LAKE PONTCHARTRAIN BASIN FOUNDATION
SAVE OUR COAST SAVE OUR LAKE
20 YEARS OF SAVING OUR LAKE AND COAST

Moratorium on Oil and Gas Leasing In Lake Pontchartrain: An Analysis

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The Lake Pontchartrain Basin Foundation was created by an act of the Louisiana State legislature in 1989 to restore and preserve the environmental and ecologic balance of the Lake Pontchartrain Basin. As the public's independent voice, the Lake Pontchartrain Basin Foundation is dedicated to restoring and preserving the water quality, coast, and habitats of the Lake Pontchartrain Basin. Through coordination of restoration activities, education, advocacy, monitoring of the regulatory process, and citizen action, LPBF works in partnership with all segments of the community to reclaim the Basin for this and future generations. Lake Pontchartrain is a major concern.

Under the current moratorium, state policy allows oil and gas operators on existing leases in Lake Pontchartrain to continue to produce oil and gas as long as they comply with all regulatory requirements. The State Mineral Board may consider lifting the current moratorium on new oil and gas leasing in Lake Pontchartrain, to allow new operators to expand drilling or production activities anywhere in Lake Pontchartrain. Currently there are 4 active wells in the Lake according to the State Department of Natural Resources.

Lake Pontchartrain Basin Foundation's Position

- The moratorium on new oil and gas drilling in the Lake has been supported for years by every parish surrounding the lake (including resolutions passed by each in support of it); citizen groups; and local residents who wrote innumerable letters to keep the moratorium in place.

- LPBF's basic policy has been avoidance of any harm to the enhanced environment.

- The LPBF Comprehensive Habitat Management Plan (CHMP, 2006) endorsed by EPA, supports the moratorium.

The following outlines compelling arguments to maintain the current moratorium.

The Lake's Status

Lake Pontchartrain is an urban embayment with over one million people living, working, and enjoying recreation in the parishes adjacent to it. The health and beauty of the Lake

are a concern to those who treasure its unique recreational, aesthetic and historical qualities. In the past twenty years, LPBF and its many community partners have been very successful in improving water quality and habitat. The public's perception has changed from viewing the Lake as a polluted, lost-cause to now viewing it as an important resource on the re-bound. Nearly $100 million has been spent on basin restoration projects since 1989. These efforts are nationally recognized. The Lake is now prized as a major asset worth preserving.

Ninety-seven percent of Lake Pontchartrain is now considered safe for swimming as the Lake was removed from the federal Impaired Waterbodies List in 2006. LPBF is diligently working with Louisiana Department of Health and Hospitals to re-evaluate the long-standing swim advisories on the south shore. With the public utilizing the Lake more, swimming beaches and other recreational opportunities are being developed around the Lake.

Other ecological indicators of the lake's restoration include: improved fish habitat; the return of dolphins, manatee, large tarpon, pelicans, and large shrimp populations; and the dramatic recovery of the seagrasses and benthic invertebrates (most importantly, the *Rangia* clams that filter lake water). The brown pelican has seen a remarkable come-back and was just taken off the endangered species list. The Lake is a major source of food for this top predator.

Recreational fishing has returned to legendary status, and now supports businesses such as tackle stores, boat launches, live bait fisheries, and even fishing guide services. Commercial fisheries in the Lake include crabs and shrimp. It is anticipated that the long fought closure of the MRGO will reduce or eliminate the dead zone in Lake Pontchartrain and be a new milestone in the Lake's recovery.

Two National Wildlife Refuges, three State Wildlife Management Areas, and four state parks on the shores of Lake Pontchartrain have developed because of or have been enhanced through the Lake's recovery. These preserved lands contain nearly 100,000 acres of natural and cultural resources that are highly sensitive to water pollution, particularly oil spills.

Oil & Gas History in the Lake

According to state documents, over 30 years of drilling has yielded just 12 million barrels of oil and condensate and 119 billion cubic feet of natural gas (Louisiana Department of Natural Resources, 6-30-2000). This 30 years of cumulative oil production represents just 16% of the annual production from south Louisiana and just 3% of the annual production from offshore Louisiana. The low production is due to the relatively poor conditions for oil and gas accumulations in the Lake, and it is the reason major oil companies have generally avoided Lake Pontchartrain. As far as we know, no major companies are interested in lifting the moratorium.

The Lake's reserves are mostly natural gas, currently at very low prices due to large gas discoveries both onshore and offshore Louisiana. With an estimated 90-year supply for the nation (US Dept. of Energy, 2009), there is no shortage of natural gas at this time or in the future. In addition to there being no need for the gas, any new wells drilled in

Lake Pontchartrain would most likely require submerged pipelines for transporting produced gas and barging for transporting oil and condensate. The US Department of the Interior, Minerals Management Service recently released a report documenting that pipelines in Louisiana have damaged wetlands (MMS, 2009). This would most certainly happen to the Lake's fragile wetlands that LPBF is working with many others to restore.

