

Hurricane Katrina: It's an Ill Wind That Blows No Good

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I. A Brutal Hurricane Season

On August 29, 2005, Hurricane Katrina made landfall in Plaquemines Parish, Louisiana, as a Category 4 hurricane, causing severe damage over 108,456 square miles. Storm surge ranged from 4-32 feet, and rainfall was 12-16 inches. Currently damage estimates are at \$34.4 billion; \$22 billion of that damage is in Louisiana. As of the end of 2005, an estimated 1,321 people were killed by Katrina; 1,095 of those deaths were in Louisiana.¹ Hurricane Katrina devastated the Gulf Coast. The storm surge and subsequent flooding made Katrina the most costly storm in U.S. history.

Then, on September 24, 2005, Hurricane Rita roared ashore as a Category 3 hurricane, causing severe damage over approximately 85,729 square miles. A total of 119 people died due to this storm. The storm surge ranged from 4-16 feet, with rainfall of 6-12 inches. The estimated damages total \$4.7 billion, \$2.4 billion of that being in Louisiana.²

A. Louisiana Demographics

In 2004, Louisiana had an estimated population of 4,515,770.³ More than 1 million people left their homes to flee either Hurricane Katrina or Rita.⁴ With many displaced residents living with friends or family, officials are finding it impossible to determine the population of Louisiana at this time. Baton Rouge became Louisiana's largest city nearly overnight as more than 100,000 evacuees and rescue workers joined the pre-storm population of 412,000.⁵ The Baton Rouge mayor's office has estimated that the population will ultimately reach from 800,000 to 1 million.⁶

¹ La. Geographic Information Center (LAGIC), *2005 Louisiana Hurricane Impact Atlas*, available at <http://lagic.lsu.edu>.

² *Id.*

³ *Louisiana Quick Facts from U.S. Census Bureau*, <http://quickfacts.census.gov/qfd/states/22000.html>.

⁴ "Hurricane Katrina, Response to The Nation's Worst Natural Disaster," Louisiana Mid-Continent Oil & Gas Association presentation, September 12, 2005.

⁵ *Id.*

⁶ *Id.*

Prior to Katrina, New Orleans had an estimated population of 484,674, and Greater New Orleans had a population of 1,337,726.⁷ Hurricane Katrina dramatically reduced the population: many residents have taken temporary shelter elsewhere or relocated indefinitely. Estimates as of late 2005 cite fewer than 150,000 people residing in the city, and projections of the city's eventual population following reconstruction are highly speculative. As of early 2006, no one knows how many Louisiana residents will ultimately return. Local and state governmental budget planning is difficult at best. Based on the information available, however, most entities have already announced tremendous budget cuts.

B. Louisiana's Economic Affect on the Nation

Louisiana has some of the nation's most important ports, fisheries, and agriculture.

Louisiana's five deep-water ports handle more than 457 million tons of U.S. waterborne commerce a year, including nearly half of all American grain exports. Four of the eleven largest U.S. ports (in foreign commerce tonnage) are located in Louisiana. Some 100 steamship lines and barge companies serve the more than 4,500 seagoing vessels and 100,000 barges that ply the state's waterways each year. Trade is conducted with 191 countries around the world.

Louisiana's fishing industry is the second largest in America, accounting for 26 percent of all seafood landed in the country. Only Alaska's fishery is larger. The catch includes oysters, crab, shrimp, menhaden, redfish, shark and butterfish.

Louisiana is among the ten largest producers in the U.S. of cotton, sugar cane, yams, rice and pecan nuts, and raises important quantities of soybeans, beef cattle, maize, strawberries and truck crops.

C. Louisiana's Energy Industry

Oil and gas is the cornerstone of the Louisiana economy, contributing, for example, \$93 billion into the state's economy⁸ in 2001. Including offshore operations, Louisiana is the nation's #1 oil producing state and the #2 natural gas producing state, accounting for 27% of the nation's daily oil and natural gas production. Louisiana provides the nation with 80% of its offshore energy supply.⁹ Louisiana's energy industry is of vital importance to the nation. The federal government receives approximately \$6 billion a year in royalties and lease bonuses from oil and gas development in the Gulf of Mexico. Developments in seismic technology and

⁷ *Quick Facts from U.S. Census Bureau*, <http://quickfacts.census.gov/qfd/states/22/2255000.html>.

⁸ The direct economic affect to the state comes from taxes, royalties, fees, salaries and other money spent in Louisiana by the oil and gas industry. The indirect affect results from expenditures by oil and gas employees and from service companies for the oil and industry.

⁹ Jan Moller and Pam Radtke Russell, "Blanco: No offshore signoffs unless La. gets royalty share, Money could finance hurricane protection," (Feb. 01, 2006).

deepwater techniques may enhance Louisiana's position as the nation's leading hydrocarbon producer.¹⁰

Louisiana has 19 refineries, which account for 15% of the total refining capacity in the country.¹¹

Louisiana contains thousands of miles of pipelines, carrying crude oil, natural gas, and refined petroleum. The pipelines stretch from deep in the Gulf of Mexico to refineries and other consumers in Louisiana, and the Louisiana pipelines supply large interstate pipelines providing hydrocarbons to all parts of the country.¹²

D. The Damage to the Energy Industry From the 2005 Hurricanes

Hurricanes Katrina and Rita devastated Louisiana's coastal wetlands. As Louisiana's wetlands have disappeared steadily in recent years and at an accelerated pace in 2005, previously buried pipelines are now exposed. Approximately 20,000 miles of pipelines in coastal Louisiana, previously buried in earth, are now exposed.¹³ The exposed pipelines present new safety and environmental risks in Louisiana's coastal areas.

Immediately after Hurricane Katrina, 95% of offshore oil production and 88% of offshore natural gas was shut in.¹⁴ Crude pipelines were shut down because of massive power outages. Refineries were shut down because of power outages and flooding.¹⁵ Those refineries not directly affected by the hurricane had power outages, lack of crude or an inability to move gasoline through product lines.¹⁶ Four Billion Cubic Feet (BCF)/day of natural gas from the eastern Gulf could not be produced because key natural gas processing facilities were shut-in. Onshore operations were not severely damaged, but onshore production was hindered by the lack of pipeline service and the shut-in of some refineries.¹⁷

The Minerals Management Service (MMS) estimates that 3,050 of the Gulf's 4,000 platforms, and 22,000 of the 33,000 miles of Gulf pipelines were in the paths of either Hurricane Katrina or Rita.¹⁸ The damage was extensive: Hurricane Katrina destroyed 46 platforms,

¹⁰ Louisiana Department of Economic Development, available at www.lded.state.la.us/led/industry_clusters/energy/index.asp.

