The Gulf Oil Spill and National Marine Sanctuaries

by Robin Kundis Craig

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Even before the Deepwater Horizon platform exploded on April 20, 2010, sending as-yet-untotalled millions of gallons of oil into the Gulf of Mexico, no one, I suspect, thought of the Gulf as a pristine ocean wilderness. And indeed, as the site of significant offshore oil and gas production, a "dead zone" the size of New Jersey,[1] and, at least until recently, highly lucrative commercial and sport fisheries, it's not.

Nevertheless, the Gulf of Mexico is far from being an ecological wasteland, one reason that the spill-caused fisheries closures have been so economically devastating. In addition to supporting these large fisheries, the Gulf of Mexico is the nursery for an amazing variety of marine creatures. For example, the Gulf is one of the few known nurseries of the increasingly endangered bluefin tuna, and tuna reared in the Gulf can appear as far away as the Mediterranean.[2]

This biological richness is the reason that the Gulf of Mexico is also home to a number of marine protected areas (MPAs). MPAs are geographically designated sections of the ocean that are legally identified and regulated for specific uses. While the most protective MPAs prohibit all extractive uses in the designated area, most MPAs serve other purposes. For example, MPAs can also result in zoning certain highly used areas, such as coral reefs, to separate potentially conflicting uses—separating scuba diving and snorkeling from fishing, or separating sport fishers from commercial fishers. This type of marine spatial planning has recently become the focus of President Barack Obama's national oceans policy.[3]

The National Marine Protected Areas Center recognizes 26 MPAs in the Northern Gulf of Mexico and an additional 10 in south Florida waters, accounting for 13% of the total number of MPAs in the United States.[4] In addition, the states bordering the Gulf of Mexico have established other MPAs not yet included in the national inventory. A 2004 Sea Grant survey identified eight state-managed areas in Alabama waters, 24 in Florida waters, 11 in Louisiana waters, 16 in Mississippi waters, and 24 in Texas waters.[5]

Among this plethora of MPAs are two National Marine Sanctuaries threatened by the BP oil spill: the Florida Keys National Marine Sanctuary and the Flower Garden Banks National Marine Sanctuary. Despoilment of these sanctuaries as a result of the oil spill could render BP liable for damages to sanctuary resources pursuant to the National Marine Sanctuaries Act.[6] More importantly, these two National Marine Sanctuaries highlight the beautiful and productive ecosystems and regionally important ecological resources in the Gulf that the Deepwater Horizon disaster has put at risk, and they counsel for improved protections of the Gulf's ecological resources from continuing oil and gas exploration and drilling in the region.

I. Flower Garden Banks National Marine Sanctuary

Flower Garden Banks is the less well-known of the two national marine sanctuaries at risk from the Deepwater Horizon oil spill. Located 70 to 115 miles off the coasts of Texas and Louisiana, it is the only one of the 13 designated national sanctuaries located directly in the Gulf of Mexico.[7] Flower Garden Banks encompasses three sub-sanctuaries: East Flower Garden Bank, West Flower Garden Bank, and Stetson Bank.[8]

1. Scientists predict that the Gulf of Mexico's hypoxic zone ("dead zone") will be the size of New Jersey in 2010—that is, somewhere between 6,500 and 7,800 square miles. Elizabeth Weise, "Gulf of Mexico Dead Zone Predicted to Be Size of New Jersey This Year," *USA Today On-Line*, http://content.usatoday.com/communities/sciencefair/post/2010/06/gulf-of-mexico-dead-zone-predicted-to-be-the-size-of-new-jersey-this-year/1 (June 29, 2010). The largest dead zone occurred in 2002, occupying 8,484 square miles. *Id.* The mutual interactions of the dead zone and the BP oil spill are as yet unknown.
2. Paul Greenberg, *Tuna's End*, N.Y. Times Mag., June 27, 2010, at 28, 30, 32. Notably, in September 2010, the National Oceanic and Atmospheric Administration (NOAA) announced that it would be investigating the impacts of the oil spill on tuna populations.
3. President Barack Obama, *Stewardship of the Ocean, Our Coasts, and the Great Lakes*, Exec. Order No. 13547, 75 Fed. Reg. 43023 (July 19, 2010), *adopting* Council on Environmental Quality, *Final Recommendations of the Interagency Ocean Policy Task Force* (July 19, 2010).
4. National Marine Protected Areas Center, NOAA, *A National System of MPAs: Analysis of National System Sites* 3, 4 (June 2010). However, because of the large size of Pacific Ocean MPAs, the Gulf of Mexico MPAs account for only about 1% of the surface area of U.S. MPAs. *Id.* at 3.
5. Stephanie Showalter & Lisa C. Schiavinato, Marine Protected Areas in the Gulf of Mexico: A Survey ii-v (2004).
6. 16 U.S.C. §§1431-1445c-1 (2006).
7. National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: About Your Sanctuary*, http://flowergarden.noaa.gov/about/about.html (last visited Sept. 16, 2010).
8. *Id.*

