gov/public\\_land\\_public\\_trust\\_tidelands.aspx](http://www.sos.ms.gov/public_land_public_trust_tidelands.aspx).

<sup>1064</sup> Personal communication with expert.

### III. State Habitat Issues & Causes

Mississippi <sup>1065</sup>	
Issue	Primary Cause
1) Funding mechanisms – Hurricane recovery funds, MSCIP, CIAP, etc. provide disparate and discontinuous funding for conservation and restoration efforts. At this time no funds have been released for use directly by the State of Mississippi for non-fisheries related habitat restoration and conservation.	Funding and grant program shortcomings
a. Funding through traditional habitat restoration/conservation programs is potentially available, but providing the state match is often problematic, especially for large-scale projects or acquisitions.	Funding and grant program shortcomings
b. Hurricane Katrina Emergency Disaster Recovery Programs (EDRP I and II) have begun and are addressing various habitat restoration efforts. These projects include planting cultch material on damaged oyster reefs, oyster relay activities, derelict crab trap removal, inshore and offshore artificial reef restoration.	Funding and grant program shortcomings
c. Little or no funding for land acquisition, while the cost of coastal real estate continues to rise.	Funding and grant program shortcomings
d. No long-term dedicated funding for management of public lands on the coast.	Funding and grant program shortcomings
e. Little or no funds for monitoring to determine restoration needs or verify the success of restoration projects.	Funding and grant program shortcomings
2) Cool water refuges - There has been a loss of cool water refuges and overall increases in water temperature in coastal plain watersheds. Primary causes are extensive land clearing and development, and wetland loss and reservoir construction. These activities have resulted in watershed wide hydro-geomorphic destabilization and a loss of shading vegetation.	Policy or regulatory shortcomings
3) Sediment budgets - Sediment budgets have been altered drastically in coastal plain watersheds. The fine/ clay fraction now dominates while sand size material is only transported sporadically. This affects turbidity and nutrient levels in the Mississippi Sound, as well as changes the character of material available for beneficial use.	Policy or regulatory shortcomings
4) Non-wetland Habitats –	Policy or regulatory shortcomings

<sup>1065</sup> Priority issues identified in GMF, HCRT PRIORITY ISSUE RECOMMENDATIONS SYNTHESIS, *supra* note 461, at 20–22. The causes were identified by state staff and provided to the Gulf of Mexico Alliance Habitat Conservation and Restoration in 2010–11 (correspondence on file with author).

<p>a. Virtually 100% focus on wetland habitats while coastal upland habitats such as maritime forests are disappearing even more rapidly since they are without regulatory protection.</p>	<p>Policy or regulatory shortcomings</p>
<p>b. A loss of grassland habitat and key pyrogenic communities such as pine savannas has occurred due to lack of consistent fire. This has reduced populations of as many as twenty short-range migratory bird species, including the globally endangered Mississippi Sandhill Crane.</p>	<p>Funding and grant program shortcomings</p>
<p>5) Invasive species - Continued expansion and dominance of invasive exotic species, particularly Chinese tallow, cogongrass, giant salvinia, Japanese climbing fern and Chinese privet persists in the region. Hurricanes and hurricane recovery activities have contributed to the spread of these species. Climate change threatens to solidify infestation by normally frost-limited species (i.e., climbing fern) and opens the door to new invasives from warmer climates. These infestations are often in areas where the ability to use even light machinery is limited, thus increasing the cost and/or reducing the efficiency of control efforts.</p>	<p>Funding and grant program shortcomings</p>
<p>6) Dredging - Non-essential channels and ditches in coastal marshes contribute to marsh erosion, altered marsh hydro periods, altered salinity regimes and loss of hydro-geomorphic habitat features in natural waterways.</p>	<p>Policy or regulatory shortcomings</p>
<p>7) Freshwater diversion - Potential freshwater diversion projects would alter salinity regimes in the Mississippi Sound and should be carefully evaluated to assess impacts to oyster reefs.</p>	<p>--</p>
<p>8) Reef habitat - Hurricane Katrina caused the loss of near and offshore hard bottom reef fish habitat and altered oyster reefs by burying oysters, scouring oyster reefs and killing live oysters. The storm heavily contributed to the thousands of derelict crab traps lost in marine fisheries habitat.</p>	<p>Funding and grant program shortcomings</p>
<p>9) Seagrass – SAV bed extent declined and species composition changed dramatically between 1969 and 1992. Impacts to marine fisheries populations resulting from the Gulf-wide decrease in seagrass beds warrant further study.</p>	<p>Funding and grant program shortcomings</p>
<p>10) Increased development- Development in the coastal zone is limiting the ability of the landscape to provide any significant ecological functions. Specific issues include rapid land conversion, hydrological alterations, water withdrawals, etc.</p>	<p>Policy or regulatory shortcomings</p>

## G. State Profile: Texas' Legal and Institutional Framework

### I. Laws, Policies, and Programs

	Restoration	Conservation	Research
<b>Wetlands &amp; Estuaries</b>	<ul style="list-style-type: none"> <li>Acquiring and conserving prime wetlands, ambitious planning process to avoid net loss</li> </ul>	<ul style="list-style-type: none"> <li>Acquiring and conserving prime wetlands, ambitious planning process to avoid net loss</li> </ul>	
<b>Beaches &amp; Dunes</b>	<ul style="list-style-type: none"> <li>Coastal Erosion Program</li> </ul>	<ul style="list-style-type: none"> <li>Dune conservation laws</li> <li>No recreational vehicles on dunes</li> </ul>	<ul style="list-style-type: none"> <li>Coastal Erosion Program</li> </ul>
<b>Harvested Species Habitat</b>	<ul style="list-style-type: none"> <li>Artificial Reef Act</li> <li>Fish &amp; Game authority for enhancing public oyster reefs</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive fisheries regulation</li> </ul>	<ul style="list-style-type: none"> <li>Oyster and shrimp research</li> </ul>
<b>Protected Species Habitat</b>	<ul style="list-style-type: none"> <li>Nongame &amp; Endangered Species Conservation Account</li> </ul>	<ul style="list-style-type: none"> <li>Nongame &amp; Endangered Species Conservation Account</li> </ul>	<ul style="list-style-type: none"> <li>Nongame &amp; Endangered Species Conservation Account</li> </ul>
<b>Protected Places</b>		<ul style="list-style-type: none"> <li>Wildlife management areas</li> <li>State scientific areas</li> <li>Farm and Ranchlands Conservation Program</li> <li>Local government land acquisition</li> </ul>	
<b>Coastal Management</b>		<ul style="list-style-type: none"> <li>Coastal zone management program, with mechanism for enforcing local compliance with state planning</li> <li>No net loss of state-owned coastal wetlands</li> </ul>	<ul style="list-style-type: none"> <li>Texas Coastal Ocean Observation Network</li> </ul>
<b>Accident Response</b>	<ul style="list-style-type: none"> <li>Oil spill prevention and response law</li> </ul>	<ul style="list-style-type: none"> <li>Oil spill prevention and response law</li> </ul>	
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>Respond to violations of water quality control law</li> </ul>	<ul style="list-style-type: none"> <li>Set water quality standards and issue water pollution permits</li> <li>Water quality planning</li> </ul>	
<b>Water Quantity</b>	<ul style="list-style-type: none"> <li>Environmental flows planning</li> </ul>	<ul style="list-style-type: none"> <li>State and regional water planning</li> </ul>	
<b>Invasive Species</b>	<ul style="list-style-type: none"> <li>Aquatic Habitat Enhancement Program</li> <li>Invasive Species Coordinating Committee</li> </ul>	<ul style="list-style-type: none"> <li>Texas Parks and Wildlife Code</li> <li>State and local aquatic vegetation management plan(s)</li> <li>Invasive Species Coordinating Committee</li> </ul>	<ul style="list-style-type: none"> <li>Golden Alga Task Force</li> </ul>

i. **Wetlands & Estuaries**

*Texas law creates a framework for acquiring and conserving essential coastal wetlands throughout the state.<sup>1066</sup> The state also has an ambitious planning process to achieve no net loss of state-owned coastal wetlands.<sup>1067</sup>*

*State conservation*

The **Coastal Wetland Acquisition Act** aims to protect the state’s most essential coastal wetlands in a manner that respects the property interests of landowners.<sup>1068</sup> The Texas Parks and Wildlife Department (TPWD) must obtain fee or lesser property interests in coastal wetlands through gift, grant, purchase, or condemnation.<sup>1069</sup> Funding for seller compensation can come from gifts, grants, devises, legislative appropriations, or federal gift or grant.<sup>1070</sup> Before TPWD can condemn any property, it must coordinate with the Texas General Land Office (TGLO) to certify the lands are “most essential to the public interest,” based on statutory criteria.<sup>1071</sup> The Department must also promulgate rules and regulations for managing the lands to preserve and protect their integrity.<sup>1072</sup>

At the same time, the Act may impede conservation goals by allowing the continuation of mineral development on acquired lands. TPWD is not authorized to acquire mineral rights through condemnation, and must adopt regulations “governing activities on the land in conjunction with mineral exploration, development, and production.”<sup>1073</sup>

Texas has a **State-Owned Wetland Conservation Plan**.<sup>1074</sup> The Texas Legislature set the goal of no net loss of state-owned coastal wetlands.<sup>1075</sup> TPWD and TGLO were mandated to work together to draft a plan to achieve this goal. In the planning process, they consulted with other local, state, and federal agencies. The plan must include several elements, including monitoring and enforcement; and the agencies must set out their priorities for wetlands mitigation, restoration, and acquisition. The plan is also required to include a mitigation banking system, which would allow mitigation projects to happen before development at another site.

Required research elements include: inventories of state-owned coastal wetlands, evaluation of their freshwater inflow requirements, and examination of the effects of boat traffic on sensitive areas. The drafting effort began in 1994 and the plan was adopted in 1997. It focuses on non-regulatory

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<sup>1066</sup> TEX. NAT. RES. CODE §§ 33.231–238.

<sup>1067</sup> TEX. PARKS & WILD. CODE § 14.002.

<sup>1068</sup> TEX. NAT. RES. CODE § 33.231.

<sup>1069</sup> TEX. NAT. RES. CODE § 33.234(a).

<sup>1070</sup> TEX. NAT. RES. CODE § 33.238.

<sup>1071</sup> TEX. NAT. RES. CODE §§ 33.236–237.

<sup>1072</sup> TEX. NAT. RES. CODE § 33.234(c).

<sup>1073</sup> TEX. NAT. RES. CODE § 33.234(b)–(c).