¹¹ www.lmoga.com (then go to hyperlink 'Louisiana Oil and Gas Industry Overview').

¹² *Id.*

¹³ Transcript from PBS documentary, "Losing Ground," aired on Sept. 26, 2002, available at http://www.pbs.org/now/transcript/transcript_delta.html.

¹⁴ Hurricane Katrina, Response to The Nation's Worst Natural Disaster, Louisiana Mid-Continent Oil & Gas Association presentation, September 12, 2005.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ News Release, Minerals Management Service, Impact Assessment of Offshore Facilities from Hurricanes Katrina and Rita (Jan. 19, 2006), available at <http://www.mms.gov/ooc/press/2006/press0119.htm>.

damaged 20 others,¹⁹ and damaged 100 pipelines. In spite of the massive damage to the oil and gas infrastructure, there were no significant oil spills from wells on the Outer Continental Shelf (OCS).²⁰ In all, on the OCS there were 211 minor pollution incidents (involving less than 500 barrels of oil that did not reach the coast line).²¹

Similarly, Hurricane Rita caused massive damage to the oil and gas infrastructure along a track to the west of that followed by Hurricane Katrina, destroying another 69 platforms and damaging 32 others. Hurricane Rita also damaged 83 pipelines. Again, however, the OCS oil spills were relatively minor only 207 minor pollutions incidents on the OCS were reported to MMS.²²

E. Can Louisiana get a Bigger Share of the Energy Revenues it Produces?

Louisiana's politicians have renewed efforts to get the state a percentage of that money, seeking 50% of the royalties now paid to the federal government for oil and gas produced from 6 miles to about 200 miles off of Louisiana's coast. The state's share would be the rough equivalent of what inland states already receive when drilling occurs on federal lands within their borders.²³

Gov. Kathleen Blanco recently warned that the state would not support future offshore lease sales in the Gulf of Mexico unless Louisiana gets a share of the federal royalties generated by oil production there.²⁴ Under the federal Coastal Zone Management Act (CZMA),²⁵ governors in coastal states adjacent to the area of offshore development must certify that federal lease sales are consistent with their states' coastal management plans for the development to proceed.²⁶ Louisiana governors have traditionally signed off on such lease sales, and Blanco's letter will not stop a March 15 lease sale of 4,000 blocks in the Gulf of Mexico for oil and gas exploration.²⁷ "It is abundantly clear that allowing development to occur where inadequate provisions are made for the protection of that development is irresponsible," Blanco wrote to the

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

²³ "Storm damage adds fuel to state's push for oil royalties," *Times Picayune*, February 1, 2006.

²⁴ Jan Moller and Pam Radtke Russell, "Blanco: No offshore signoffs unless La. gets royalty share, Money could finance hurricane protection," (Feb. 01, 2006).

²⁵ 16 U.S.C. § 1456(c)(1)(A), and amended by 1990 amendments to CZMA, Pub. L. 101-508 (legislatively overruling *Secretary of the Interior v. California*, 464 U.S. 312 (1984)).

²⁶ *See generally California v. Horton*, 150 F. Supp. 2d 1046 (N.D. Ca. 2001) (holding lease suspensions subject to consistency determinations).

²⁷ *Id.*

MMS. “The amount of oil and gas activity off our coast means little if we have no coastal communities to take advantage of this activity.”²⁸

II. The Mississippi River, Levees, and Coastal Erosion

Louisiana’s coastal wetlands are rapidly disappearing into the Gulf of Mexico. The coastal wetlands serve as a buffer against the tropical storms and hurricanes by absorbing the storm surges they push ashore. Every 2.5 miles of healthy coastal marsh reduces tidal surge from storms by one foot.²⁹ Thus, about 80 miles of coastal marsh below New Orleans could have prevented most of the flooding from Hurricanes Katrina and Rita.³⁰ The coastal wetlands are disappearing because long-established flood control policies work against nature, not with it.

A. In a Good Year, Louisiana Loses 24 Square Miles of Coastal Wetlands

The 2005 hurricane season highlighted the crisis of Louisiana’s coastal erosion problems. Louisiana has 40% of the coastal wetlands in the continental United States, but 90% of coastal wetlands loss is occurring in Louisiana.³¹ Every year, the state loses about 24 square miles of vegetated wetlands. That is the equivalent of about one football field every 38 minutes, or, more than 200,000 basketball courts per year.³²

According to James B. Johnston, spatial analysis branch chief at the USGS National Wetlands Research Center, in a press release dated May 21, 2003, Louisiana lost 1,900 square miles from 1932 to 2000, roughly an area the size of the state of Delaware. Over the next 50 years, the state will lose an additional 700 square miles, about equal to the size of the greater Washington, D.C.-Baltimore, Md. area.³³

Although many areas of the world are facing rapid deterioration of their wetlands, the Mississippi Delta, home to 2.2 million people, is sinking and losing wetlands faster than almost any place on earth.³⁴ By 2050, without any further restoration action, scientists believe that one

²⁸ *Id.*

²⁹ Matthew Brown, “Coastal Losses Greater Than Thought: 118 square miles lost, report says,” *Times-Picayune*, p. A-2, February 15, 2006.

³⁰ *Id.*

³¹ Michael W. Wascom, James G. Wilkins, Lisa A. Schiavanato, “Legal Issues Relevant to Coastal Restoration Projects: the Louisiana Experience,” prepared for the 14th Biennial Coastal Zone Conference, New Orleans, LA, (July 17-21, 2005), available at http://www.csc.noaa.gov/cz/CZ05_Proceedings_CD/pdf%20files/WascomLegal.pdf; *See also* Robert Viguerie, “Coastal Erosion: Crisis in Louisiana’s Wetlands,” 51 *LABJ* 85 (2003).

³² http://www.americaswetlandresources.com/background_facts/index.html.

³³ “Vanishing Louisiana,” *Water Marks: Louisiana Coastal Wetlands Planning Protection and Restoration News* (Jan. 2004 Number 24), available at <http://www.lacoast.gov/watermarks/2004-01/watermarks-2004-01.pdf>.