New leasing in Lake Pontchartrain has been halted by a moratorium since 1991 and, in 2000, the moratorium was extended by the State Mineral Board for an indefinite period. However, operators holding existing leases can still drill wells within these leases. There are currently 4 active wells in the Lake (DNR, 2009).

Although not directly related to oil and gas drilling in Lake Pontchartrain, the contamination of Bayou Trepagnier which drains into Lake Pontchartrain is noteworthy because of the protected process to address damage once it occurs. The initial refinery discharge occurred nearly a century ago and continued until 1992. Still, 17 years after discharge ceased no remediation has occurred. The responsible party has been negotiating with the state, but it now appears that the regulatory process will not require all of the contaminated soils to be addressed. For over a decade, the responsible party, state officials, LPBF and other organizations have spent countless hours of time and financial resources to push remediation forward, and yet the first phase of remediation will only begin next year, two decades after contamination was documented and with a less than satisfactory result.

With increased awareness of the sensitivity of highly-populated estuaries, other states have set the precedent for oil and gas activities in these environments. Other states that have moratoria on oil and gas activities in their lakes and estuaries in heavily populated areas include: Alabama - the Upper portion of Mobile Bay; California – San Francisco and other bays; Maryland- Chesapeake Bay; and all states around the Great Lakes (Louisiana Geological Survey, 1998).

Technology

Major advances in technology in the oil industry have vastly improved the efficiency of finding new oil and gas reserves. Due to the Valdez oil spill, new regulations and enforcement spill prevention has also improved. However, there has been very little improvement in oil spill cleanup. The July 23, 2008 Tanker *Tintomara* accident on the Mississippi River is a good example of how difficult it is to clean up a spill. Nine thousand barrels of oil were spilt due to negligence and approximately 550 barrels of black oil (6% of total) were recovered. The total number of oiled wildlife observed by Wildlife Group personnel or reported by response personnel and private citizens was 898, including 859 birds, 26 mammals, and 13 reptiles (a total of 40 species impacted, USFWS report, 2008).

Tintomara oil spill in vegetated Mississippi River bank (batture). Morning overflight, 25 July 2008. Illustrating the difficulty of recovering oil from a natural shoreline Photo Credit: NOAA.

Typical of oil spills worldwide, the majority of oil from an oil spill remains in the environment. Therefore, the environment is burdened with assimilation of the oil. The impact of this oil is largely dependent on the type of habitat. Estuarine wetlands in south Louisiana are considered one of the most sensitive habitats to oil spills and the most difficult to clean.

Incompatible Use

The environmental threat posed by oil and gas operations in Lake Pontchartrain is different than that of operations in the Gulf of Mexico. Exploration and production in the Gulf is far from major areas of population and has Federal oversight. In 2007, the state successfully legally proved the federal government as negligent on assessing the environmental impact on coastal Louisiana by the oil industry, on land and in the Gulf. The Lake is a shallow estuarine system surrounded by densely populated urban centers. Recreational and commercial fishing, boating, swimming, and other uses have long been a part of the area's cultural history. In a shallow estuary such as the Lake, oil and gas exploration and production is incompatible relative to all other uses. There is a serious risk that spills could impact privately and publicly owned properties surrounding the Lake.

Similar to city zoning that would not allow a bar next to an elementary school (no matter how much the bar owner and patrons may profit) the moratorium protects the Lake and its people and properties from an incompatible use.

Spill Risk

Over the years, there have been violations of water quality standards from oil and gas operations in the Lake. State regulatory agencies have issued many compliance orders related to discharges of produced waters, crude oil spills, and poorly maintained or abandoned structures. Even though there are currently few active producing wells in the Lake, a spill occurred on November 14, 2008. The sheen covered a large path, took several days to dissipate, and was feared to potentially reach the shore.

November 2008 oil spill in Lake Pontchartrain just west of the Causeway Bridge.

In addition to the 4 active wells, spill risk exists from the many derelict wells in the Lake. In 2009, LPBF conducted a comprehensive and systematic assessment of oil and gas structures in Lake Pontchartrain (LPBF 2009). This structure survey report was submitted to DNR in September 2009 and is available online at saveourlake.org. The survey discovered that many of the 25 platforms and structures in the Lake are lacking required safeguards for navigation and potential spills.

This investigation concludes that:

- At least seven of the twenty-five structures (28%) are in various states of disassembly, decay and disrepair. Future storms will likely dislodge timbers and create drifting hazards to navigation.
- Thirteen of the twenty-five (52%) do not have navigation lights and are hazards to navigation.
- Seven of the twenty-five structures do not have navigation lights and do have a wellhead present. These structures, therefore, pose the additional environmental risk of leakage of subsurface brine or petroleum with a higher probability of collision due to lack of navigation lights.

In December 2009, LPBF was contacted by an official with the Office of Conservation who had reviewed the structure survey report. The official reported that 16 of the structures were still operated by private oil and gas interests and that he expected compliance orders to be sent regarding the condition of the structures.