<sup>1074</sup> TPWD, TEXAS WETLANDS CONSERVATION PLAN (1997), available at [http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd\\_pl\\_r2000\\_0005.pdf](http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_r2000_0005.pdf).

<sup>1075</sup> TEX. PARKS & WILD. CODE § 14.002.



approaches to conservation by providing financial, technical, and educational incentives for private stewardship.

An expert noted that one difficulty with effective wetlands protection in the state is that it tends to occur on a relatively small scale. It can be difficult to garner the resources to protect larger areas, e.g., wetlands greater than 100 acres.<sup>1076</sup>

The **Texas Estuaries Act** establishes the framework for Texas' participation in the National Estuary Program (NEP), which provides federal grants to implement conservation and management plans in estuaries of national significance. The Texas Commission on Environmental Quality (TCEQ) is the lead state agency for implementing approved conservation and management plans, and several other agencies must assist in implementing the plans.<sup>1077</sup> With this authorization, the state has cooperated with U.S. EPA to create two NEPs: Galveston Bay Estuary Program and Coastal Bend Bays & Estuaries Program.

The Coastal Bend Bays NEP is led by an independent nonprofit group in order to promote local leadership in implementing the Comprehensive Conservation and Management Plan.<sup>1078</sup> Both programs address habitat loss as a high-priority issue.<sup>1079</sup> TPWD has collaborated with the NEPs on habitat conservation initiatives, reporting the number of acres conserved to the legislature as a means of tracking success.<sup>1080</sup> One expert noted that the NEPs successfully bring stakeholders together for large projects and successfully leverage federal investments, but state politics prevent them from tackling issues like climate adaption.<sup>1081</sup>

### *Regulation*

The federal **Clean Water Act** is the primary regulatory protection for Texas wetlands. Consequently, wetlands outside of federal jurisdiction are particularly vulnerable.<sup>1082</sup> Experts explain that in a landscape like coastal Texas, where freshwater wetlands are found very close to saltwater wetlands, the loss of Clean Water Act jurisdiction makes a major impact; Texas' prairie potholes are not currently subject to any regulatory protection.<sup>1083</sup> TCEQ is the agency responsible for certifying that U.S. Army Corps Section 404 permits are consistent with state law, and its regulations establish a goal to "achieve

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<sup>1076</sup> Personal communication with expert.

<sup>1077</sup> TEX. WATER CODE §§ 5.604–6.605. The other agencies include the TGLO, TPWD, Texas Department of Transportation, Railroad Commission of Texas, State Soil and Water Conservation Board, Texas Water Development Board, and Texas Department of Health. *Id.* § 5.605.

<sup>1078</sup> Coastal Bend Bays and Estuaries Program, A National Program, <http://www.cbbep.org/nationalprogram.html>.

<sup>1079</sup> Galveston Bay Estuary Program, Habitat Priority Problems, <http://www.gbep.state.tx.us/priority-problems/habitat.asp>; Coastal Bend Bays and Estuaries Program, Priority Focus, <http://www.cbbep.org/priorityfocus.html>.

<sup>1080</sup> Personal communication with expert.

<sup>1081</sup> Personal communication with expert; see also John Burnett, *Scientists Say Texas Agency Edits Out Climate Change*, NPR (Nov 4, 2011), available at <http://www.npr.org/2011/10/27/141748024/scientists-say-texas-agency-edits-out-climate-change>.

<sup>1082</sup> See ELI, *AMERICA'S VULNERABLE WATERS: ASSESSING THE NATION'S PORTFOLIO OF VULNERABLE AQUATIC RESOURCES SINCE RAPANOS V. UNITED STATES* (Aug. 2011), available at [http://www.elistore.org/reports\\_detail.asp?ID=11416](http://www.elistore.org/reports_detail.asp?ID=11416).

<sup>1083</sup> Personal communication with expert.

no overall net loss of the existing wetlands resource base with respect to wetlands functions and values in the State of Texas.”<sup>1084</sup>

Experts identified several issues with enforcement in the state. First, entities that fill wetlands without a permit often receive an after-the-fact permit with no penalty, largely because enforcement of the Clean Water Act is not a high priority for the U.S. Attorneys in Houston. Second, the Army Corps should follow up more thoroughly at mitigation sites because wetland creation is sometimes not as successful as planned.<sup>1085</sup> Third, there is a lack of focus on seeking out unpermitted developing in wetlands; authorities tend to rely on applications or public reporting to learn about development, rather than monitoring such areas.<sup>1086</sup> Lastly, many wetlands were placed outside of management jurisdiction by the SWANCC holding regarding isolated water bodies. On the other hand, the Supreme Court holding in *Rapanos* actually helped with wetlands protection, by providing an opportunity to demonstrate that a wetland had a “significant nexus.”<sup>1087</sup>

Texas also authorizes state agencies and political subdivisions to establish **wetland mitigation banks**.<sup>1088</sup> Local governments can finance mitigation banks through several different means, including bonds.<sup>1089</sup> An expert noted that the state emphasis on “no net loss” has led to the creation of numerous replacement wetlands, which may not be as viable as naturally created ones; although there has been success re-excavating prairie potholes, a less complex ecosystem. In addition, compensatory wetlands may be created in a different watershed from the one that is being destroyed. It is unclear whether there is a difference between mitigation completed by for-profit versus public mitigation banks.<sup>1090</sup>

## ii. **Beaches & Dunes**

*Texas’ Coastal Erosion Program studies coastal erosion and funds coastal erosion response projects, such as beach nourishment, groin construction, and enhancement for dunes and wetlands.*<sup>1091</sup> Pursuant to the state’s dune conservation laws, TGLO and municipal governments designate sand dunes for protection.<sup>1092</sup> *Before damaging dunes or dune vegetation in these areas, public and private parties must obtain a permit certifying that their activities will not materially weaken the dunes. The law also prohibits the use of recreational vehicles on dunes.*

The state legislature initially passed the **Texas Open Beaches Act** in 1959, and the Act’s key provisions were incorporated into the state constitution through a 2009 referendum. As guaranteed by the state constitution, the public has a right to access “public beaches,” defined as:

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<sup>1084</sup> 30 TEX. ADMIN. CODE § 279.2.

<sup>1085</sup> Personal communication with expert.

<sup>1086</sup> Personal communication with expert.

<sup>1087</sup> Personal communication with expert.

<sup>1088</sup> TEX. NAT. RES. CODE §§ 221.001 *et seq.*

<sup>1089</sup> TEX. NAT. RES. CODE § 221.046.

<sup>1090</sup> Personal communication with expert.

<sup>1091</sup> TEX. NAT. RES. CODE §§ 33.601 *et seq.*

<sup>1092</sup> TEX. NAT. RES. CODE §§ 63.001 *et seq.*

State-owned beach bordering on the seaward shore of the Gulf of Mexico, extending from mean low tide to the landward boundary of state-owned submerged land, and any larger area extending from the line of mean low tide to the line of vegetation bordering on the Gulf of Mexico to which the public has acquired a right of use or easement to or over the area by prescription or dedication or has established and retained a right by virtue of continuous right in the public under Texas common law.<sup>1093</sup>

The legislature has the power to “protect the public beach easement from interference and encroachments.”<sup>1094</sup> While the legislature has the authority to release most of the state’s property interests, it may not allow the sale of public beaches.<sup>1095</sup>

For decades, the definition of public beaches has been interpreted to create a “rolling easement” that adjusts as its natural boundaries shift.<sup>1096</sup> In a November 2010 opinion, the Texas Supreme Court held that the public easement does not “roll” onto new land when a sudden “avulsive” event like a hurricane changes the natural contour of the beach.<sup>1097</sup> Upon appeal from the state, the Texas Supreme Court granted rehearing on the case; however, following the plaintiff’s sale of the property in question, in July 2011 the Court decided to abate rehearing of the case’s state-law questions until the Fifth Circuit decides whether the case is moot.<sup>1098</sup> One expert noted that uncertainty about the extent of public beaches can be an obstacle to renourishment activities.<sup>1099</sup>

Texas’s dune conservation laws prevent public and private parties from harming certain dunes unless they first obtain a permit. State and local government each have a role in determining which dunes receive protection. TGLO or municipal governments must establish a “dune protection line” within 1,000 feet of the mean high tide line.<sup>1100</sup> TGLO must also identify “critical dune areas” within 1,000 feet of the mean high tide line that are essential to protect state-owned land.<sup>1101</sup>

Before doing anything that might damage critical dunes or dunes seaward of a protection line, people must get a permit from TGLO or their municipal government.<sup>1102</sup> The only activities that are eligible for permits are those that “will not materially weaken the dune or materially damage vegetation on the dune or reduce its effectiveness as a means of protection from the effects of high wind and water.”<sup>1103</sup> There are, however, exceptions for a few activities that never require permits: livestock grazing, oil and

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<sup>1093</sup> TEX. CONST. art. I, § 33(a).

<sup>1094</sup> TEX. CONST. art. I, § 33(b).

<sup>1095</sup> TEX. CONST. art. VII, § 2B.

<sup>1096</sup> Personal communication with expert.

<sup>1097</sup> *Severance v. Patterson*, No. 09-0387 (Tex. Nov. 5, 2010) (certified questions on appeal from S.D. Tex).

<sup>1098</sup> *Severance v. Patterson*, No. 09-0387 (Tex. July 29, 2011) (certified questions on appeal from S.D. Tex).

<sup>1099</sup> Personal communication with expert.

<sup>1100</sup> TEX. NAT. RES. CODE § 63.011–.014.

<sup>1101</sup> TEX. NAT. RES. CODE § 63.121.

<sup>1102</sup> TEX. NAT. RES. CODE § 63.091.