³⁴ Mark Fischetti, “Protecting New Orleans,” *Scientific American*, Feb. 2006, at 65.

third of coastal Louisiana will have vanished into the Gulf of Mexico. The effects on people, the oil and gas infrastructure, fisheries industry, and wildlife will be immense if these trends are not reversed.³⁵

A recent report issued by the USGS estimates that, due to Hurricane Katrina, 118 square miles of coastal marsh has been converted to open water.³⁶ That is the equivalent of five years of normal coastal loss.

B. Flood Control Levees Starve the Coastal Wetlands of Replenishing Sediments and Nutrients

Before flood protection levees were built on the Mississippi River in the 19th century, the Mississippi River flooded on a regular basis, dumping a new layer of sediment across the Mississippi River Valley. The lower Mississippi River system accepts the drainage of 41% of the United States. The river carries nutrients and sediments that had regularly replenished and rebuilt the wetlands.

As land masses form and the elevation of wetlands increases, rivers seek the path of least resistance and may change direction. The Mississippi River, creator of the vast wetland resources of Louisiana, has changed course three times over the last 10,000 years and most recently changed its course approximately 700 years ago. The geologic record shows striking shifts in the configuration of the coastline that are entirely the result of the river's course. It is no accident that the southern tip of the "boot" that is Louisiana on the map is also the Gulf outlet of the Mississippi River. Viewed on a map, the river at the outlet branches in the form of a bird's foot, and the area is also referred to as the "Bird's-foot Delta." The modern Mississippi Delta was created by the river, and is now disappearing because the Mississippi River has been leveed almost to its Gulf outlet.

The massive levees and flood control projects that are needed for economic and residential development by their very nature deprive wetland areas of the sediments and fresh water needed to continue the building process. These man-made levees, built to prevent floods, also cut off the sediment supply, preventing the natural rebuilding process.³⁷ Now sediment and nutrients pour out into the Gulf, contributing to a growing hypoxia problem, resulting in the largest marine dead zone in the world.³⁸ It is estimated that the Mississippi River annually empties more than 400 million tons of mud into the Gulf of Mexico.³⁹

Once the source of the land itself is taken away, the process of soil compaction takes over. Soil compaction occurs even during the delta building process, but during the building

³⁵ Wascom, et al, *see supra* note 33.

³⁶ In the fall of 2002, two powerful hurricanes, Isidore and Lilli, caused Louisiana to lose an amount of land in hours, that would usually be lost "naturally" in five or six years. www.americaswetland.com.

³⁷ http://www.americaswetlandresources.com/background_facts/index.html.

³⁸ http://www.americaswetlandresources.com/background_facts/index.html.

³⁹ *Id.*

process the amount of sediments deposited in the marshes is greater than the rate at which the soils are settling. Once the source of the sediments is removed, the soils continue to compact—the wetlands literally sink under their own weight.

More than the Mississippi River levees are to blame for coastal erosion. The underground extraction of oil, natural gas and freshwater may in some circumstances reduce the land's support structure. Further, navigation channels for ships, hundreds of miles of channels dredged for pipelines, and oil and gas access canals may weaken the marsh habitat. Canal construction has been curtailed in recent years, but the banks of many canals are still eroding due to wave action from passing boats and barges. These canals also allow saltwater from the ocean to come inland, killing the natural vegetation. Another contributor is the earth's gradually rising oceans. In another 100 years scientists predict that sea level will be one to three feet higher. Other scientists hypothesize that the state's subsidence is caused by 'natural' unpreventable factors such as fault lines,⁴⁰ crustal down-warping, sediment loading, compaction, salt movement and gravity slumping.⁴¹

Since Hurricanes Katrina and Rita, three main protection schemes are being proposed by the government, industry, and university groups that would hopefully offer protection from Category 5 hurricanes.⁴² Notably, all three plans call for diversions, slices within the Mississippi River levees, which would open at certain times of year to allow freshwater, nutrients and sediment to wash down into the marshes, reviving vegetation and building up land to counteract subsidence.⁴³

In early 2005, advocates of protecting and restoring the coastal wetlands believed that a comprehensive project would cost upwards of \$14 billion, and warned that the price of inaction would be much greater.⁴⁴ The experts were right. In the aftermath of Katrina:

- Economic losses are estimated at \$175 billion, including damages to homes, businesses and infrastructure, as well as disrupted economic activity and larger energy bills.
- FEMA estimates nearly 293,000 homes were damaged or destroyed.
- Congress has approved at least \$62.3 billion for relief and recovery, with billions more expected to be needed in the months and years to come.
- Category 5 flood protection would easily cost more than \$32 billion.

⁴⁰ Mike Dunne, "Faults found in La. land loss," *The Advocate*, (Jan. 30, 2006).

⁴¹ Arthur E. Berman, "The Debate Over Subsidence in Coastal Louisiana and Texas," (Nov. 24, 2005).

⁴² Mark Fischetti, "Protecting New Orleans," *Scientific American*, Feb. 2006, at 65.

⁴³ *Id.*

⁴⁴ "Vanishing Louisiana," *Water Marks: Louisiana Coastal Wetlands Planning Protection and Restoration News* (Jan. 2004 Number 24), available at <http://www.lacoast.gov/watermarks/2004-01/watermarks-2004-01.pdf>

C. Legal and Political Barriers to Addressing Coastal Erosion

The need to protect and restore Louisiana's wetlands is recognized virtually universally, but there is no consensus yet on specific coastal restoration projects or funding. As these issues are resolved, there remains complex legal review processes to be addressed.

The National Environmental Policy Act (NEPA), requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions.

Both the Clean Water Act (CWA) section 404 permit system and the Coastal Zone Management Act (CZMA)⁴⁵ permit system also have distinct goals for the protection of coastal wetlands. These regulations overlap in coastal marshes, requiring duplicative dredge and fill permits. Within the deltaic coastal zone, the wetlands loss caused by natural and man-made forces, but not by developmental activities, is the dominant environmental issue. Neither the section 404 program nor the CZMA expressly address this problem. The Corps of Engineers' policy of "no net loss" of wetlands, which merely removes current development from the equation, does nothing to protect wetlands in areas where the delta building process is no longer occurring. The section 404 and CZMA programs do not address the perplexing question of how to stop wetlands loss and ultimately enhance the remaining wetlands. In fact, the programs are often counterproductive.

Another consideration is the effect that any corrective projects may have on area residents and businesses. Projects allowing diversions of fresh water and sediment from the Mississippi River into various areas, or "controlled flooding," to begin rebuilding wetlands, although showing progress, have been plagued by costly lawsuits.