Each of these three areas protects coral reef ecosystems that have formed near the surface of the water on top of underwater mountains known as salt domes.[9] A salt dome is a geological formation that occurs throughout the continental shelf in the northern Gulf of Mexico.[10] About 190 million years ago, a hot, dry climate evaporated much of the water in what was then a very shallow sea, leaving a thick layer of salt deposited where the Gulf of Mexico now exists.[11] Over geological time, overlying deposits of mud, sand, and silt created pressure on the salt layer, which pressed upward in response.[12] The upward pressure created the one-half-mile- to two-mile-diameter salt domes—cylindrical formations that raise the sea floor close to the surface,[13] allowing coral reefs to grow.

Thus, the coral reefs in the Flower Garden Banks National Marine Sanctuary "are unusual because most coral reefs are found near islands . . . ."[14] In addition, these are the northernmost coral reefs found in the continental United States.[15] As the National Oceanic and Atmospheric Administration's (NOAA's) National Marine Sanctuary program has noted, "this location in the northwestern Gulf of Mexico provided all the comforts of home for hard corals: a hard surface for attachment, clear sunlit water, warm water temperatures (between 68 and 84 degrees Fahrenheit), and a steady food supply."[16] The Flower Garden Banks have been called an "environmental treasure" that together support "more than 300 species of fish and other sea life."[17] In addition to protecting these healthy reefs, the sanctuary allows visitors to observe the large schools of hammerhead sharks that visit every winter and, in the summer, to see the largest shark in the world, the whale shark.[18]

The coral reefs in the Flower Garden Banks are an important regional as well as national resource. Interviewing Larry McKinney, the Chairman of the Flower Garden Banks science advisory committee, the *Houston Chronicle* noted in June 2010 that "[w]hile as much as 85 percent or more of coral has died in many Caribbean reefs, the Flower Garden Banks remain the healthiest coral reefs in the western hemisphere . . . ."[19] As such, these coral formations "provid[e] a regional reservoir of shallow-water Caribbean reef species."[20] Given the widespread destruction of coral reefs elsewhere in the Caribbean, protecting this kind of species reservoir could become important to long-term coral reef survival, particularly in light of climate change impacts in the form of increased water temperatures, sea-level rise, and ocean acidification. In particular, the Flower Garden Banks coral reefs are part of the complex regional Loop Current system in the Gulf of Mexico, receiving various species' larvae from the Caribbean and in turn contributing to the spread of coral reef species throughout the Gulf and back into the Caribbean.[21] This physical connectivity between the sites protected in the Flower Garden Banks National Marine Sanctuary and other sites in the Gulf of Mexico and Caribbean is not completely understood, but is suspected to be of great importance to the continuing health of both those regions' larger ecosystems.[22]

II. Florida Keys National Marine Sanctuary

While the Flower Garden Banks National Marine Sanctuary protects an unusual kind of coral reef ecosystem, "[t]he most extensive living coral reef in the [continental] United States is adjacent to the 126 mile island chain of the Florida Keys."[23] The Florida Keys National Marine Sanctuary protects this reef, which is also