<sup>1103</sup> TEX. NAT. RES. CODE § 63.054.

gas drilling, and recreational activities (other than using recreational vehicles).<sup>1104</sup> It is always illegal to operate recreational vehicles on the protected dunes.<sup>1105</sup> Violators may pay administrative penalties and the cost of restoring the dunes.<sup>1106</sup>

The statutorily created **Coastal Erosion Program** studies coastal erosion and funds erosion response projects, such as beach nourishment, groin construction, and measures to enhance dunes and wetlands.<sup>1107</sup> The TGLO Commissioner must develop and maintain a coastal erosion response plan, in coordination with other state, local, and federal agencies and the general public.<sup>1108</sup> The Land Office must address a long list of public concerns; some of these directly relate to habitat restoration and conservation (for example, the “protection, revegetation, and restoration of dunes”), while others are either less related or may conflict with conservation and restoration efforts (for example, “structural shoreline protection projects”). Per the Coastal Erosion Planning and Response Act, projects are funded by the Coastal Erosion Response Account, which receives monies from the state general revenue fund, federal grants, state revenue from the sale of dredged material, and penalties related to beach construction or dune protection.<sup>1109</sup>

The Commissioner of TGLO enjoys various discretionary powers under the Act. The Commissioner may promulgate rules regarding local plans, such as encouraging local governments to reduce public expenditure on erosion and storm damage losses by establishing a building set-back line.<sup>1110</sup> The Commissioner may also apply for grants and receive gifts to carry out the erosion program.<sup>1111</sup> Finally, the Commissioner may close or modify certain man-made passes that contribute to nearby beach erosion.<sup>1112</sup> Every other year, the Commissioner must report to the legislature on its recent and proposed studies and projects, their expected costs, and the status of the erosion response account.<sup>1113</sup>

### *Public acquisition*

In Texas, many areas of beach and dune habitat are protected through public ownership, under a variety of management mechanisms. Texas has three **state parks** with beach and dune habitat: Galveston Island, Mustang Island, and Sea Rim.<sup>1114</sup> The state **wildlife management area (WMA)** system also protects beach and dune habitat. The Matagorda Island WMA is the unit with the most impressive holdings, conserving 56,688 acres of beach, dune, and bayside marsh habitat.<sup>1115</sup> Managed by the U.S.

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<sup>1104</sup> TEX. NAT. RES. CODE § 63.052.

<sup>1105</sup> TEX. NAT. RES. CODE § 63.091.

<sup>1106</sup> TEX. NAT. RES. CODE §§ 63.1811, 1813.

<sup>1107</sup> TEX. NAT. RES. CODE § 33.601(5).

<sup>1108</sup> TEX. NAT. RES. CODE § 33.602.

<sup>1109</sup> TEX. NAT. RES. CODE § 33.604.

<sup>1110</sup> See TEX. NAT. RES. CODE § 33.607.

<sup>1111</sup> TEX. NAT. RES. CODE § 33.606.

<sup>1112</sup> TEX. NAT. RES. CODE § 33.613.

<sup>1113</sup> TEX. NAT. RES. CODE § 33.608.

<sup>1114</sup> TPWD, *Gulf Coast Travel Region*, [http://www.tpwd.state.tx.us/spdest/findadest/gulf\\_coast/](http://www.tpwd.state.tx.us/spdest/findadest/gulf_coast/).

<sup>1115</sup> TPWD, *Wildlife Management Areas of Texas, Matagorda Island (WMA)*, [http://www.tpwd.state.tx.us/huntwild/hunt/wma/find\\_a\\_wma/list/?id=48](http://www.tpwd.state.tx.us/huntwild/hunt/wma/find_a_wma/list/?id=48).

National Park Service, **Padre Island National Seashore** is the world's longest expanse of undeveloped barrier island.<sup>1116</sup>

iii. **Harvested Species Habitat**

*Texas has a comprehensive system for permitting and managing commercial fisheries.<sup>1117</sup> State law also creates a framework for developing artificial reefs and enhancing public oyster reefs.<sup>1118</sup> The state has research programs for oysters and shrimp that study a variety of topics of interest to fishery managers, including "environmental parameters" limiting abundance.<sup>1119</sup>*

Like the other Gulf states, Texas has an extensive regulatory system for commercial fishing. All commercial fishermen need a license to operate.<sup>1120</sup> The Texas Fish and Game Commission has broad authority over how and when fishing may occur. Violations of the fishing laws are misdemeanors and punished through the criminal justice system.<sup>1121</sup>

The Commission also has some research and restoration responsibilities. It must engage in research on oysters and shrimp, examining the factors that affect populations, harvesting methods, and other topics.<sup>1122</sup> The one aspect of the fishing laws that supports habitat restoration is the Commission's authority to enhance public oyster reefs by depositing oyster shells.<sup>1123</sup>

TPWD has focused special attention to oyster reef restoration in Galveston Bay since Hurricane Ike destroyed roughly half of the Bay's oysters in 2008. The Department has used federal disaster response grants to fund oyster restoration.<sup>1124</sup> However, one expert noted that the funding is not sufficient to support the type of large-scale restoration necessary.<sup>1125</sup> Another expert commented that TPWD has effectively used traditional fisheries management tools to manage Galveston Bay's oysters, but the greatest threat to the oysters is increased predation as freshwater inflows into the bay decline.<sup>1126</sup>

The **Texas Artificial Reef Act** is the state's counterpart to the National Fishery Enhancement Act. It directs the Texas Parks and Wildlife Department to develop and implement a plan for artificial reefs in Texas' state waters and adjacent federal fisheries.<sup>1127</sup> The Department also has the power to build reefs,

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<sup>1116</sup> U.S. National Park Service, *Padre Island Nature and Science*, <http://www.nps.gov/pais/naturescience/index.htm>. The national seashore also protects other types of habitat, including coastal prairie, tidal flats, and a hypersaline lagoon.

<sup>1117</sup> TEX. PARKS & WILD. CODE §§ 47.001 *et seq.*

<sup>1118</sup> TEX. PARKS & WILD. CODE §§ 89.001 *et seq.*; *id.* § 76.020.

<sup>1119</sup> TEX. PARKS & WILD. CODE §§ 76.302, 77.004.

<sup>1120</sup> TEX. PARKS & WILD. CODE § 47.002.

<sup>1121</sup> TEX. PARKS & WILD. CODE § 47.051.

<sup>1122</sup> TEX. PARKS & WILD. CODE § 77.004.

<sup>1123</sup> TEX. PARKS & WILD. CODE § 76.020.

<sup>1124</sup> TPWD Press Release, *Galveston Bay Oyster Restoration Expanding*, Aug. 15, 2011, available at <http://www.tpwd.state.tx.us/newsmedia/releases/?req=20110815a>.

<sup>1125</sup> Personal communication with expert.

<sup>1126</sup> Personal communication with expert.

<sup>1127</sup> TEX. PARKS & WILD. CODE § 89.021.

and may use obsolete bridges and tunnels to do so.<sup>1128</sup> To fund these activities, the Act creates an Artificial Reef Account that is dedicated to creating and managing reefs.<sup>1129</sup>

The **Wildlife Conservation Act** gives TPWD responsibility for regulating hunting.<sup>1130</sup> The Department determines the hunting seasons for the various kinds of game, and it is a misdemeanor to violate the Department’s hunting rules. To support sound regulation, the Department must conduct research on all species of game to determine their supply, economic value, environments, breeding habits, gender ratios, and factors affecting their supply.

Under state statute, the Texas Parks and Wildlife Commission has the authority to proclaim **fish sanctuaries**.<sup>1131</sup> Despite this authority, there are currently no fish sanctuaries in Texas.

#### iv. **Protected Species Habitat**

*Texas has made it a misdemeanor to kill, trap, possess, or transport a federally or state-listed endangered species.<sup>1132</sup> Among other things, the Nongame and Endangered Species Conservation Account generated from donations, sales, and fees may be used for habitat enhancement or acquisition.<sup>1133</sup> The state legislature gave local governments the authority to create habitat conservation plans, and impose supporting regulations, that meet the requirements of the federal ESA,<sup>1134</sup> before an agency can acquire habitat, however, voters must pre-approve bonds to fund it.*

Texas has made it a misdemeanor to kill, trap, possess, or transport an endangered animal.<sup>1135</sup> The state protects both species recognized by the federal government as threatened or endangered and those on TPWD’s list of endangered species. The Department may protect any species of wildlife that is “threatened with statewide extinction” due to natural or man-made factors. Endangered plants are protected under a separate law, which prohibits taking endangered plants from public land and requires proof of the landowner’s consent before taking such plants from private land.<sup>1136</sup>

While Texas’ counterpart to the Endangered Species Act does not protect the species’ habitat from development, the state does fund some habitat research and conservation. TPWD administers a **Nongame and Endangered Species Conservation Account**.<sup>1137</sup> The Account collects funds from donations, grants, the sale of wildlife art, and certain fees, and may be used for public education, research, habitat enhancement or acquisition, or other activities to benefit protected species.

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<sup>1128</sup> TEX. PARKS & WILD. CODE § 89.005.

<sup>1129</sup> TEX. PARKS & WILD. CODE § 89.041.

<sup>1130</sup> TEX. PARKS & WILD. CODE §§ 61.001–.901.

<sup>1131</sup> TEX. PARKS & WILD. CODE § 81.206.

<sup>1132</sup> TEX. PARKS & WILD. CODE §§ 68.001–.021.

<sup>1133</sup> TEX. PARKS & WILD. CODE §§ 11.051–.056.

<sup>1134</sup> TEX. PARKS & WILD. CODE §§ 83.011–.020.

<sup>1135</sup> TEX. PARKS & WILD. CODE §§ 68.001–.021.

<sup>1136</sup> TEX. PARKS & WILD. CODE §§ 88.001–.012.

<sup>1137</sup> TEX. PARKS & WILD. CODE §§ 11.05–.056.

The state legislature authorizes local governments to create habitat conservation plans that meet the requirements of the federal Endangered Species Act.<sup>1138</sup> Local governments can impose regulations that protect endangered species if they are necessary to implement a habitat conservation plan. However, it is difficult for local governments to acquire new lands to preserve critical habitat. Before an agency can adopt a plan that involves habitat acquisitions – known as a regional habitat conservation plan – voters must pre-approve bonds to fund the new habitat preserves.

v. **Protected Places**

*The Texas Parks and Wildlife Department manages a diverse system of state lands, including wildlife management areas, fish hatcheries, and designated scientific areas. It also has the authority to acquire new wildlife management areas.<sup>1139</sup> The Farm and Ranch Lands Conservation Program facilitates voluntary agricultural conservation easements. Local governments can also fund land conservation.*

The Texas Parks and Wildlife Department manages a system of state lands, which includes wildlife management areas, fish hatcheries, and “scientific areas.”<sup>1140</sup> While **wildlife management areas (WMAs)** are intended to serve primarily as hunting reserves, TPWD has the authority to manage these lands “along sound biological lines,” providing an opportunity to maintain habitat for diverse species.<sup>1141</sup> The Department also has the authority to acquire new WMAs.<sup>1142</sup> Texas has 12 WMAs in the Gulf Coast region, which preserve barrier islands, salt grass marshes, tallgrass prairies, and other habitats.<sup>1143</sup>

State statute allows the Department to establish new **scientific areas** for research and the preservation of species with scientific or educational value.<sup>1144</sup> TPWD has used this authority to create two state scientific areas on the Texas coast: Nine-Mile Hole and Redfish Bay State Scientific Area.<sup>1145</sup> By regulation, the Department prohibits the use of airboats and propeller boats in the Nine Mile Hole area and prohibits uprooting seagrasses with propellers in the Redfish Bay area. Although both of these areas lead to protection of submerged habitats, the statute does not limit TPWD’s authority to establish areas that include other habitats.