In one such example, a water diversion project in the Caernarvon area was designed to abate saltwater intrusion and marine tidal invasion while promoting coastal restoration. The Caernarvon structure operates based on gravity and hydrostatic pressure from the river and consists of five culverts equipped with gates that can be raised or lowered to regulate the rate of flow from the river.⁴⁶ However, the intrusion of freshwater from the Mississippi River reduced salinity in the waters covering certain oyster fishermen's crops to levels unsustainable for oyster culture. Under a long-used state program, the oystermen had leased water bottoms from the state, where they then developed and farmed oyster beds.

In *Avenal v. State of Louisiana*, a class action involving over two hundred of these oyster leases, oyster farmers claimed that the damages to their oyster crops resulting from the State's operation of the Caernarvon Freshwater Diversion Structure were compensable pursuant to the

⁴⁵ 16 U.S.C. §§ 1451, *et seq.*

⁴⁶ *Avenal v. State*, 2003-3521 (La. 2004), 886 So. 2d 1085, 1091, *writ denied*, 125 S. Ct. 2305 (2005).

state constitution.⁴⁷ The jury bought their argument, awarding more than \$1 billion in compensatory damages. On appeal to the Fourth Circuit, a divided five judge panel affirmed the trial court's judgment.⁴⁸ Ultimately, the Louisiana Supreme Court reversed the decision, finding that the state was not liable due to lease clause that held the state harmless for losses associated with its projects.⁴⁹

In an attempt to protect the state from any future lawsuits resulting from restoration projects, the Louisiana legislature passed a law providing that the state and its political subdivisions shall be held free and harmless from any and all claims for loss or damages and any rights arising out of any lease, permit, or license granted by anyone for any purpose on state lands or water bottoms as a result of diversions of any fresh water or sediment, the deposition of dredged or fill materials, or any other actions to manage, preserve, enhance, create or restore coastal wetlands.⁵⁰ Having learned from prior experience, now the state also attempts to buy out potentially affected parties before beginning a project, and may grant oyster leases for a period of only six months to a year.

III. Post-Katrina Environmental Litigation

Hurricane Katrina has spawned huge amounts of insurance litigation. It has also spawned oil land damage and oil contamination litigation.

A. The Post-Katrina Land Damage Litigation

Behind Hurricane Katrina came an onslaught of lawsuits including numerous class actions. Some of the recent lawsuits go so far as to blame certain defendants for causing coastal erosion, thereby removing the state's natural buffer against hurricanes. In *Barasich v. Columbia Gulf Transmission Company*, 05-4161 (E.D. La. 9/13/05), a class action lawsuit filed just weeks after Katrina, the plaintiffs claim that exploration and drilling activities in Southeast Louisiana have destroyed over one million acres of marshlands and rendered many more millions of acres essentially non-existent. The suit contends that defendants failed "to maintain canals which caused damage to the stability and ecological functions of the marsh property, leading to physical removal of marsh terrain, the creation of spoil banks and impairment of natural ebb and flow of tidal water."

Engineering companies and contractors have also come under fire in recent class actions. One such suit claims that the failure of levees and subsequent flooding in Orleans and Jefferson Parishes was caused by negligent design, construction and maintenance.⁵¹ Another class action

⁴⁷ *Id.* at 1088; *See also Alonzo v. State*, 2003-0553 (La.App. 4 Cir. 9/8/04), 884 So.2d 640 (in related case reversing decision where 20 oyster lease holders were awarded more than \$226.5 million).

⁴⁸ *Avenal*, 886 So. 2d at 1093-94.

⁴⁹ *Id.* at 1109.

⁵⁰ La. R.S. 49:214.5.

⁵¹ *Berthelot v. Boh Bros. Construction Company and Gulf Coast Inc.*, 05-4182 (E.D. La. 9/2/05). For additional examples of the numerous class actions filed in Louisiana post-Katrina *see also*,

claims that the breach of the 17th Street Canal levee was caused by contracting companies placing construction vehicles and other heavy equipment on the levee while repairing a bridge spanning the canal.⁵²

A class action lawsuit, naming as a defendant the United States Army Corps of Engineers, claims that the failure of the hurricane protection levees and walls were a result of negligence in their design and construction. “The sheet pilings were of insufficient depth and inadequately anchored in the soft weak soil, and thus were inadequate to protect the area from flooding...” The suit contends that the Corps as the administrator of contracts was responsible for project design and construction of levees and flood walls. In an interesting twist, the plaintiffs also argue that the Corps was negligent because it, “knew or should have known it to be impracticable to construct protection and failed to institute proceeding on behalf of the United States Government to acquire the floodage rights over the land...” (emphasis added).

B. Oil Contamination Litigation

Perhaps the most prominent litigation in the national media is that arising out of an oil spill at Murphy Oil USA, Inc.’s refinery in St. Bernard Parish. After being rocked by floodwaters during Hurricane Katrina, an oil tank at the refinery spilled about 1 million gallons of oil into surrounding neighborhoods.

A class action lawsuit, *Turner v. Murphy Oil USA Inc.*, 05-4206 (E.D. La. 10/4/05), has been filed by surrounding residents, alleging negligence in failing to properly secure the tank. The company has already paid more than \$50 million to homeowners and spent more than \$17 million on cleaning up public property and private property. In another class action arising out of a Hurricane Katrina related oil spill, *Barasich v. Shell Pipeline Company, et al.*, 05-4180 (E.D. La. 9/19/05), plaintiffs seek recovery for damages associated with the rupture of a crude oil pipeline in lower Plaquemines Parish.

Frederick Bradley v. Modjeski and Masters Inc., 05-6359 (E.D. La. 12/5/05) (class action alleging that a national firm of consulting engineers failed to ensure the adequacy of the design, composition and construction of the 17th Street Canal’s flood protection system); *Kelvin Slaton v. St. Paul Fire & Marine Insurance Company and the Board of Commissioners for the Orleans Levee District*, 05-1138 (M.D. La. 9/30/05)(class action alleging the Orleans Levee Board was negligent in not ensuring that the design, construction and maintenance of the levee systems was within the appropriate standards to prevent the failure of the levees); *Rob Schmidt v. Jefferson Parish, Aaron Broussard*, suit number 625-988c (24th JDC, Jefferson Parish, 12/1/05)(class action against Jefferson Parish and the parish president for flooding that occurred in the parish after pumping station operators were evacuated).