> North America's only living coral barrier reef and the third longest barrier reef in the world (following Australia and Belize)[. It] lies about six miles seaward of the Florida Keys (a 220-mile long string of islands extending south and west of the Florida mainland), making it a unique national treasure of international notoriety.[24]

Established in 1990, the Florida Keys National Marine Sanctuary is quite large, and it protects both ecological and cultural resources. As NOAA's National Marine Sanctuaries Program details:

> The 2,800 square nautical mile Florida Keys National Marine Sanctuary (FKNMS) surrounds the entire archipelago of the Florida Keys and includes the productive waters of Florida Bay, the Gulf of Mexico and the Atlantic Ocean. Cultural resources are also contained within the sanctuary. The proximity of coral reefs to centuries old shipping routes has resulted in a high concentration of shipwrecks and an abundance of artifacts.[25]

9. *Id.*
10. National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: Natural Setting*, http://flowergarden.noaa.gov/about/naturalsetting.html (last visited Sept. 16, 2010).
11. *Id.*
12. *Id.*
13. *Id.*
14. Harvey Rice, *Disaster in the Gulf: Scientists Keep Close Eyes on Coral Sanctuary; Some Fear Plumes Could Threaten Fragile Reefs Near Texas*, Hous. Chron., June 5, 2010, at A15.
15. National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: Education*, http://flowergarden.noaa.gov/education/students.html (last visited Sept. 16, 2010).
16. *Id.*
17. Dave Montgomery, *Texas Watches, Waits as Oil Spill Lurks at Sea*, Fort Worth Star-Telegram, May 16, 2010, 2010 WLNR 10106807, at *1.
18. National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: Education*, http://flowergarden.noaa.gov/education/students.html (last visited Sept. 16, 2010).
19. Rice, *supra* note 14.
20. National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: Natural Setting*, http://flowergarden.noaa.gov/about/naturalsetting.html (last visited Sept. 16, 2010).
21. *Id.*
22. *Id.*
23. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Visitor Information*, http://floridakeys.noaa.gov/visitor_information/welcome.html (last visited Sept. 16, 2010).
24. *Id.*
25. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Visitor Information*, http://floridakeys.noaa.gov/visitor_information/welcome.

The list of species that the sanctuary supports is over 100 pages long,[26] and over 1,700 species of gastropods alone are thought to live there.[27] This species diversity arises in part because the sanctuary incorporates at least three significantly different types of habitat: coral reefs; mangrove forests; and seagrass beds.[28]

The ecosystem of the Florida Keys is thus "one of the most unique and diverse assemblages of plants and animals in North America,"[29] despite the fact that approximately 82,000 full-time human residents live in the Keys.[30] Moreover, the Florida Keys' coral reef ecosystem is also commercially important: it supports a $2.2 billion-a-year tourist industry in Florida,[31] generated by the more than 61,000 tourists who visit during the "season" (November to April).[32] In addition, the reef's "extensive nursery, feeding and breeding grounds also support a multi-million dollar commercial fishing industry that lands nearly 20 million pounds of seafood and marine products annually."[33]

The sanctuary's cultural resources also prompt both recreational and commercial use. Much evidence of the region's maritime history lies submerged within the sanctuary, and shipwrecks are managed as cultural resources:

> The Sanctuary's submerged cultural resources encompass a broad historical range from the European Colonial Period to the Modern Era. Because of the Keys' strategic location on early European shipping routes, the area's shipwrecks reflect the history of the entire period of discovery and colonization.
>
> It is an integral part of the FKNMS mission to protect and preserve these resources for the public trust while still allowing for the private salvage of publicly owned historical resources. This is accomplished through a rigorous permit system which adheres to the Federal Archaeological Program guidelines.[34]

In addition, scuba divers in the Florida Keys can follow the sanctuary's "Shipwreck Trail."[35]

Nevertheless, unlike the reefs in the Flower Garden Banks, the Florida Keys coral reef ecosystem has been significantly degraded by a variety of stressors:

> The deterioration of the marine environment in the Florida Keys is no longer a matter of debate. There is a decline of healthy corals, signaled by an increase of coral diseases, coral bleaching, and decreased living coral cover. Marine scientists have reported an invasion of algae in seagrass beds and onto coral reefs. Fisheries scientists are reporting declines in some fish stocks and Florida Bay has undergone changes during the past decade that have resulted in degradation of the ecosystem, in terms of productivity, health, and stability of its living marine resources. Reduced freshwater flow in Florida Bay is one of the factors that has resulted in plankton blooms, sponge and seagrass die-offs, and fish kills.[36]

In the 1980s, threats to the reef from proposed oil drilling, deteriorating water quality, coral bleaching events, the spread of coral disease, sea urchin and seagrass die-offs, loss of coral cover, and three vessel groundings on the coral within 18 days of each other in 1989, all combined to induce the U.S. Congress to protect the Florida Keys coral reef ecosystem.[37]

III. The Oil Spill, the National Marine Sanctuaries, and the National Marine Sanctuaries Act

Coral are filter feeders, and petroleum has great potential to simply smother the coral reefs in both the Flower Garden Banks and the Florida Keys National Marine Sanctuaries.[38] Nevertheless, the two sanctuaries incorporate radically different approaches to accommodating oil and gas development in the Gulf of Mexico.

Given the many threats facing the Florida Keys coral reef ecosystem in the 1980s, when Congress established the Florida Keys National Marine Sanctuary in 1990, it explicitly provided that "[n]o leasing, exploration, development or production of minerals or hydrocarbons shall be permitted within the Sanctuary."[39] Nevertheless, oil spills such as the Deepwater Horizon threaten this intended legal protection by exposing the sanctuary to oil-related damage, despite the prohibition on drilling within the sanctuary itself. As the state of Florida more generally learned as a result of the Deepwater Horizon disaster, prohibitions on oil and gas exploration and drilling provide rather flimsy ecological protections when other political entities sharing the same waters make different decisions regarding the desirability of offshore platforms.

In contrast, Flower Garden Banks co-exists with the extensive oil and gas exploration and drilling in the northern Gulf of Mexico. Many of the oil and gas operations and plat-

html (last visited Sept. 16, 2010).

26. Florida Keys National Marine Sanctuary, Appendix J: Marine and Terrestrial Species and Algae (1994, as amended), *available at* http://floridakeys.noaa.gov/sanctuary_resources/specieslist.pdf.
27. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Sanctuary Resources*, http://floridakeys.noaa.gov/sanctuary_resources/ (last visited Sept. 16, 2010).
28. *Id.*
29. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Visitor Information*, http://floridakeys.noaa.gov/visitor_information/welcome.html (last visited Sept. 16, 2010).
30. *Id.*
31. *Head of Drilling Watchdog Steps Down as Oil Spill Threatens Beaches*, The Times (UK), May 19, 2010, *available at* 2010 WLNR 10324511, at *1 [hereinafter The Times].
32. *See* National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Visitor Information*, http://floridakeys.noaa.gov/visitor_information/welcome.html (last visited July 24, 2010) (noting that visitors amount to about 75% of the resident population of 82,000).
33. *Id.*
34. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Submerged Cultural Resources*, http://floridakeys.noaa.gov/sanctuary_resources/scr.html (last visited Sept. 16, 2010).
35. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: The Shipwreck Trail*, http://floridakeys.noaa.gov/sanctuary_resources/shipwreck_trail/welcome.html (last visited Sept. 16, 2010).
36. National Marine Sanctuaries, NOAA, *Florida Keys National Marine Sanctuary: Visitor Information*, http://floridakeys.noaa.gov/visitor_information/welcome.html (last visited Sept. 16, 2010).
37. *Id.*
38. John Collins Rudolf, *Deep Underwater, Threatened Reefs*, N.Y. Times, June 2, 2010, at A16, *available at* 2010 WLNR 11256988; *see also* Rice, *supra* note 14.
39. Florida Keys National Marine Sanctuary and Protection Act, Pub. L. No. 101-605 §6(b), 104 Stat. 3089, 3092 (Nov. 16, 1990).

forms near and even in the sanctuary predate the sanctuary's creation on July 17, 1992 (the Stetson Bank was added in 1996).[40] Moreover, the sanctuary has benefitted from active partnerships with the oil and gas industry.[41] Even so, an oil spill of the magnitude of the Deepwater Horizon disaster is obviously an unprecedented and undesirable threat to the sanctuaries' resources.