TPWD uses revenue from hunting and fishing licenses to fund land acquisition. Statewide, the Department used these funds (and revenue from sales of the Horned Toad license plate) to purchase over 131,000 acres between 1998 and 2008, for a value of nearly \$14 million.<sup>1146</sup> However, compared to

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<sup>1138</sup> TEX. PARKS & WILD. CODE §§ 83.011–.020.

<sup>1139</sup> TEX. PARKS & WILD. CODE §§ 81.001–.506.

<sup>1140</sup> TEX. PARKS & WILD. CODE §§ 81.001–.506.

<sup>1141</sup> TEX. PARKS & WILD. CODE § 81.401(b).

<sup>1142</sup> TEX. PARKS & WILD. CODE § 81.401(a).

<sup>1143</sup> TPWD, Wildlife Management Areas, *Gulf Coast*,

[http://www.tpwd.state.tx.us/huntwild/hunt/wma/find\\_a\\_wma/maps/?action=getMap&region=4](http://www.tpwd.state.tx.us/huntwild/hunt/wma/find_a_wma/maps/?action=getMap&region=4).

<sup>1144</sup> TEX. PARKS & WILD. CODE § 81.501.

<sup>1145</sup> 31 TEX. ADMIN. CODE §§ 57.920–.921.

<sup>1146</sup> Trust for Public Land, Conservation Almanac, *Texas Profile of State Programs and Policy Framework*, <http://www.conservationalmanac.org/secure/almanac/southwest/tx/programs.html>.

the other states in the region, Texas does not have much publicly-held conservation land. Ninety-five percent of the state's land is privately owned.<sup>1147</sup>

In 2005, the Texas Legislature established the **Farm and Ranch Lands Conservation Program** "to enable and facilitate the purchase and donation of agricultural conservation easements."<sup>1148</sup> All easements are created voluntarily.<sup>1149</sup> To participate in the program, an agricultural conservation easement must be perpetual or for a 30-year term, but landowners may request that the Texas Farm and Ranch Lands Conservation Council terminate the easement by submitting a "statement of impossibility." Funds for purchasing agricultural easements are held in the Texas Farm and Ranch Conservation Fund. Although the Fund may receive monies via legislative appropriation, donations, and any other source, the only dedicated source of funding is the sale of properties that the state acquires in order to clean up a brownfield site on the CERCLA National Priorities List.<sup>1150</sup> As of 2008, the Texas legislature has not made any appropriations to the Fund.<sup>1151</sup>

The Texas **Landowner Incentive Program** seeks to promote conservation on privately owned land. Led by TPWD's Wildlife and Inland Fisheries Divisions, the program is supported by multiple partnerships and funding sources, and offers technical and financial support to help landowners assess their properties, establish goals, and implement conservation measures and practices. The active program issues news bulletins and provides numerous online resources, such as a flowchart of the program process.<sup>1152</sup>

**Local governments** have the authority to fund land conservation with bonds, property taxes, or sales taxes. On the Gulf coast of Texas, the several local governments that have used voter-approved bonds to fund conservation acquisition are all in the Galveston Bay area: Harris County and the cities of Alvin, Baytown, Missouri City, Pasadena, Seabrook, and Stafford have all approved conservation bonds since 1991.<sup>1153</sup>

The federal government also owns significant conservation lands in coastal Texas. The U.S. Fish and Wildlife Service manages eight **National Wildlife Refuges** in the region, which protect a variety of

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<sup>1147</sup> Texas Land Conservancy, *About TLC*,

[http://www.texaslandconservancy.org/index.php?option=com\\_content&view=article&id=213&Itemid=34](http://www.texaslandconservancy.org/index.php?option=com_content&view=article&id=213&Itemid=34).

<sup>1148</sup> TEX. NAT. RES. CODE § 183.051.

<sup>1149</sup> TEX. NAT. RES. CODE §§ 183.054–.055.

<sup>1150</sup> TEX. NAT. RES. CODE § 183.058.

<sup>1151</sup> *Texas Profile of State Programs and Policy Framework*, *supra* note 1146.

<sup>1152</sup> See TPWD, Landowner Incentive Program (LIP), <http://www.tpwd.state.tx.us/landwater/land/private/lip/>. The Spring 2011 news bulletin is available at [http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd\\_lf\\_w7000\\_1405\\_03\\_11.pdf](http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_lf_w7000_1405_03_11.pdf). A flowchart of the program process is available at

[http://www.tpwd.state.tx.us/publications/pwdpubs/media/cs\\_lf\\_w7000\\_1119\\_lip\\_process.pdf](http://www.tpwd.state.tx.us/publications/pwdpubs/media/cs_lf_w7000_1119_lip_process.pdf).

<sup>1153</sup> *Id.*; Conservation Almanac, *Texas LandVote Data*,

<http://www.conservationalmanac.org/secure/almanac/southwest/tx/lvdata.html>.



habitat types.<sup>1154</sup> In addition, the National Park Service operates **Padre Island National Seashore** and **Big Thicket National Preserve**.<sup>1155</sup>

vi. **Coastal Management**

*In Texas, TGLO is responsible for comprehensive coastal planning.*<sup>1156</sup> *The Coastal Coordination Act created a Coastal Coordination Council, charged with regulating local compliance with the state's coastal management program and referring noncompliant agencies to the Texas Attorney General.*<sup>1157</sup> *The School Land Board manages the state's coastal lands and may acquire coastal property for wildlife refuges.*<sup>1158</sup> *The Texas Coastal Ocean Observation Network connects universities and government agencies in an initiative to collect data on coastal ecology and improve coastal land-use planning.*<sup>1159</sup> *As discussed above, the Parks and Wildlife Department and the General Land Office must work together to avoid any net loss of state-owned coastal wetlands.*<sup>1160</sup>

Under Texas' **Coastal Public Lands Management Act of 1973**, comprehensive coastal planning and compliance with the CZMA are the responsibilities of the Texas General Land Office.<sup>1161</sup> The state's coastal management plan must include certain elements that promote habitat conservation, such as a description of how the state's efforts against water pollution affect the coast.

The Act also consolidates responsibility for managing the state's coastal lands within the School Land Board.<sup>1162</sup> The Board has the authority to purchase coastal property to use as wildlife refuges, recreational areas, or research facilities. It may also undertake research into different strategies for protecting the shoreline from erosion. To properly fulfill these duties, the Board may issue regulations.

Finally, the Act promotes research by creating the Texas Coastal Ocean Observation Network.<sup>1163</sup> The network connects universities and government agencies in an initiative to collect data on coastal ecology and improve coastal land-use planning.

Several experts agreed that Texas' Coastal Management Program (TCMP) is a beneficial grant program, but lamented that it has not restricted development through coastal use permits or any other mechanism.<sup>1164</sup> One expert reported that roughly two to five of the approximately 15 coastal program

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<sup>1154</sup> U.S. Fish and Wildlife Service, National Wildlife Refuge Locator, *Texas*, <http://www.fws.gov/refuges/refugeLocatorMaps/Texas.html>.

<sup>1155</sup> U.S. National Park Service, *Padre Island*, <http://www.nps.gov/pais/index.htm>; U.S. National Park Service, *Big Thicket*, <http://www.nps.gov/bith/index.htm>.

<sup>1156</sup> TEX. NAT. RES. CODE § 33.052.

<sup>1157</sup> TEX. NAT. RES. CODE §§ 33.201 *et seq.*

<sup>1158</sup> TEX. NAT. RES. CODE §§ 33.056–.064.

<sup>1159</sup> TEX. NAT. RES. CODE § 33.065.

<sup>1160</sup> TEX. PARKS & WILD. CODE §§ 14.001–.003.

<sup>1161</sup> TEX. NAT. RES. CODE § 33.052.

<sup>1162</sup> TEX. NAT. RES. CODE §§ 33.056–.064.

<sup>1163</sup> TEX. NAT. RES. CODE § 33.065.

<sup>1164</sup> Personal communication with experts.

projects funded each year focus on habitat protection, but these projects are not coordinated through an overarching plan.<sup>1165</sup>

The **Coastal Coordination Act** created a framework for implementing the TCMP. When it was enacted in 2001, the Act created a new body, the Coastal Coordination Council, which oversaw the activities of state and local agencies to assure that they comply with the program.<sup>1166</sup> The Council also issued rules governing how state and local agencies must comply.<sup>1167</sup> If a state or local agency ignored the Council's recommendation, the state attorney general would investigate whether the agency was violating the TCMP and enforce the program in court if necessary.<sup>1168</sup>

Pursuant to the Texas Sunset Law, absent contrary action the Council would be abolished on September 1, 2011.<sup>1169</sup> In February 2011, the Texas Sunset Advisory Commission issued a report stating that "while the Council's functions continue to be needed to ensure Texas maintains federal approval of its CMP and receives federal funding for coastal projects, the Council is no longer needed to facilitate coordination and oversee ongoing CMP administration." The report also suggested more action was needed to improve coordination.<sup>1170</sup> Effective September 1, 2011, the state legislature transferred the Council's role to the TGLO Commissioner.<sup>1171</sup> In the new scheme, a Coastal Coordination Advisory Committee will advise TGLO on matters related to the coastal program.<sup>1172</sup> The law also contains a unique limitation on TGLO's authority: it is prohibited from developing or approving "a special area management plan, including a plan for an area designated under the national estuary program."<sup>1173</sup>

In Texas, the regional bodies that provide a forum for collaborative planning among local governments are called **councils of governments (COGs)**.<sup>1174</sup> While the COGs do not have authority to enforce plans or recommendations, they may provide technical assistance to local governments.<sup>1175</sup> The COGs cannot impose taxes, but may receive money from their member governments or grants.<sup>1176</sup> The Houston-Galveston Area Council, a 13-county organization, has various environmental initiatives, including GIS planning tools, infrastructure planning for climate adaptation, and the promotion of mixed-use, walkable downtown areas.<sup>1177</sup>

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<sup>1165</sup> Personal communication with expert.

<sup>1166</sup> TEX. NAT. RES. CODE § 33.205.

<sup>1167</sup> TEX. NAT. RES. CODE § 33.204.

<sup>1168</sup> TEX. NAT. RES. CODE § 33.208.