⁵² *Jared Vodanovich v. Boh Bros. Construction Co.*, 05-4191 (E.D. La. 9/20/05).

IV. Post-Katrina Environmental Issues

A. Waivers Issued by the LDEQ and EPA Immediately Following the Storm

Too expedite the recovery from the 2005 hurricanes, numerous waivers regarding conservation, environmental, transportation and tax issues were granted by various state and federal agencies.

The Louisiana Department of Environmental Quality (LDEQ) issued a Declaration of Emergency and Administrative Order addressing issues including temporary fuel sites, emergency pumps and generators.⁵³ The LDEQ also issued variances for temporary replacement tanks, compressors, flares, and other similar items on a case-by-case basis. Two refineries were issued waivers to land floating roofs on their product tanks to allow them to provide more product already in storage while the refinery started up.

On the Coastal Zone, the Louisiana Department of Natural Resources modified permit procedures to authorize work under existing CZMA permits to expedite infrastructure repairs. The Department of Transportation issued waivers for requirements of certain drivers carrying fuel.

In light of the gasoline shortage, the EPA issued enforcement discretion letters to refineries authorizing emergency restart. The waivers included a fuels waiver issued for gasoline Reid Vapor Pressure (RVP) and diesel sulfur. The EPA also issued enforcement discretion letters regarding the operation of vapor recovery systems in the loading of marine vessels, and regarding the operation of vapor recovery systems at bulk gasoline loading terminals.

B. Budget Cuts Affect Governmental Enforcement and Control

While grappling with massive environmental issues--waste management, land and water contamination, planning of temporary trailer communities, and disposal of hazardous products, and more--state and local governmental entities are facing budget slashes. Currently, Gov. Blanco's Commissioner of Administration Jerry Luke LeBlanc is asking many departments of government to come up with budgets reflecting a 20% cut. He estimates Louisiana will have \$786 million less in the general fund next fiscal year. LeBlanc is telling agencies to shed non-essential programs. The reductions would come on top of cuts enacted this fiscal year to rebalance the budget.⁵⁴

Officials at the LDEQ anticipate at least a 10% budget cut in the coming year. And while there has been no official word yet on the affect of the 2005 hurricane season on the Mississippi Department of Environmental Quality's (MDEQ's) budget, drastic cuts are anticipated. There

⁵³ Hurricane Katrina, Response to The Nation's Worst Natural Disaster, Louisiana Mid-Continent Oil & Gas Association presentation, September 12, 2005; *see also* Louisiana Department of Environmental Quality Emergency Orders, available at <http://www.deq.louisiana.gov>.

⁵⁴ "The State Budget...", *Harris, Deville & Associates Issues Management newsletter*, Feb. 6, 2006.

has been a hiring freeze at the MDEQ since before Hurricane Katrina, and they expect, at a minimum, that will remain in effect.

Local governments in the affected areas feel the economic crunch even more. After its tax base was virtually obliterated, the City of New Orleans was forced to lay off 3,000 city employees.⁵⁵ On January 31, 2006, Orleans Levee Board finance department officials offered a gloomy forecast, predicting that tax assessments on property in New Orleans--which covered nearly 50% of the board's \$26.5 million in expenditures last year--are likely to bring in less than half as much money this year.⁵⁶ The storm also washed away another one of the board's major moneymakers, a gambling boat, which produced \$4.6 million in gaming and rental fees in 2005.⁵⁷ The Orleans Levee Board's finance director has prepared a preliminary budget that calls for a 25% reduction in spending.⁵⁸ Even with massive cuts though, the board still faces a potential deficit of \$3.4 million.⁵⁹

Neighboring Jefferson Parish faces a debt burden of \$92 million tied to recovery from Hurricane Katrina and anticipates a 20% drop in property and sales tax collections because of last year's storms. Jefferson Parish President Aaron Broussard has recommended slashing 354 jobs from the public payroll and has warned of likely service reductions.⁶⁰

C. The Solid Waste Problem

More than 22 million tons, or 50 million cubic yards of debris was caused by Hurricanes Katrina and Rita in Louisiana.⁶¹ The average professional football stadium could hold only about 2 million cubic yards of debris.⁶² The LDEQ, EPA, and other state, local and federal officials are working to safely dispose of the large amounts, and many types, of waste.⁶³ Debris

⁵⁵ City of New Orleans home page, www.cityofno.com (follow 'sit report' hyperlink under 'Mayor's report,' then select current date for recent statistics).

⁵⁶ Frank Donze, "Orleans Levee Board studies its finances 'This is a difficult and challenging time,'" *Times-Picayune*, Feb. 1, 2006.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ Michelle Krupa, "Jeff Gears up to cut 354 jobs: Broussard warns of 'very tough times,'" *Times-Picayune*, Jan. 26, 2006.

⁶¹ Press Release, Louisiana Department of Environmental Quality, DEQ Focuses on Disposal of 22 Million Tons of Debris from Katrina and Rita (Nov. 7, 2005), available at <http://www.deq.louisiana.gov> (follow "Katrina and Rita: Hurricane Update" hyperlink; then see press releases under "2006 Post-Hurricane Information").

⁶² "Agencies tackle massive Gulf Coast waste removal challenge," www.govexec.com (Jan. 9, 2006).

⁶³ Press Release, Louisiana Department of Environmental Quality, DEQ Focuses on Disposal of 22 Million Tons of Debris from Katrina and Rita (Nov. 7, 2005), available at <http://www.deq.louisiana.gov> (follow "Katrina and Rita: Hurricane Update" hyperlink; then see press releases under "2006 Post-Hurricane Information").

has to be separated into proper categories before it can be disposed of in an environmentally sound manner.⁶⁴ “White goods” such as air conditioners and refrigerators, must have the Freon, fluids and/or contents removed before they can be recycled.⁶⁵ Food and curbside trash goes to a certain landfill, construction and demolition debris to another, and hazardous material to yet another type of landfill.⁶⁶ The numbers are mind boggling. As of February 2006, the LDEQ gave the following estimates for waste management:⁶⁷

- 16-17 million cubic yards of debris hauled away;
- 29,025 drums of hazard waste;
- 27,067 propane tanks;
- 1,782,424 small containers of hazardous waste;
- 221,456 refrigerators and 29,123 freezers;
- 27,920 air conditioners;
- 111,418 washer/dryers;
- 53,566 stoves;
- 34,567 water heaters; and
- 32,719 dishwashers.