In early May 2010, NOAA acknowledged that the oil spill threatened both sanctuaries,[42] and by mid-May there was fear that oil had already entrained into the Gulf's Loop Current, which would carry it directly to the Florida Keys.[43] In turn, in the northern Gulf, it seemed likely over Memorial Day weekend that part of the surface oil slick would break off and head directly toward the Flower Garden Banks National Marine Sanctuary, which is located about 300 miles west of the Deepwater Horizon site.[44]

While neither surface oil threat to the sanctuaries actually materialized, future disasters like Deepwater Horizon (and there is no reason yet, as this Article goes to press, to believe that the Deepwater Horizon will be an isolated incident) could easily subject the sanctuaries to oil contamination. In the northern Gulf of Mexico, gyre currents—cycling currents in relatively stable locations—are a common phenomenon, and such currents could trap any surface oil that drifts into them, keeping the oil concentrated[45] above locations such as the Flower Garden Banks. As for the Florida Keys, Jane Lubchenco, Administrator of NOAA, observed in May that "[t]he oil is increasingly likely to become entrained [into the Loop Current], if it's not already."[46] Indeed, because of the Loop Current, NOAA continued to deem the Florida Keys to be at more risk of oil contamination than other parts of Florida that are physically closer to the Deepwater Horizon site. In early July, for example, it reported "that the Florida Keys and the Miami and Fort Lauderdale areas were more likely to see oil wash ashore—a probability of 61-80%—than much of the west [Gulf] coast of Florida, which faces a probability of no more than 20%."[47]

Of greater and continuing concern, however, are the deepwater oil plumes that emerged from the Deepwater Horizon site, especially for the Flower Garden Banks.[48] By early June, scientists working in the Gulf had detected two extensive plumes deep under the surface of the Gulf,[49] "most likely a haze of oil droplets, natural gas and the dispersant chemical Corexit, 210,000 gallons of which had been mixed into the jet of oil streaming from the sea floor. This oily haze could prove toxic to coral reefs."[50] One of the plumes was 200 cubic miles in size—one-half the size of Lake Erie[51]—and extended for about 22 miles from the Deepwater Horizon site.[52] These plumes are highly unusual compared to surface oil spills, and a great deal of uncertainty remains regarding how they are currently behaving or will behave in the future.[53] Nevertheless, the plumes already threaten deepwater coral reefs lying outside the Flower Garden Banks National Marine Sanctuary, some of which are just 20 miles northeast of the Deepwater Horizon site.[54]

In addition, managers at the Florida Keys National Marine Sanctuary have expressed considerable concern about BP's use of toxic chemical dispersants to break up the oil.[55] As noted, the initial dispersant, Corexit, is toxic to corals, and the already stressed Florida Keys reefs could fall victim to the dispersant, as well as to the oil itself.

Efforts to assess the threat of the oil spill to the sanctuaries continued throughout the leaking. In June and July 2010, two NOAA vessels, the *Thomas Jefferson* and the *Nancy Foster*, engaged in missions to detect oil in the Flower Garden Banks and Florida Keys, respectively.[56] The *Nancy Foster*'s mission, in particular, was the first in-the-water study of oil in the Florida Keys, and it sought "to provide an early warning [to "managers of the ecologically sensitive Florida Keys National Marine Sanctuary"] whether oil and tar balls from the massive Gulf of Mexico oil spill will work their way into the Florida Keys."[57] In addition, during those months, the state of Florida, using part of the $10 million for research that it received from BP, sent two robotic probes into the Florida Keys to look for oil.[58] A member of the Advisory Council to the Florida Keys National Marine Sanctuary commented in mid-June that "it appears inevitable we will see an impact."[59]