<sup>1169</sup> TEX. NAT. RES. CODE § 33.211; *see also* TEX. GOV. CODE ch. 325.

<sup>1170</sup> TEXAS SUNSET ADVISORY COMMISSION, COASTAL COORDINATION COUNCIL (Feb. 2011), available at [http://www.sunset.state.tx.us/82ndreports/ccc/CCC\\_RL.pdf](http://www.sunset.state.tx.us/82ndreports/ccc/CCC_RL.pdf). The Commission recommended that the Council be abolished, the Council's functions be transferred to TGLO, and a Coastal Coordination Advisory Committee be established to focus on interagency coordination.

<sup>1171</sup> TEX. S.B. 656, 82nd Leg., Reg. Session (2011), eff. Sept. 1, 2011; TEX. NAT. RES. CODE §§ 33.201 *et seq.*

<sup>1172</sup> TEX. NAT. RES. CODE § 33.2041.

<sup>1173</sup> TEX. NAT. RES. CODE § 33.209.

<sup>1174</sup> TEX. LOC. GOV'T CODE §§ 391.001 *et seq.*

<sup>1175</sup> TEX. LOC. GOV'T CODE § 391.004.

<sup>1176</sup> TEX. LOC. GOV'T CODE § 391.011.

<sup>1177</sup> Houston-Galveston Area Council, *Community and Environmental Planning Department*, <http://www.h-gac.com/community/>.

As discussed previously, **CIAP** provides funding from offshore oil revenues for coastal restoration and infrastructure projects in impacted states. In Texas, TGLO is the lead agency for CIAP, and TCEQ and the Railroad Commission play coordinating roles. One expert noted that delays in the delivery of CIAP funding have been especially problematic for land acquisition projects because once-willing sellers have changed their positions.<sup>1178</sup> In addition, the BOEM (then MMS) policy of requiring inclusion of price-per-acre in public reports created challenges for state managers, who sought flexibility in negotiating with landowners.<sup>1179</sup>

As discussed under *Wetlands and Estuaries*, the Texas Parks and Wildlife Department and TGLO must work together to avoid any net loss of state-owned coastal wetlands through a **State-Owned Wetland Conservation Plan**.<sup>1180</sup>

The **Texas Private Real Property Rights Preservation Act** expands the definition of a “taking” to include any government action that limits a landowner’s property rights and causes a reduction of at least 25% of the property’s market value.<sup>1181</sup> Before implementing an action that would constitute a taking, a government entity must prepare a “takings impact assessment.”<sup>1182</sup> A 2008 study found that property owners had rarely invoked the Act and that the claims based on the Act seldom succeeded.<sup>1183</sup>

#### vii. **Accident response**

In 1991, the Texas legislature enacted laws on **oil spill prevention and response**.<sup>1184</sup> The law requires any person responsible for unauthorized discharge, or the person in charge of a vessel or terminal facility where such a discharge occurs, to immediately notify the GLO and undertake all reasonable actions to abate damage. TGLO is the lead agency in oil spill response, but uses the technical expertise of TCEQ for tasks such as taking samples, monitoring, and regulating the disposal of spilled material. Terminal facilities and vessels transporting more than 10,000 gallons of oil must develop discharge prevention and response plans that meet certain requirements.<sup>1185</sup> The law also established a natural resources damages assessment process; TGLO and other trustees analyze the extent of the spill, the duration of its effects, the prior condition of the natural resources, and “the cost of restoring, rehabilitating and/or acquiring the equivalent of the injured natural resources” so that the responsible party can pay for damages.<sup>1186</sup>

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<sup>1178</sup> Personal communication with expert.

<sup>1179</sup> Personal communication with expert.

<sup>1180</sup> TEX. PARKS & WILD. CODE §§ 14.001–.003.

<sup>1181</sup> TEX. GOV’T CODE § 2007.002(5).

<sup>1182</sup> TEX. GOV’T CODE § 2007.043.

<sup>1183</sup> Echeverria & Hansen-Young, *The Track Record on Takings Legislation*, *supra* note 650, at 22.

<sup>1184</sup> Codified at TEX. NAT. RES. CODE § 40.101 *et seq.*

<sup>1185</sup> TEX. NAT. RES. CODE §§ 40.111, 40.114.

<sup>1186</sup> TEX. NAT. RES. CODE §§ 40.111, 40.107.

**viii. Water Quality**

*Texas has a comprehensive system for regulating water pollution, allowing it to assume permitting duties under the Clean Water Act.<sup>1187</sup> In addition, the Texas Natural Resource Conservation Commission must prepare a state water quality plan and, in coordination with local and regional agencies and universities, regional water quality management plans.<sup>1188</sup>*

In Texas, responsibility for implementing the Clean Water Act is split between the Texas Commission on Environmental Quality (TCEQ) and the Texas Railroad Commission. TCEQ must adopt water quality standards that are at least as strict as the U.S. EPA's standards.<sup>1189</sup> As in the other states, private and public parties must obtain permits from the Commission before discharging water pollution.<sup>1190</sup> The sections of the law governing civil enforcement and penalties were repealed in 1997.<sup>1191</sup> In addition, TCEQ must prepare a state water quality plan and, in coordination with local and regional agencies and universities, regional water quality management plans.<sup>1192</sup> TCEQ uses about half of the funding it receives from the U.S. EPA through the CWA section 106 grant program to research habitat issues.<sup>1193</sup> One current initiative uses federal funding to develop water quality standards that are specific to tidal waters.<sup>1194</sup> The Texas Railroad Commission regulates oil and gas through a tiered permitting system.<sup>1195</sup>

An expert noted a variety of challenges to effective water quality management in Texas. First, there is no annual funding dedicated to fish tissue sampling, although the Texas Department of State Health Services has used grant funding for this purpose. Second, no entity enforces boat sewage regulations; TPWD has the authority to do so, but application is limited. Finally, many of TCEQ's activities are driven by the TMDL process, but TMDLs do not provide an effective tool for dealing with historical contamination.<sup>1196</sup>

**ix. Water Quantity**

The Texas Water Development Board (TWDB) was created in 1957. Among other things, TWDB administers a variety of financial assistance programs and both the Texas Water Bank and Texas Water

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<sup>1187</sup> TEX. WATER CODE §§ 26.011 *et seq.*

<sup>1188</sup> TEX. WATER CODE §§ 26.012, 26.036.

<sup>1189</sup> TEX. WATER CODE § 26.023.

<sup>1190</sup> TEX. WATER CODE § 26.121.

<sup>1191</sup> TEX. WATER CODE § 26.122–.126.

<sup>1192</sup> TEX. WATER CODE §§ 26.012, 26.036. The code refers to TCEQ's predecessor, the Texas Natural Resource Conservation Commission.

<sup>1193</sup> Personal communication with expert.

<sup>1194</sup> Personal communication with expert.

<sup>1195</sup> Personal communication with expert.

<sup>1196</sup> Personal communication with expert.

Trust, which manage and hold water rights for individuals and for environmental purposes.<sup>1197</sup> The TWDB also manages the development and adoption of the state water plan.<sup>1198</sup>

For water planning purposes, Texas is divided into 16 regions. There are six regions that abut the Gulf of Mexico: Rio Grande (M), Coastal Bend (N), South Central Texas (L), Lower Colorado (K), Region H (H), and East Texas (I).<sup>1199</sup> Each region has a Regional Water Planning Group that produces a regional water plan. All 16 regional water plans are then incorporated into a statewide water plan, which is updated every five years. Among other things, the plans must include strategies to meet near-term (less than 30 years) needs and options for meeting long-term (30-50 years) needs, and identify other needs that do not appear to have feasible solutions.<sup>1200</sup> The state is currently operating under the 2007 State Water Plan. A summary of the 16 Regional Water Plans was published in January 2011, and will be incorporated into the 2012 State Water Plan.<sup>1201</sup>

The 13-member Texas Water Advisory Council is an advisory body whose responsibilities include facilitating discussion about key water policy issues, encouraging increased coordination, and advising TWDB on funding prioritization criteria. The Texas Instream Flow Program sets the parameters for studying state rivers and streams and assessing flow conditions necessary to maintain a sustainable ecological environment.<sup>1202</sup>

A nine-member Environmental Flows Advisory Group, advised by a five-to-nine member Environmental Flows Science Advisory Committee, implements the environmental flows allocation process.<sup>1203</sup> The process is designed to balance growing demands on state water resources with ecological needs, and divides the state into 11 regions. The Advisory Group appoints members to a Basin and Bay Areas Stakeholder Committee and Basin and Bay Expert Science Team for each region, who then provide input that TCEQ considers and then uses to formulate legal standards for state waterbodies.<sup>1204</sup> A 2008 handout produced by the Environmental Defense Fund, National Wildlife Federation, and Sierra Club noted that the law establishing the process “is one of the most comprehensive in the nation, as it will set environmental flow standards for every major river system in the state,” and that “[i]f implemented

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<sup>1197</sup> See Texas Water Development Board, *General History*, <http://www.twdb.state.tx.us/about/index.asp#twdb-history>; 31 TEX. ADMIN. CODE chs. 353–385.

<sup>1198</sup> Tex. S.B. 1, 75th Leg., Reg. Session (1997); 31 TEX. ADMIN. CODE ch. 358; Tex. S.B. 656, 82nd Leg., Reg. Session (2011), eff. Sept. 1, 2011.

<sup>1199</sup> See Texas Water Development Board, *The 2011 Regional Water Plans (RWPs)*, <http://www.twdb.state.tx.us/wrpi/rwp/3rdround/2011RWP.asp>.

<sup>1200</sup> See Texas Water Development Board, *Regional Water Planning*, <http://www.twdb.state.tx.us/wrpi/rwp/rwp.asp>; 31 TEX. ADMIN. CODE § 358.3.

<sup>1201</sup> TEXAS WATER DEVELOPMENT BOARD, *WATER FOR TEXAS: SUMMARY OF THE 2011 REGIONAL WATER PLANS* (82d Leg. Session, Jan. 2011), available at <http://www.twdb.state.tx.us/wrpi/rwp/documents/2011RWPLegislativeSummary.pdf>.

<sup>1202</sup> Tex. S.B. 2, 77th Leg., Reg. Session (2001); TEX. WATER CODE §§ 9.001 *et seq.*

<sup>1203</sup> Tex. S.B. 3, 80th Leg., Reg. Session (2007); TEX. WATER CODE §§ 11.0236 *et seq.* For more discussion of Texas’ instream flow management framework, see Andrew K. Jacoby, *Water Pressure: The eightieth Texas legislature attempts to protect instream flows of rivers and streams, and freshwater flows to bays and estuaries*, 20 TUL. ENVTL. L.J. 381 (2007).