After hurricane debris is picked through, sorted, and collected, a dizzying array of hurdles still must be cleared before it is laid to rest somewhere.⁶⁸

In New Orleans, the Army Corps of Engineers has reopened and is using the Old Gentilly landfill as its primary disposal site for construction and demolition rubble, but the action has sparked a firestorm of protests.⁶⁹ Gentilly, a former city-owned municipal landfill, was closed in

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ “Progress reports for Hurricanes Katrina and Rita,” <http://www.deq.louisiana.gov> (Feb. 8, 2006).

⁶⁸ See, for example, the 16-page long *Hurricane Katrina Debris Management Plan* issued by the LDEQ on September 28, 2005, and revised on October 14, 2005. A copy can be found at the Hurricanes Katrina and Rita section on the LDEQ website, cited *supra*, note 27.

⁶⁹ Mike Dunne, “DEQ order justifies reopening of old landfill,” *The Advocate*, Jan. 25, 2006.

1986.⁷⁰ The site is located on a section of marshy land east of downtown New Orleans that is covered with decades-old illegal dump sites.⁷¹

The city was in the process of getting a site permit for construction debris at the Old Gentilly landfill when Katrina struck.⁷² With the approval of the LDEQ, the landfill reopened days later—before the permitting process had been completed.⁷³ Critics contend that the dump does not meet the standards of a modern landfill.⁷⁴ Marsh surrounds Gentilly, and owners of other area landfills argue that they have plenty of capacity for hurricane-related waste and can handle it more safely.⁷⁵ City and state officials, including the LDEQ, contend that the site was already in preparations for reopening; Hurricane Katrina only hurried the process along. Officials point to the desperate need for a landfill close to the location of debris in the city, contending that requiring debris-filled trucks to make hours-long drives in traffic would impossibly blockade clean-up efforts and further harm the environment.⁷⁶ A revised order issued by the LDEQ on January 24, 2006, also says that it makes sense to use the Old Gentilly site because the old landfill's existing cap acts as the liner for the new one and a pristine area will not be harmed by a new dump.⁷⁷

Environmental activists fear that the dump site could become a future environmental nightmare. Joel Waltzer, a lawyer suing on behalf of the Louisiana Environmental Action Network to try to force the state to close the landfill, claims that Gentilly is simply not equipped to handle the hazardous materials that are almost certainly mixed in with the curbside debris that's arriving by the truckload.⁷⁸

After concerns were raised by FEMA, federal elected officials and others about the potential for Superfund liability of federal agencies engaged in hurricane response, the EPA provided its own technical analysis and recommendation for the use of the Gentilly landfill.⁷⁹

⁷⁰ Gordon Russell, "Landfill's reopening is raising new stink," *Times-Picayune*, Nov. 20, 2005.

⁷¹ *Id.*

⁷² *In the Matter of Gentilly Landfill Type Landfill Type III*, AI 1036/D-071-0264/P-0375, LDEQ Decision With Reasons (Jan. 24, 2006).

⁷³ *Id.*

⁷⁴ Gordon Russell, "Landfill's reopening is raising new stink," *Times-Picayune*, Nov. 20, 2005.

⁷⁵ *Id.*

⁷⁶ LDEQ January 24, 2006 Decision with Reasons, *see supra*, note 70.

⁷⁷ *Id.*

⁷⁸ "Agencies tackle massive Gulf Coast waste removal challenge," www.govexec.com (Jan. 9, 2006).

⁷⁹ Memorandum from George Pavlou, Senior Federal Official, New Orleans Field Office, U.S. Environmental Protection Agency to John Connolly, Infrastructure Branch Chief, Federal Emergency Management Agency, regarding potential Federal CERCLA liability for use of the Gentilly Landfill (Nov. 11, 2005), available at <http://www.deq.louisiana.gov> (under "Latest News: DEQ Issues Emergency Order to Clarify Use of Emergency Authority Regarding Gentilly Landfill).

The EPA ultimately determined that, while there is no way to protect against future Superfund liability absolutely, the current use of the Gentilly Landfill for disposal of large quantities of construction and demolition debris and wood waste from Hurricane Katrina appears to be consistent with the types and volumes of wastes for which it was designed and permitted.⁸⁰ The landfill operations are normal and waste inspection is reasonable.⁸¹

In some places, the LDEQ favors burning hurricane debris, but the EPA has issued warnings about the combustion of debris that may be contaminated with asbestos or other health hazards.⁸² The Corps, officials said, is not burning any waste and will not unless the EPA approves.⁸³ Louisiana agencies are burning clean, woody debris and are hoping to rely heavily on shredding or grinding other wastes to reduce the space they take up in landfills.⁸⁴ The state has begun using a tractor-trailer-sized grinding machine called the “annihilator” that can chew more than 100 tons of waste an hour into 2-foot chunks.⁸⁵

The total cost of disposal of the hurricane waste is unknown. The federal government has already signed waste contracts totaling \$2 billion. But FEMA and the Army Corps refuse to say what they are paying per ton for waste hauling. Officials maintain that totals are not yet available or that releasing the information would give contractors a leg up in price negotiations.

D. Water Pollution

Immediately following Hurricane Katrina, reports abounded in the national media about “toxic soup” floodwater that covered the city of New Orleans and was being pumped into Lake Pontchartrain.⁸⁶ There is no doubt that the flood waters were often foul. However, the LDEQ and the EPA, after taking hundreds of samples and performing thousands of analyses, deny any allegations that the floodwaters were “toxic.”⁸⁷ Floodwaters were shown to be unsanitary because of sewage contamination, but not toxic pollutants.⁸⁸

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² “Agencies tackle massive Gulf Coast waste removal challenge,” www.govexec.com (Jan. 9, 2006).

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ “New Orleans toxic floodwater poses environmental threat,” (Sept. 6, 2005) http://www.cbc.ca/story/science/national/2005/09/06/floodwater_environment_200509006.html; “Flooding from Katrina could wreak catastrophe on New Orleans ... leaving survivors in a bowl of toxic soup...” (Aug. 29, 2005) <http://www.cnn.com/2005/WEATHER/08/28/katrina.doomsday/>; “EPA faced tough choices over toxic New Orleans water” (Sept. 9, 2005), <http://www.foxnews.com/story/0,2933,168936,00.html>.