To date, tar balls have been found in the Florida Keys, but none have been linked to the Deepwater Horizon disaster.[60] Should BP-linked oil ever be found in either sanctuary, however, BP faces liability under the National Marine Sanctuaries Act[61]—a fact of which federal government attorneys are well aware.[62]

The Act creates a liability regime for injuries to "sanctuary resources," which it defines as "any living or nonliving resource of a national marine sanctuary that contributes to

40. *See* National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: History*, http://flowergarden.noaa.gov/about/history.html (last visited July 20, 2010).
41. *Id.* For a map showing the location of oil drilling platforms relative to the salt domes and coral reefs, see National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary: Natural Setting: Connectivity*, http://flowergarden.noaa.gov/about/naturalsetting.html (last visited July 20, 2010).
42. National Marine Sanctuaries, NOAA, *Flower Garden Banks National Marine Sanctuary News & Events: Deepwater Horizon Oil Spill*, http://flowergarden.noaa.gov/newsevents/dhoilspillarticle.html (May 4, 2010, as updated May 27, 2010).
43. The Times, *supra* note 31.
44. Rice, *supra* note 14.
45. Rice, *supra* note 14.
46. The Times, *supra* note 31.
47. *Day 73: The Latest on the Oil Spill*, N.Y. Times, July 3, 2010, at A10.
48. John Collins Rudolf, *Deep Underwater, Threatened Reefs*, N.Y. Times, June 2, 2010, at A16, *available at* 2010 WLNR 11256988.
49. Rice, *supra* note 14.
50. Rudolph, *supra* note 48.
51. Rice, *supra* note 14.
52. Rudolph, *supra* note 48.
53. Rudolph, *supra* note 48; Rice, *supra* note 14.
54. Rudolph, *supra* note 48.
55. Kevin Wadlow, *Sanctuary Grills BP Representative*, Florida Keys Keynoter, June 16, 2010, *available at* 2010 WLNR 12242725, at *1.
56. *NOAA Ship* Thomas Jefferson *Continues Deepwater Horizon Spill Study Mission*, U.S. Fed. News, June 17, 2010; Bo Petersen, *Research Vessel Sent to Keys; Ship to Monitor Oil and Currents*, Myrtle Beach Sun News, July 2, 2010, *available at* 2010 WLNR 13281210, at *1.
57. Petersen, *supra* note 56.
58. Channel 10 News, Tampa (CBS affiliate), July 20, 2010, 2010 WLNR 14506115, at *1.
59. Wadlow, *supra* note 55.
60. Wadlow, *supra* note 55.
61. 16 U.S.C. §§143101445c-1 (2006).
62. Wadlow, *supra* note 55.

the conservation, recreational, ecological, historical, educational, cultural, archeological, scientific, or aesthetic value of the sanctuary."[63] Specifically, the Act makes it illegal to "destroy, cause the loss of, or injure any sanctuary resource managed under law or regulations for that sanctuary . . . ."[64]

In addition, the National Marine Sanctuaries Act creates several kinds of liability for those who violate its provisions and injure sanctuary resources. First, the act imposes civil penalties of $100,000 on "any person subject to the jurisdiction of the United States who violates" its provisions and specifies that "[e]ach day of a continuing violation shall constitute a separate violation."[65] The Secretary of Commerce and the U.S. Attorney General can also seek injunctive relief to protect sanctuary resources, "to abate . . . risk or actual destruction, loss, or injury, or to restore or replace the sanctuary resource, or both," if the Secretary concludes that there is an imminent risk to or actually destruction of sanctuary resources.[66]

Beyond civil penalties, "[a]ny person who destroys, causes the loss of, or injures any sanctuary resource is liable to the United States for an amount equal to the sum of . . . the amount of response costs and damages resulting from the destruction, loss, or injury," plus interest.[67] "Response costs" are:

> the costs of actions taken or authorized by the Secretary to minimize destruction or loss of, or injury to, sanctuary resources, or to minimize the imminent risks of such destruction, loss, or injury, including costs related to seizure, forfeiture, storage, or disposal arising from liability under section 1443 of this title . . . .[68]