<sup>1204</sup> TEX. WATER CODE § 11.02362.

well, this should set a national precedent showing how water resources can be managed rationally to meet human needs and protect the environment.”<sup>1205</sup>

x. **Invasive Species**

*Regulatory*

The Texas Parks and Wildlife Code creates a regulatory regime for “exotic harmful or potentially harmful fish, shellfish, and aquatic plants.”<sup>1206</sup> TPWD maintains a list of exotic fish and shellfish that cannot be imported, possessed, sold, or introduced without a permit. The Department also maintains a list of exotic aquatic plants that people can import or possess without a permit. TPWD may issue permits for several types of activities, including research, exhibition at an aquarium, and aquaculture.

*Programs and planning*

In 1999, the legislature directed TPWD to coordinate with other state agencies in the development of a state aquatic vegetation management plan.<sup>1207</sup> One requirement for the plan is that it coordinate “all aquatic herbicide use to protect state fish and wildlife resources and habitat.” Local governments may also create plans for aquatic vegetation management.<sup>1208</sup>

The state is also involved in a variety of invasive species control activities. TPWD operates an Aquatic Habitat Enhancement Program that controls nuisance aquatic vegetation that affects the health and recreational use of TPWD-managed resources.<sup>1209</sup> TPWD’s Golden Alga Task Force coordinates research efforts on golden alga issues.<sup>1210</sup> The legislature created the Texas Invasive Species Coordinating Committee to facilitate cooperating among eight state agencies on the prevention, control, and management of invasive species.<sup>1211</sup>

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<sup>1205</sup> ENVIRONMENTAL DEFENSE FUND, NATIONAL WILDLIFE FEDERATION, AND SIERRA CLUB, *FLOWING RIVERS AND HEALTHY BAYS: NEW LEGISLATION WILL PROTECT WATER FOR THE ENVIRONMENT* (Fall 2008), available at [http://www.texaswatermatters.org/pdfs/A\\_Flows\\_Process\\_Factsheet.pdf](http://www.texaswatermatters.org/pdfs/A_Flows_Process_Factsheet.pdf).

<sup>1206</sup> TEX. PARKS & WILD. CODE § 66.007.

<sup>1207</sup> TEX. PARKS & WILD. CODE § 11.082.

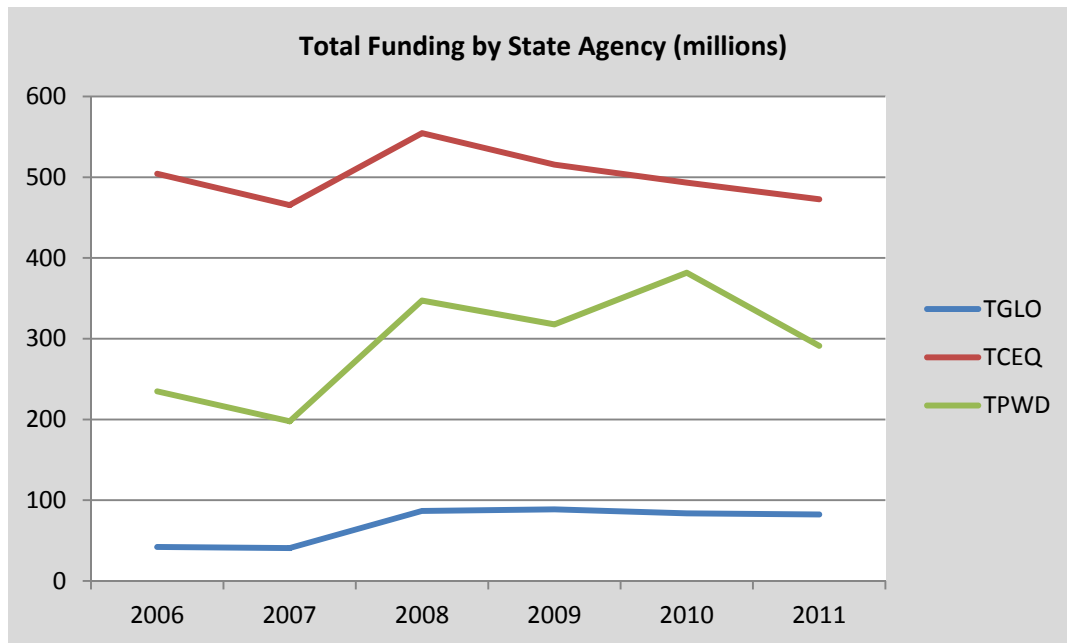
<sup>1208</sup> TEX. PARKS & WILD. CODE § 11.083.

<sup>1209</sup> TPWD, *Nuisance Aquatic Vegetation*, [http://www.tpwd.state.tx.us/landwater/water/enviroconcerns/nuisance\\_plants/](http://www.tpwd.state.tx.us/landwater/water/enviroconcerns/nuisance_plants/).

<sup>1210</sup> TPWD, *Golden Alga Frequently Asked Questions*, <http://www.tpwd.state.tx.us/landwater/water/enviroconcerns/hab/ga/faq.phtml>.

<sup>1211</sup> TEX. GOV'T CODE § 776.001 *et seq.* The committee is subject to the Texas Sunset act and will terminate in September 2013 without legislative action. TEX. GOV'T CODE § 776.007.

## II. Institutions



### i. Texas General Land Office (TGLO)

#### Scope:

TGLO, created in 1836 by the Republic of Texas Congress, is the oldest state agency. Originally its mandate was to manage the public domain by collecting and keeping records, providing maps and surveys and issuing titles. The Office's responsibilities have greatly expanded, and are now organized into five areas: History and Archives, Energy and Minerals, State Lands, Caring for the Coast, and the Texas Veterans Land Board.<sup>1212</sup>

The Energy and Minerals division oversees permitting and leasing for oil and gas development on state lands. The division also sells natural gas and electricity to schools and other public customers, allowing them to save money on such costs. TGLO is responsible for the state's Permanent School Fund, which directs the proceeds from energy and mineral development to finance public education in Texas. Management of these assets is a core responsibility of TGLO.

The State Lands division manages all of Texas's state lands including Gulf Coast beaches, all submerged lands 9 nautical miles (10.35 statute miles) out into the Gulf of Mexico, and a variety of state agency acreage and timberlands. The responsibilities of the division include overseeing leasing for oil and gas production, solar, wind and geothermal power, agricultural activities, and commercial development. The

<sup>1212</sup> Texas General Land Office, *What We Do*, <http://www.glo.texas.gov/what-we-do/index.html>.

division also assists landowners who wish to set aside their land as part of the Farm and Ranch Land Conservation Program.

The Caring for the Coast division is responsible for Texas coastal stewardship. It administers programs focused on oil spills, permit assistance, coastal erosion (including the Coastal Erosion Planning and Response Act), beach access, sound coastal development, hurricanes, education and outreach, and grants and funding. It is responsible for Texas’s Coastal and Estuarine Land Conservation Program, under which coastal lands are leased to, and then managed as preserves by, the Texas Parks and Wildlife Department. The division also oversees the Texas Coastal Management Program. Until September 1, 2011, this occurred through the Texas Coastal Coordination Council, an interagency council responsible for program administration and linking federal, state, and local coastal activities.<sup>1213</sup> Now the Texas Legislature has transferred the Council’s duties to the TGLO Commissioner, advised by a Coastal Coordination Advisory Committee that the Commissioner is to establish by rule.<sup>1214</sup>

The Caring for the Coast division also engages in environmental protection, which involves the state’s Oil Spill Prevention and Response Program, Natural Resources Damage Assessment, Nonpoint Source Pollution Control Program, the Texas Coastal Observation Network, and TGLO’s Beach Watch Program. The environmental protection section is also responsible for protecting wetlands, fighting pollution, and monitoring of coastal conditions using the state-of-the-art electronic water monitoring system, the Texas Coastal Ocean Observation Network.

**Contact:**

General Land Office

Location: 2010 Texas General Land Office, 1700 Congress Ave. Austin, TX 78701-1495

Phone: (800) 998-4GLO (4456), (512) 936-9581

Website: [www.glo.state.tx.us/coastal.html](http://www.glo.state.tx.us/coastal.html)

Email: [www.glo.texas.gov/cf/contact-us-form/index.html](http://www.glo.texas.gov/cf/contact-us-form/index.html)

**Budget:**

The state of Texas uses biennial budgeting. It generally receives \$2.5 million annually under the CZMA to implement state’s coastal program.

*Biennial Budget for TGLO: FY 2006/07–2012/13 (in millions of dollars)*

	FY 2006-07	FY 2008-09	FY 2010-11	FY 2012-13 (recommended)
TGLO Budget	140.7	155.2	222.4	157.4
Amount Appropriated for Coastal Protection	57.7	71.4	104.8	78.7

<sup>1213</sup> Texas General Land Office, *Coastal Coordination Council*, <http://www.glo.texas.gov/GLO/boards-and-commissions/coastal-coordination-council/index.html>.

<sup>1214</sup> Tex. S.B. 656, 82nd Leg., Reg. Session (2011), eff. Sept. 1, 2011; TEX. NAT. RES. CODE §§ 33.201 *et seq.*



The TGLO is funded through a combination of federal grants and matching programs, and state and local sources.<sup>1215</sup>

*FY2006–2011 Total Funding by Source (in millions)*<sup>1216</sup>

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
<b>General Revenue (GR)</b>	0.98	0.97	11.30	11.42	8.65	1.73
<b>GR – Dedicated, Account 27</b> <i>Coastal protection account</i>	10.49	10.49	11.11	11.22	11.14	11.56
<b>GR – Dedicated, Account 450</b> <i>Coastal public lands management fee account</i>	0.18	0.18	0.19	0.19	0.20	0.20
<b>Federal</b>	3.41	3.41	25.69	29.64	14.00	19.93
<b>Other</b>	27.05	25.66	46.64	46.69	49.82	48.97
<b>TOTAL</b>	42.12	40.73	86.69	88.72	83.82	82.40

*FY2006–2011 Total Funding by Goal (in millions)*<sup>1217</sup>

Year / Goal*	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
<b>Enhance State Assets</b>	12.99	11.73	15.26	14.70	18.59	15.86
<b>Protect the Environment</b>	12.62	12.62	46.36	50.58	45.23	40.31
<i>Coastal Management</i>	1.96	1.96	19.87	21.44	14.19	12.21
<i>Coastal Erosion</i>	0.17	0.17	15.83	18.47	20.18	17.12
<i>Oil Spill Response</i>	6.70	6.70	6.61	6.63	6.66	6.77
<i>Oil Spill Prevention</i>	3.79	3.79	4.05	4.04	4.21	4.21
<b>Veterans’ Land Board</b>	16.51	16.39	25.07	23.44	19.99	26.23

\* Each Goal has associated strategies. The table only includes the strategies relevant to the current discussion.