Well surveyed in Lake Pontchartrain without navigation lights and a wellhead present (LPBF, 2009). New Orleans skyline in the horizon

According to a Times Picayune article (August 11, 2008) Louisiana is responsible for almost 20% of the nation's oil refining capacity and its spill record is 20% of the spills in the nation. We can minimize this risk but we cannot eliminate it. Over time, an oil platform release is inevitable- either the product spills, the produced water spills (highly salty water with some hydrocarbons), or there is inadequate containment, which does not control fluids on the platform. The LDEQ has acknowledged that they and the US Coast Guard see at least one oil spill per day in Louisiana's wetlands and that southeast Louisiana has more oil spills than anywhere else in the U.S.

The greatest spill risk is from transporting produced oil by barge. Barging oil in Lake Pontchartrain is the most at-risk mode of transportation in an environment with a high sensitivity. However, a spill from any source is very likely to cause damage to the extensive wetlands surrounding the Lake. Estuarine wetlands are among the highest on the "Environmental Sensitivity Index" (ESI), because oiled plants often die ESI values range from 1 to 10 with 10 being most sensitive. Salt -brackish marsh, Fresh water marshes and freshwater swamps have an ESI value of 10, and are the dominant wetlands on the lake's perimeter (UNO, 2000 and RPI, 1989). The two-month residence time for water circulation increases the potential for damage. This is very different from the Mississippi River. The river flows the entire equivalent volume of the Lake in just a few days.

For spills, dilution is still, unfortunately, the basic solution. Potential dilution in the Lake is very different from dilution in the river. A pertinent example is the Amerda-Hess oil spill in June 2005 when small oil spill (~14 barrels) in Breton Sound completely contaminated an entire nesting colony of adult and juvenile brown pelicans. With the recovery of the Lake, brown pelicans are now a common sight around the shores of Lake Pontchartrain. Recently bald eagles have been reported on both the north and south shore of Lake Pontchartrain. Thousands of *dos gris* ducks (Lesser Scaup) annually winter in Lake Pontchartrain because they consume the Rangia clams on the lake bottom. These and many other lake species would be threatened by a spill.

Captured, oiled juvenile brown pelicans from a small (14 barrel) oil spill in Breton Sound in June 2005. In spite of the best efforts of the responsible party and professional wildlife rehabilitation experts, the majority of nesting brown pelicans were killed. 802 birds were captured and 467 died according to FWS.

Economic Value

Tulane University's A.B. Freeman School of Business developed a dollar value for a clean Lake and its uses. This report, "The Economic Benefit of a Restored and Fully Utilized Lake Pontchartrain and its Northshore Rivers" (2001) gave that value as **$1.268 Billion annually**. The authors "calculate[d] the total economic benefit using the following quantifiable components: 1) the value of swimming in and the use of the public recreation facilities around Lake Pontchartrain, 2) the value of waterfront property, 3) the value of attracting additional tourists to the region, 4) the impact of the spending for continued restoration, 5) the value of recreational fishing, 6) the additional tax revenues generated, and 7) the additional jobs created (1,046)."

An estimate of petroleum potential in Lake Pontchartrain done by Louisiana Geological Survey for the DNR gives the total potential reserves as 137 Billion Cubic Feet of gas and 14 Million barrels of oil and condensate, which, in equivalent barrels, equals 38 Million barrels of oil (Louisiana Geological Survey, 2000). These reserves are only **2 days** worth of oil and gas used by the nation.

Dr. John Lopez (LPBF) in 1995 released an assessment of the value of reserves in Lake Pontchartrain. Based on the state's estimated reserves and current prices, he calculates that the remaining resources, if produced, would cumulatively generate **$600,000,000 in total** revenue to the state over ten years. If this were distributed

equally to the local population, this payment to jeopardize the Lake by new drilling is just $60.00 per year.

Conclusion

The initial moratorium in Lake Pontchartrain was in part justified by the lack of clear documentation of past impacts or future threats by oil and gas activities in Lake Pontchartrain. Since these early deliberations, significant study and documentation has been completed by independent researchers, state and academic institutions. These studies all agree on the same potential reserve levels, and therefore, the very modest financial benefit to future mineral extraction. The risk of spill is real and the potential adequate spill clean-up is very poor in highly sensitive habitats. Further, independent studies prove that the urban setting of the lake creates real significant economic value that is at risk.

In spite of the diminished activity in the last two decades, there is still a lingering legacy of neglected structures in the lake and other oil-related contamination sites such as Bayou Trepagnier. LPBF supports maintaining the current moratorium on new leasing. The risk of allowing new oil and gas drilling in the lake is not worth the benefits. Economically and environmentally, a continued moratorium on new leasing is the best long-term approach for the Pontchartrain Basin and its citizens. We suggest that the opportunity now is to review the residual environmental problems created by oil and gas activities and initiate actions to address these as quickly as possible.

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