"Damages," in turn, include: (1) compensation for "the cost of replacing, restoring, or acquiring the equivalent of a sanctuary resource" or "the value of the lost use of a sanctuary resource pending its restoration or replacement or the acquisition of an equivalent sanctuary resource"; (2) "the cost of damage assessments"; (3) "the reasonable cost of monitoring appropriate to the injured, restored, or replaced resources"; (4) "the cost of curation and conservation of archeological, historical, and cultural sanctuary resources"; and (5) "the cost of enforcement actions undertaken by the Secretary in response to the destruction or loss of, or injury to, a sanctuary resource."[69]

One immediate question, of course, is whether the federal Oil Pollution Act (OPA)[70] displaces the National Marine Sanctuaries Act in cases like the Deepwater Horizon oil spill. It does not. Indeed, the OPA explicitly reserves the authority of the United States to assess additional fines and penalties and to impose additional liability in connection with oil spills.[71] While cases are limited, the federal courts have upheld this Savings Clause and allowed the federal government to pursue liability under both the OPA and the National Marine Sanctuaries Act in other areas of the country.[72] Thus, BP would incur *additional* liability of $100,000 per day should any oil reach and damage the reefs, marine life, or other resources of either the Flower Garden Banks or Florida Keys National Marine Sanctuary—or $200,000 per day if it reaches and injures both. Moreover, the National Marine Sanctuary's provisions for assessing the damages to and costs of replacing sanctuary resources provides a sharper definition of what the OPA allows as natural resource damages,[73] and federal managers are particularly adept at calculating sanctuary resource damages in the Florida Keys, given the number of vessel groundings there. The Elepis case in the Florida Keys, for example, netted sanctuary resource damages of $1.66 million.[74]

IV. Conclusion

The two national marine sanctuaries in the Gulf of Mexico underscore the multiplicity of liabilities that BP could face if the Deepwater Horizon oil spill ends up damaging and destroying natural resources throughout the Gulf of Mexico, as it still well could, despite the fact that no new oil appears to be entering the Gulf from the Deepwater Horizon site. Indeed, the federal Endangered Species Act[75] and Marine Mammal Protection Act[76] are likely *already* part of the BP liability calculus, given the suspicious deaths of sea turtles and dolphins in the Gulf, and the National Marine Sanctuaries Act may well have a similar role to play.

Beyond liability, however, the oil spill's threat to the Flower Garden Banks and Florida Keys National Marine Sanctuaries highlights just how economically and ecologically valuable the Gulf of Mexico's marine resources actually are, despite the development and commercial exploitation of the Gulf, and despite significant degradation in certain areas. Indeed, the very existence of those sanctuaries and the multiple other MPAs in the Gulf gives testament to both the truly destructive potential of oil spills in the Gulf and the inherent dangers of deepwater drilling in ecologically productive marine regions.

63. 16 U.S.C. §1432(8) (2006).
64. *Id.* §1436(1).
65. *Id.* §1437(d)(1).
66. *Id.* §1437(j).
67. 16 U.S.C. §1443(a)(1) (2006).
68. 16 U.S.C. §1432(7) (2006).
69. *Id.* §1432(6).
70. 33 U.S.C. §§2701-2761, ELR Stat. OPA §§1001-701.
71. *Id.* §2718(c).
72. United States v. M/V Cosco Busan, 557 F. Supp. 2d 1058, 1063 (N.D. Cal. 2008) (involving an oil spill after a vessel collision with the San Francisco Bay Bridge).
73. 33 U.S.C. §2702(b)(2)(A) (2006).
74. National Center for Environmental Economics, U.S. Environmental Protection Agency (EPA), *Liability for Damage to Natural Resources*, http://yosemite.epa.gov/ee/epalib/incent2.nsf/8b70e83558f9061f8525677b006a75c0/24cdee4c4b78788a85256ab2007042e5!OpenDocument (last visited July 24, 2010).
75. 16 U.S.C. §§1531-1544, ELR Stat. ESA §§2-18.
76. 16 U.S.C. §§1361-1421h, ELR Stat. MMPA §§2-209.