**Staff:**

*Full-Time-Equivalents*<sup>1218</sup>

FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
610.0	610.0	605.6	605.6	610.6	611.6

ii. **Texas Commission on Environmental Quality (TCEQ)**

**Scope:**

TCEQ is the primary environmental agency in the state, and strives to protect human and natural resources consistent with sustainable economic development. Three full-time commissioners are appointed by the Governor to establish overall agency direction and policy, and to make final determinations on contested permitting and enforcement matters. The commissioners are appointed

<sup>1215</sup> Texas Legislative Budget Board, *Budget Documents*, <http://www.lbb.state.tx.us>.

<sup>1216</sup> *General Appropriations Act*, Text of Conference Committee Report, Tex. S.B. 1, 81st Leg., Reg. Session (2009), available at [http://www.lbb.state.tx.us/Bill\\_81/6\\_FSU/Bill-81-6\\_FSU\\_0909.pdf](http://www.lbb.state.tx.us/Bill_81/6_FSU/Bill-81-6_FSU_0909.pdf); *General Appropriations Act*, Text of Conference Committee Report, Tex. H.B. 1, 80th Leg., Reg. Session (2007), available at [http://www.lbb.state.tx.us/Bill\\_80/8\\_FSU/80-8\\_FSU\\_1007.pdf](http://www.lbb.state.tx.us/Bill_80/8_FSU/80-8_FSU_1007.pdf); *General Appropriations Act*, Text of Conference Committee Report, Tex. S.B. 1, 79th Leg., Reg. Session (2005), available at [http://www.lbb.state.tx.us/Bill\\_79/8\\_FSU/79-8\\_FSU\\_0905.pdf](http://www.lbb.state.tx.us/Bill_79/8_FSU/79-8_FSU_0905.pdf).

<sup>1217</sup> Tex. S.B. 1 (2009), *supra* note 1216; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

<sup>1218</sup> Tex. S.B. 1 (2009), *supra* note 1216, at VI-32; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

for six-year terms with the advice and consent of the Texas Senate. A commissioner may not serve more than two six-year terms, and the terms are staggered so that a different member’s term expires every two years. The Governor also names the chair of the commission. The Commission’s objective is clean air, clean water, and safe waste management. The agency has six major offices: Administrative Services, Chief Engineer’s, Compliance and Enforcement, Legal Services, Permitting and Registration, and Water.<sup>1219</sup>

The Office of the Chief Engineer is responsible for taking measures to protect Texas’ air quality. Its tasks include assessing air quality, assessing risks to human health from air pollution, guiding polluted sites through remediation measures, implementing plans to restore air quality, and reviewing plans, permits and regulations pertaining to air quality.

The Office of Water is responsible for overseeing water quality, planning, and supply. It issues permits under authority from the Clean Water Act through the Texas Pollution Discharge Elimination System program, and develops procedures to implement the Texas Surface Water Quality Standards. The Office develops TMDLs and manages the Galveston Bay Estuary Program as well as the Coastal Bend Bays and Estuaries Program, which both encourage and support wetland and habitat protection.

The Office of Permitting and Enforcement implements federal and state laws and regulations governing all aspects of permitting under the Clean Air Act, Resource Conservation and Recovery Act, and Comprehensive Environmental Response, Compensation, and Liability Act. The Office administers the Regional Solid Waste Grant Program.

The Office of Compliance and Enforcement enforces compliance with state environmental laws. It is also responsible for emergency response to natural disasters, and is responsible for dam safety. The Office oversees a variety of remediation measures and programs, including the state brownfield program.

TCEQ is the lead state agency for implementing conservation and management plans under the Texas Estuaries Act.

**Contact:**

Location: P.O. Box 13087, Austin, TX 78711-3087

Phone: (512) 239-1000

Website: [www.tceq.texas.gov/about/directory/region/reglist.html](http://www.tceq.texas.gov/about/directory/region/reglist.html)

Email list: [www.tceq.texas.gov/help/site/emailboxes.html](http://www.tceq.texas.gov/help/site/emailboxes.html)

**Budget:**

*Biennial Budget for TCEQ: FY 2006/07–2012/13 (in millions of dollars)*

FY 2006-07	2008-09	2010-11	2012-13 (recommended)
981.4	1,091.4	997.7	661.5

<sup>1219</sup> Texas Commission on Environmental Quality, <http://www.tceq.texas.gov/about>.

TCEQ is funded through a combination of federal, state, and local sources.<sup>1220</sup>

*FY2006–2011 Total Funding by Source (in millions)*<sup>1221</sup>

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
<b>General Revenue (GR)</b>	5.11	4.51	10.39	10.28	15.56	13.94
<b>GR – Dedicated Accounts</b>	445.50	395.77	493.70	456.25	428.66	410.18
<b>Federal</b>	45.17	45.04	43.02	41.68	40.13	40.01
<b>Other</b>	8.43	20.13	7.42	7.21	8.85	8.64
<b>TOTAL</b>	504.21	465.45	554.53	515.41	493.20	472.77

*FY2006–2011 Total Funding by Goal (in millions)*<sup>1222</sup>

Year / Goal*	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
<b>Assessment, Planning, and Permitting</b>	253.52	259.21	343.35	341.07	305.63	297.18
<b>Drinking Water and Water Utilities</b>	2.31	2.17	13.69	13.38	15.29	14.97
<b>Enforcement and Compliance Support</b>	36.11	36.06	53.40	52.17	61.24	4.95
<b>Pollution Cleanup</b>	139.26	98.66	97.50	63.40	62.30	54.82
<b>River Compact Commissions</b>	--	--	0.36	0.36	0.38	0.38
<b>Indirect Administration</b>	44.68	43.66	46.22	45.03	48.35	46.88

\* Each Goal has associated strategies. The table only includes the strategies relevant to the current discussion.

#### Staff:

TCEQ comprises around 3,000 employees divided among 16 regional offices.<sup>1223</sup>

*Full-Time-Equivalents*<sup>1224</sup>

FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
2,989.5	2,989.5	2,942.3	2,935.3	2,980.3	3,001.3

<sup>1220</sup> Texas Legislative Budget Board, *Budget Documents*, <http://www.lbb.state.tx.us>.

<sup>1221</sup> Tex. S.B. 1 (2009), *supra* note 1216; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

<sup>1222</sup> Tex. S.B. 1 (2009), *supra* note 1216; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

<sup>1223</sup> Texas Commission on Environmental Quality, <http://www.tceq.texas.gov/about>.

<sup>1224</sup> Tex. S.B. 1 (2009), *supra* note 1216, at VI-32; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

### iii. Texas Parks and Wildlife Department (TPWD)

#### **Scope:**

TPWD serves an important role in environmental protection by monitoring, conserving, and enhancing the quality of rivers, streams, lakes, coastal marshes, bays, beaches, gulf waters, and other aquatic and wildlife habitat. TPWD is also the agency with primary responsibility for conserving, protecting, and enhancing Texas' fish and wildlife resources. TPWD is authorized to plan, acquire, improve, operate, and maintain a system of public lands, including many historical and cultural sites. These resources include over 1.4 million acres of parks and recreation areas, wildlife management areas, natural areas, and historic/cultural areas. The Department is headed by the TPW Commission, composed of nine members, all appointed by the Governor for six-year terms.

The Department has four main areas: State Parks (which manages all 93 Texas state parks), Fishing and Boating, Hunting and Wildlife, and Land and Water.<sup>1225</sup>

The Fishing and Boating division oversees licensing and registration for aquatic recreation. It is responsible for the Texas Artificial Reef Act, and for management of the state's marine and freshwater fisheries.

The Hunting and Wildlife division oversees licensing, permitting, and education programs. It is charged with regulating and enforcing commercial and recreational fishing, hunting, and boating laws in the state. It maintains the state's 51 Wildlife Management Areas, and implements the Texas Wildlife Conservation Act and Endangered Species Act. The division also manages nuisance wildlife and the Texas Wildscapes program, a program aimed at habitat restoration and conservation for rural and urban areas by encouraging residents to develop wildlife habitats in backyards, corporate parks, and other community places.

The Land and Water division oversees a number of programs relating to coastal habitat. It is responsible for the Texas Conservation Action Plan, the Land and Water Resources Conservation and Recreation Plan, studies of coastal issues such as freshwater inflow, harmful algal blooms, and nuisance vegetation. The division works with Texas's General Land Office to certify essential coastal wetlands and prioritize their acquisition. The division carries out wetlands conservation efforts and maintains a Fish Abundance Database.

TPWD has authority under the Texas Coastal Wetland Acquisition Act to acquire and manage coastal wetlands and to adopt rules and regulations to preserve and protect the lands. The Department, together with the General Land Office, may certify essential coastal wetlands and prioritize their acquisition.<sup>1226</sup>

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<sup>1225</sup> TEXAS PARKS AND WILDLIFE DEPARTMENT, FINANCIAL OVERVIEW (Feb. 2011), 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).

<sup>1226</sup> Texas Agricultural & Natural Resources Law, *Texas Coastal Wetlands Acquisition Act*, <http://www.weblocator.com/attorney/tx/law/b05.html#txb052000>.

The Department is the primary educator of the public regarding laws and rules related to fish, game, and environmental habitats, boating safety, firearm safety for hunters, fish and wildlife conservation, and outdoor recreation in general. In addition to offering workshops, certification classes and outreach events, the agency disseminates information to the public through the *Texas Parks & Wildlife* magazine, a daily radio series, and a weekly television show that airs on numerous public broadcasting systems throughout the state.