⁸⁷ Letter from Mike D. McDaniel, Ph.D., Secretary of Louisiana Department of Environmental Quality to the editor of the *Times-Picayune*, Nov. 7, 2005; LDEQ Environmental Assessment

The LDEQ Secretary reported that “the quality of the floodwaters (except for salinity) was very similar to monitored stormwater discharges from the city during past years.”⁸⁹ Extensive testing shows no adverse effect on the lake’s ecosystem.⁹⁰ Water quality is good, and bacteria levels are below the most stringent water quality standards established for swimming.⁹¹ Sampling by state and federal agencies show seafood in the lake, estuaries, and surrounding coastal areas is safe for consumption.⁹²

Further rumors concerned “toxic sediments” left by flooding, “toxic dust” as sediments dried and became airborne, and “contaminated air.” On December 9, 2005, the LDEQ and EPA issued a joint announcement that, after reviewing thousands of environmental samples and more than a quarter million individual analyses, LDEQ, EPA and partner agencies found that there were generally no unacceptable long-term health risks directly attributable to environmental contamination resulting from the two hurricanes.⁹³

With a few notable exceptions, the chemistry of soils and sediments is little changed from pre-Katrina conditions, and levels of contaminants are similar to other older urban centers around the country.⁹⁴ Extensive chemical analysis of dust particles collected in the New Orleans area have shown no levels over standards established to protect public health.⁹⁵ With the exception of one elevated benzene level (believed by the EPA to have been caused by exhaust from passing vehicles) all of the ambient air samplings results were typical for the region and below any levels of health concern.⁹⁶ Specific areas of concern have been designated for further evaluation including the Murphy Oil release affect area and a Superfund site.⁹⁷ Detailed sampling results are readily available at www.deq.louisiana.gov.

Summary for Areas of Jefferson, Orleans, St. Bernard, and Plaquemines Parishes Flooded as a Result of Hurricane Katrina (Dec. 9, 2005).

88 *Id.*

89 *Id.*

90 *Id.*

91 *Id.*

92 *Id.*

93 *Id.*; *See also* Letter from Mike D. McDaniel, Ph.D., Secretary of Louisiana Department of Environmental Quality to Patrice Simms, Senior Project Attorney, Natural Resources Defense Council (Feb. 2, 2006)(in response to NRDC’s Jan. 4, 2006, questioning the LDEQ and EPA December 9, 2005, pronouncement that there are generally no unacceptable long-term health risks directly attributable to environmental contamination from the storms).

94 Letter from Mike D. McDaniel, Ph.D., Secretary of Louisiana Department of Environmental Quality to the editor of the *Times-Picayune*, Nov. 7, 2005; LDEQ Environmental Assessment Summary for Areas of Jefferson, Orleans, St. Bernard, and Plaquemines Parishes Flooded as a Result of Hurricane Katrina (Dec. 9, 2005).

95 *Id.*

96 *Id.*

97 *Id.*

E. Temporary housing raises environmental concerns

As of February 2006, Mississippi had a total of 34,336 travel trailers and 472 mobile homes housing approximately 94,000 people. Louisiana had 36,675 travel trailers and mobile homes.⁹⁸ (There was no official count on how many people were living in these). This mass temporary housing raises numerous environmental concerns including sewage and trash disposal, and how long the trailers will be allowed to remain.

F. Oil Pollution

Oil spill response costs, particularly for onshore pipelines and oil tankage releases, may run into the hundreds of millions of dollars. Importantly, the Oil Pollution Act of 1990 provides a cost recovery scheme that may help industry to pay for some of these costs.

1. The OPA 90 Scheme

In 1990, following the Exxon Valdez spill, Congress responded to the threat of oil spills in the nation's waters by enacting the Oil Pollution Act of 1990 (OPA). OPA defines the term "oil" as "oil of any kind or in any form, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredge spoil, but does not include any substance which is specifically listed or designated as a hazardous substance... under the Comprehensive Environmental Response, Compensation, and Liability Act" (CERCLA). 33 U.S.C. § 2701(23). OPA applies only to spills of oil. 33 U.S.C. § 2702.

OPA consolidated the liability and compensation requirement of certain prior federal oil pollution laws (and their supporting funds), including:

- the Federal Water Pollution Control Act (FWPCA),
- the Deepwater Port Act,
- the Trans-Alaska Pipeline System (TAPS) Authorization Act, and
- the Outer Continental Shelf Lands Act.

Under OPA, each Responsible Party⁹⁹ is liable for the removal costs and damages that result from the release. Liability is joint and several.¹⁰⁰ "Each responsible party for a vessel of a

⁹⁸ From weekly Katrina response updates for Mississippi and Louisiana provided by FEMA, available at, <http://www.fema.gov/news/event.fema?id=4808>; <http://www.fema.gov/news/newsrelease.fema?id=22242>.

⁹⁹ Included in the definition of "Responsible Party" are owners and operators of vessels, onshore facilities, lessees or permittees of the area in which an offshore facility is located, licensees of deepwater ports, and owners or operators of pipelines. 33 U.S.C. § 2701(26)(A). An "owner" or "operator" is a person "owning, operating, or chartering by demise, the vessel." 33 U.S.C. § 2702.

¹⁰⁰ Joint and several liability arises when two or more persons cause an indivisible harm. Each person becomes liable for the entire harm. *Cox v. City of Dallas*, 256 F. 3d 281 (5th Cir. 2001).

facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages.” 33 U.S.C. § 2702.

In addition to the liabilities imposed by OPA, a responsible party may also be liable for civil and criminal penalties. The Clean Water Act, as amended by OPA, provides for various civil penalties based on the amount of discharged oil. 33 U.S.C. § 1321(b)(7)(A). States also have the right to impose liability for oil spills under state law. 33 U.S.C. § 2718(a)(2).

Immediately following a spill, where the designated source is a vessel or a facility, the President of the United States will notify the Responsible Party that it has been designated such. Upon notification, the Responsible Party has five days to refuse to accept the designation, in which case the President will advertise or otherwise notify potential claimants of the procedures by which any claims may be presented to the Oil Spill Liability Trust Fund (OSLTF, discussed further *infra*). If the Responsible Party accepts the designation, then that party must begin the advertising, stating that any claimant may present a claim for short term or partial damages, without precluding later recovery for the full damages.