Texas Game Wardens are responsible for enforcement of the Parks and Wildlife Code, all TPWD regulations, the Texas Penal Code, and selected statutes and regulations applicable to clean air and water, hazardous materials and human health. Wardens fulfill these responsibilities through educating the public about various laws and regulations, preventing violations by conducting high visibility patrols, and apprehending and arresting violators.<sup>1227</sup>

**Contact:**

Texas Parks and Wildlife Department  
 Location: 4200 Smith School Road, Austin, TX 78744  
 Telephone: 800-792-1112 (toll free), 512-389-4800 (Austin)  
 Website: [www.tpwd.state.tx.us/](http://www.tpwd.state.tx.us/)  
 Email: [www2.tpwd.state.tx.us/business/feedback/webcomment/?p=%252Findex.phtml](http://www2.tpwd.state.tx.us/business/feedback/webcomment/?p=%252Findex.phtml)

**Budget:**

TPWD generates revenue from the sale of various Parks and Wildlife products and services, such as hunting and fishing licenses and state park entrance and facility use fees. These revenues help fund a sizable amount of TPWD’s budget. Supplemental funding is accrued through the combination of general revenue, general revenue-dedicated, federal and other funds.<sup>1228</sup>

*FY2006–2011 Total Funding by Source (in millions)*<sup>1229</sup>

	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
<b>General Revenue (GR)</b> <i>state general revenue, unclaimed motor boat fuel tax refunds, and other</i>	46.11	46.16	77.98	75.76	107.32	98.73
<b>GR – Dedicated, Account 9</b> <i>hunting and fishing licenses and stamps, registration and title fees, boat user fees, federal fish and wildlife research funds, and other</i>	80.30	80.63	99.24	101.19	111.41	109.94
<b>GR – Dedicated, Account 64</b> <i>entrance and user fees, state sales tax on sporting goods, park concessions/etc., fines and penalties,</i>	22.69	22.42	41.14	44.93	38.48	32.24

<sup>1227</sup> Texas Parks and Wildlife, *Law Enforcement Division*, [http://www.tpwd.state.tx.us/business/about/divisions/law\\_enforcement](http://www.tpwd.state.tx.us/business/about/divisions/law_enforcement).

<sup>1228</sup> Texas Legislative Budget Board, *Budget Documents*, <http://www.lbb.state.tx.us>.

<sup>1229</sup> Tex. S.B. 1 (2009), *supra* note 1216; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

<i>and other</i>						
<b>GR – Dedicated, Other</b>	0.76	0.77	32.09	12.82	5.47	5.38
<b>Federal</b> <i>apportionments, grants, and contracts</i> <i>(two major sources: Wildlife</i> <i>Restoration Act and Sportfish</i> <i>Restoration Act)</i>	45.21	44.64	41.74	38.97	43.83	41.83
<b>Other</b> <i>foundations and friends organizations</i>	39.75	3.09	54.95	43.99	75.21	3.17
<b>TOTAL</b>	234.83	197.71	347.16	317.65	381.72	291.28

*FY2006–2011 Total Funding by Goal (in millions)<sup>1230</sup>*

Year / Goal*	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
<b>Conserve Natural Resources</b>	53.82	53.54	53.04	50.67	57.69	58.79
<i>Wildlife Conservation, Habitat</i> <i>Management, and Research</i>	23.13	23.10	22.03	20.18	20.48	20.90
<i>Technical Guidance to Private</i> <i>Landowners and General Public</i>	0.67	0.67	0.46	0.46	2.18	2.18
<i>Coastal Fisheries Management</i>	11.56	11.47	11.79	11.61	12.89	13.15
<i>Coastal Hatcheries Operations</i>	2.08	2.07	2.33	2.33	2.73	2.72
<b>Access to State and Local Parks</b>	64.61	64.13	124.38	104.73	108.11	102.61
<b>Increase Awareness and</b> <b>Compliance</b>	1.835	51.83	61.62	61.18	65.37	65.52
<b>Manage Capital Programs</b>	49.10	12.75	88.46	81.42	7.50	7.42
<b>Indirect Administration</b>	15.46	15.46	19.66	19.63	25.13	25.14

\* Each Goal has associated strategies. The table only includes the strategies relevant to the current discussion.

**Staff:**

*Full-Time-Equivalents<sup>1231</sup>*

FY2006	FY2007	FY2008	FY2009	FY2010	FY2011
2,961.4	2,961.4	3,100.1	3,100.1	3,178.3	3,180.3

<sup>1230</sup> Tex. S.B. 1 (2009), *supra* note 1216; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

<sup>1231</sup> Tex. S.B. 1 (2009), *supra* note 1216, at VI-32; Tex. H.B. 1 (2007), *supra* note 1216; Tex. S.B. 1 (2005), *supra* note 1216.

### III. State Habitat Issues & Causes

Texas <sup>1232</sup>	
Issue	Primary Cause
1) Current laws are not protecting the states' fish and wildlife or their habitats. For example, Section 404 of the CWA is not protecting habitat, and the NEPA is not acknowledging cumulative impacts.	Policy or regulatory shortcomings
2) A weakened CWA: The CWA has been decimated by the SWANCC and Rapanos decisions leaving the majority of freshwater wetlands in Texas unprotected.	Policy or regulatory shortcomings
3) No state laws have been enacted to provide protection for wetlands affected by recent curtailments of the CWA.	Policy or regulatory shortcomings
4) Decision makers not implementing recommendations of experts, and not making science-based decisions--most decisions are strictly economic. WRDA 1992 gave the Corps the authority to use dredged material for restoration projects; however, in practice, their evaluations only include economics, usually precluding the beneficial use of dredge material.	Policy or regulatory shortcomings
5) The federal standard of using the least-cost environmentally acceptable options for dredged material disposal is being poorly applied. Many current disposal practices are no longer environmentally acceptable and, in some cases, are detrimental to the local and regional environments.	Policy or regulatory shortcomings
6) The Corps of Engineers Civil Works Program (i.e. flood control and navigation projects) activities alter watershed dynamics, increase saltwater intrusion, and shunt or divert freshwater and sediment directly into the GOM. This has had negative impacts, including degrading riparian, freshwater, and estuarine habitats.	Policy or regulatory shortcomings
7) The mandate of local governments and river authorities to supply water to existing and projected populations will increase the construction of dams, reservoirs, barriers, diversions and other activities and will reduce freshwater inflows and sediments downstream, affecting habitats, particularly estuarine systems. This change in historic distribution of inflows will alter salinity and circulation patterns potentially leading to a change in faunal and floral communities.	Policy or regulatory shortcomings

<sup>1232</sup> Priority issues identified in GMF, HCRT PRIORITY ISSUE RECOMMENDATIONS SYNTHESIS, *supra* note 461, at 22–24. The causes were identified by state staff and provided to the Gulf of Mexico Alliance Habitat Conservation and Restoration in 2010–11 (correspondence on file with author).

<p>8) Activities that cause subsidence and relative sea level will continue to result in loss of coastal habitat. Subsidence in the Texas coastal zone is substantial, but the actual degree of subsidence is unknown. Funding to conduct studies or studies conducted by federal agencies to predict future subsidence are necessary in order to; predict potential habitat degradation, adequately plan for habitat conservation and restoration activities, and adequately plan for coastal infrastructure.</p>	<p>Funding and grant program shortcomings</p>
<p>9) Regional population growth may be the single most significant factor affecting habitats in the U.S. Gulf of Mexico region. Texas is one of the top three fastest-growing states in the nation. The Houston population is expected to nearly double by year 2035. Projected population growth will increase demands on regional water supply, degrade water quality, and will increase pressure on state's natural resources.</p>	<p>Policy or regulatory shortcomings</p>
<p>10) Population growth, along with other stressors, will have a cumulative impact on natural resources: An example is in marsh transition zones. Limited ability or the lack of will to plan for land use compatible with projected sea-level rise results in development in areas that might otherwise transition into wetlands, as sea-levels rise. For example the construction of roads and bulkheads bordering wetlands prohibits the migration of wetlands as sea levels rise. This will result in substantial coastal marsh loss.</p>	<p>Policy or regulatory shortcomings</p>
<p>11) State agency limitations (budgets/funding/spending caps and policy issues): Inadequate program budgets for proactive, on-the-ground conservation and restoration activities.</p>	<p>Funding and grant program shortcomings</p>
<p>12) Inadequate program budgets for the continued analysis of status and trends of riparian, freshwater, and estuarine habitats, including coastal restoration projects.</p>	<p>Funding and grant program shortcomings</p>
<p>13) No revenue for a state land acquisition program: Not having available state funds for cost-share match limits the state's ability to take advantage of federal funding programs, such as CELCP and CWPPRA. Examples of state land acquisition programs with adequate funds are Florida Forever and Alabama Wild.</p>	<p>Funding and grant program shortcomings</p>
<p>14) Habitat restoration and conservation program funding is not commensurate with programmatic goals: For example, if the Galveston Bay Estuary Program spent its entire annual budget on land conservation on Galveston Island, it would take 222 years for the program to achieve its 10 year goal.</p>	<p>Funding and grant program shortcomings</p>



<p>15) Willful neglect of existing science and planning resources: Existing information regarding threats to ecosystem integrity (and community resilience) is largely ignored at local levels, as evidenced in the case of the Galveston geo-hazards map and disregard for “smart growth” planning paradigms, etc. Local and county resources (fiscal and human) are also very limited.</p>	<p>Policy or regulatory shortcomings</p>
<p>16) The lack of educational programs on the economic benefits of wetlands and other habitats, which ultimately affects funding to the state.</p>	<p>Funding and grant program shortcomings</p>
<p>17) The lack of public recognition and/or involvement in wetland and habitat laws, which ultimately affects funding to the state.</p>	<p>Funding and grant program shortcomings</p>
<p>18) Misconceptions and/or perceptions that working with agencies on conservation activities on private land will lead to takings or reduction of property rights.</p>	<p>Funding and grant program shortcomings</p>
<p>19) A statewide election authorized the issuance of bonds to purchase land for State parks, but no money was appropriated by the legislature.</p>	<p>Funding and grant program shortcomings</p>
<p>20) Conflicting and/or duplicative mandates: This can best be exemplified by the presence of numerous federal, interagency coordination bodies for the Gulf of Mexico region--Gulf of Mexico Program, Gulf of Mexico Alliance, Gulf of Mexico Foundation, Gulf Coast Joint Venture, Gulf of Mexico Fishery Management Council, Gulf States Marine Fisheries Commission, and Southeast Aquatic Resources Partnership. This duplication leads to a diversion of resources into planning and organizational infrastructure and does not result in on-the-ground work.</p>	<p>Funding and grant program shortcomings</p>
<p>21) The method/practice the USACE utilizes to evaluate projects in order to increase the benefit to cost ratio to justify a project is often at the expense of the environment. The only benefits that are evaluated are the economic benefits of “the project” and do not consider the restoration/conservation of the environment as an economic benefit of the project and/or the degradation of the environment as a project cost.</p>	<p>Funding and grant program shortcomings</p>
<p>22) The border fence/wall may have adverse impacts on habitats and wildlife corridors. Environmental impacts are being disregarded.</p>	<p>Policy or regulatory shortcomings</p>

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