Cleanup of the spill begins immediately, without waiting for designation of a Responsible Party and advertising. An official is designated by the EPA or the U.S. Coast Guard as the Federal On-Scene Coordinator, in charge of coordinating cleanup under the National Contingency Plan. There are potentially numerous state and federal agencies involved in removal including the U.S. Fish and Wildlife Service, state wildlife and fisheries services, the National Oceanic and Atmospheric Administration, the EPA and the LDEQ. The U.S. Coast Guard and the Federal On-Scene Coordinator are the principal officers in charge of removal.

2. Acts of God and Other Defenses to Liability Under the OPA

Under 33 U.S.C. § 2703, a designated Responsible Party can completely defend itself against liability for removal costs and damages if the Responsible Party can establish, by a preponderance of the evidence, that the discharge of oil and all resulting damages and removal costs were caused solely by (a) an act of God; (b) an act of war; or (c) an act or omission of a third party. The burden of showing that the release was caused SOLELY by one of the aforementioned acts lies with the Responsible Party. OPA also requires the Responsible Party to prove that it exercised due care and took precautions against foreseeable acts or omissions.

A spill arising out of a hurricane is not automatically covered by the Act of God defense. This determination actually hinges on several factors: (a) whether the circumstances constituted an unanticipated, grave natural disaster or other natural phenomenon of an exception, inevitable, and irresistible character; (b) whether the effects of the natural phenomenon could have been prevented by the exercise of due diligence and foresight; and (c) whether grave natural disaster or other natural phenomenon was the sole cause of the discharge.¹⁰¹

One federal district court has said that, “(Act of God) defenses are narrowly construed and only in the situation where the discharge was totally beyond the control of the discharging

¹⁰¹ *Apex Oil Company, Inc. v. United States*, 208 F. Supp. 2d 642, 647 (5th Cir. 2002).

vessel would the responsible party be excused from liability.”¹⁰² In a Fifth Circuit case denying recovery under the Act of God defense, the court found a parallel between cost recovery actions under both CERCLA and OPA,¹⁰³ and therefore relied on previous CERCLA cases in reaching its decision. Notably, the court quoted a reference to hurricanes in the legislative history of the CERCLA provision relating to a defense for exceptional natural phenomena:

Many occurrences asserted as ‘acts of God’ would not qualify as ‘exceptional natural phenomenon.’ For example, a hurricane may be an ‘act of God,’ but in an area (and at a time) where a hurricane should not be unexpected, it would not qualify as a ‘phenomenon of exceptional character.’

Thus, a Responsible Party seeking to recover costs from the Oil Spill Liability Trust Fund will not necessarily be able to recover, simply because the spill occurred during Hurricane Katrina or Hurricane Rita.

3. The Oil Spill Liability Trust Fund

Under OPA, there are generally two ways for a designated Responsible Party to attempt to recover funds expended in response to a release or spill: recovery from a third party, or recovery from the Oil Spill Liability Trust Fund (“the Fund”). Congress created the Fund in 1986, but did not pass legislation to authorize use of the money or the collection of revenue to maintain it until August 1990, when President George H. W. Bush signed OPA into law. The Fund has several recurring and nonrecurring sources of revenue:

- **Barrel Tax.** The largest source of revenue has been a 5-cent-per-barrel tax, collected from the oil industry on petroleum produced in or imported to the United States. The tax was suspended in July 1993 because the Fund reached its statutory limit. It was reinstated in July 1994, when the balance declined below \$1 billion, but expired at the end of 1994 because of the sunset provision in the law. The 2005 Energy Policy Act again reinstated the tax (effective April 2006). If the balance of the Fund reaches \$2.7 billion, the tax will no longer apply, until and unless the Fund balance later drops below \$2 billion. The tax will be discontinued, regardless of Fund balance, on December 31, 2014.
- **Transfers.** A second major source of revenue has been transfers from the consolidation of other existing pollution funds.¹⁰⁴ Total transfers into the Fund

¹⁰² *United States v. English*, 2001 WL 940946 (D. Hawaii 2001).

¹⁰³ *Apex Oil Company, Inc.*, 208 F. Supp. 2d at 653 (rejecting the Act of God defense where unusually strong currents and high tides caused barges to capsize, spilling slurry oil. The owner of the barges was aware of the dangerous conditions and could have waited for transport or used a more powerful tugboat).

¹⁰⁴ Funds have been transferred into the OSLTF from the Federal Water Pollution Control Act (FWPCA), Deepwater Port Act, Trans-Alaska Pipeline System (TAPS) Authorization Act, and OCS Lands Act.

since 1990 have exceeded \$550 million. No additional funds remain to be transferred.

- **Interest.** Currently, the largest recurring source of OSLTF revenue is the interest on the Fund principal from U.S. Treasury investments. As a result of historically low interest rates, interest income has declined significantly in recent years, falling to \$13.5 million (or 45% of revenue) in fiscal year 2004.
- **Cost Recoveries.** Another source is cost recoveries from responsible parties (RPs); those responsible for oil incidents are liable for costs and damages. The National Pollution Funds Center administers the fund, and bills RPs to recover costs expended by the Fund. As these monies are recovered, they are deposited into the Fund.
- **Penalties.** In addition to paying for clean-up costs, RPs may incur fines and civil penalties under OPA, the Federal Water Pollution Control Act, the Deepwater Port Act, and the Trans-Alaska Pipeline Authorization Act. Penalty deposits into the OSLTF are generally between \$4 million and \$7 million per year.

The Fund is used for two types of expenses:

- **Claims.** Any person or organization that has incurred removal costs or suffered damages due to an oil spill may submit a claim.
- **Appropriations.** Several Federal organizations receive annual appropriations from the Fund to cover certain administrative, operational, personnel, enforcement, and research and development costs. Organizations currently receiving appropriations from the Fund include the Coast Guard, the EPA, and the MMS.

As of March 3, 2005, the balance available in the Fund was \$833 million. Of that, \$67 million is available in its Emergency Fund for response and to fund removal activities. The remaining balance is for other uses including payment of claims. Authority exists to borrow an additional \$100 million from the OSLTF Principal Fund should the balance in the Emergency Fund in any given year not be sufficient. Expenditures from the Fund for any one oil pollution incident are limited to \$1 billion or the balance of the Fund, whichever is less. Natural resource damage assessments and claims in connection with any one incident are limited to \$500 million of the \$1 billion per incident limit.

V. Conclusions

One paper alone cannot begin to cover all of the environmental issues that have been and will be raised in the aftermath of Hurricanes Katrina and Rita. Needless to say, environmentalist, community activists, legal experts, and government officials alike will all be scrambling over the next several years to manage the endless problems and possibilities as they arise.