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Sub-Committee on Water Resources and Environment
U.S. House of Representatives
Rayburn House Building
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Washington, DC
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Dear Representatives:

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Thank you for the opportunity to provide testimony. This testimony describes some history on our environmental organization, and why funding for the Lake Pontchartrain Basin Restoration Program (PRP) is vital maintaining the successes we've had. The work that has been supported by PRP awards to the Lake Pontchartrain Basin Foundation over the years is of a uniquely continuous nature. The results achieved and long term impact of that work have been largely based on the continuity of effort. We also leverage matching funds and in-kind services of up to 25% from a wide array of partners.

The Lake Pontchartrain Basin Foundation (LPBF) was established in response to environmental concerns voiced across SE Louisiana. The lake forms the northern boundary of New Orleans and the lake is crossed by the longest continuous bridge over open water in the world: more than 24 miles in length. It is a shallow lake, yet larger than Lake Mead, Lake Powell, and Lake Tahoe, in terms of surface area.

Although Lake Pontchartrain and its surrounding area continue to face environmental challenges, the Lake and its resources have made a tremendous comeback. Much of this success is due to interested and concerned citizens who want a clean, healthy Lake and Basin for this and future generations, all of which would not be possible with your support of this funding.

Again, I thank you for this opportunity.

Kristi Trail, P.E.
Executive Director

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Executive Director



Geography & Habitat

Lake Pontchartrain and its surrounding lands and waters encompass 16 parishes (counties): 25% are highly urbanized and 75% are rural. Lake Pontchartrain is part of one of the largest estuaries in the country, interacting with the Gulf of Mexico through the Rigolets Strait, Chef Menteur Pass, Lake Catherine and Lake Borgne. The lake experiences tidal changes and varying mixes of salt and freshwater, with complex mixtures of herbaceous wetlands, including fresh, intermediate and brackish marsh. Five rivers, 20 to 65 miles in length, and two bayous flow into the lake and, when the Mississippi River approaches flood stage, part of its flow is diverted across the Bonnet Carre spillway and into Lake Pontchartrain. In 2019, for the first time ever, the spillway has been opened twice, with the second opening continuing now.

Louisiana swamps are an integral part of the wetland ecosystem of the Gulf coast. Swamps provide habitat, spawning and nursery grounds, and food sources essential to millions of migratory songbirds and waterfowl, wildlife such as deer, otter, osprey, swamp rabbits, wood ducks, squirrel, muskrat, snakes and turtles, and 18 species of concern, including bald eagle, prothonotary warbler, mottled duck, swallow-tailed kite, Louisiana black bear, American alligator, alligator snapping turtle, and southern dusky salamander. Swamps also provide flood water storage and storm surge protection during hurricanes. Due mostly to extensive logging around the turn of the 20th century, subsidence, nutria, saltwater intrusion, and levee construction, there is only an estimated 464,000 acres of swamp remaining.

History of the Lake Pontchartrain Basin Foundation (LPBF)

Most of the environmental problems that challenge the Basin were well recognized by the mid-1970s, yet there was no common effort towards restoration. In the spring of 1989, the Greater New Orleans Expressway Commission (aka, "Causeway Commission") authorized a \$30,000 study that culminated in a 300-page report, a blueprint for cleaning and restoring the ecological balance of the lake. It recommended formation of a state agency to lead the effort. Later that year, the Louisiana Legislature created the Lake Pontchartrain Basin Foundation (LPBF) to carry out that mandate.

In 2000, Congress stepped in and passed Senate Bill 835, adding Lake Pontchartrain Basin, Louisiana and Mississippi, to the list of estuaries to be given priority consideration for inclusion in the National Estuary Program. Included in this legislation is the Lake Pontchartrain Basin Restoration Act of 2000, which requires the Administrator to establish the Lake Pontchartrain Basin Restoration Program to restore the ecological health of the Basin by developing and funding restoration projects and related scientific and public education projects. The bill authorized the Administrator to make grants for such purposes, and authorized appropriations for FY 2001 through 2005. The Program received \$6 million in Fiscal year 2002.

The purpose of the Lake Pontchartrain Basin Restoration Program (PRP) is to restore the ecological health of the Basin by developing and funding restoration projects and related scientific and public education projects. Since 2001, the University of New Orleans Research and Technology Foundation, Inc. (UNO RTF) has managed the multiple grants for the Lake Pontchartrain Basin Restoration Program. Historically, eligible applicants have included the Parishes and Cities within the Lake Pontchartrain Basin Watershed and LPBF. Shortly after PRP was authorized, LPBF established the in-depth water quality monitoring program.

Within a decade of the PRP program's funding, LPBF was able to construct nine artificial reefs for fish habitat, work with the State of Louisiana and the USEPA to have the Lake removed from the impaired water bodies list (under Clean Water Act Section 303(d)), & restore a former US Coast Guard Rescue Station post-Katrina for educational use. While not an active **Coast Guard** station any longer, the **Coast Guard** regularly uses the facility for promotion and retirement ceremonies.



The reauthorization of the PRP Program in 2012 allowed LPBF to grow many programs throughout the community and expand our educational capacity greatly. In 2013, we rebuilt and repurposed a lighthouse that has seen more than 50,000 youth and adults tour its exhibits. In addition, the reauthorization allowed us to focus state funds and private donations funds into other initiatives, including the planting of 56,000 cypress trees to the west & south of the lake. In 2014, we finished construction of the Bayou St. John Urban Marsh - an urban wetland habitat. The Bayou St. John Urban Marsh is a success, with vegetation flourishing and animals rapidly moving in. Anglers have noted increased fish numbers and diversity, and shorebirds, waders and ducks are feeding in the new habitat. It is a living classroom and a laboratory for restoration, and puts regional problems in a local perspective: the half-acre marsh is the area lost every half hour in south Louisiana.

FY	Total PRP Amount	Amount Awarded to UNO RTF (15%)	Amount Awarded to LPBF	% of Total awarded to LPBF
10	\$1,343,760	\$201,564	\$568,000	42%
11	\$1,835,520	\$275,328	\$590,000	32%
12	\$1,700,000	\$255,000	\$780,000	46%
13	\$948,000	\$142,200	\$335,080	35%
14	\$910,000	\$136,500	\$246,080	27%
15	\$961,074	\$144,161	\$327,680	34%
16	\$961,075	\$144,161	\$327,680	34%
17	\$948,000	\$135,973	\$300,000	31%
18	\$948,000	\$135,973	\$346,323.75	36%

LPBF’s Outreach Program

LPBF’s Outreach Program benefits the communities of southeast Louisiana, the State of Louisiana, and ultimately the U.S. economy. The economic emphasis is due to the national importance of SE Louisiana’s natural resources and built infrastructure. We know from past hurricanes and the major oil spills that interruptions to our state’s workforce alter the nation’s economy. Conditions in southeast Louisiana affect our state’s pivotal roles in energy supply for New England states, tourism (\$47 million in 2017), the estuary that supports the seafood industry and “Sportsmen’s Paradise,” and waterborne commerce through the Port of New Orleans. All of these systems hinge on continued and increased preservation, restoration, and protection efforts benefiting Lake Pontchartrain, its estuary, and the coastal ecosystem in southeast Louisiana. Consequently, increasing the public’s understanding at the local, state, and national levels of our scientific research findings and strategies to benefit our fragile natural resources---to then catalyze their stewardship actions--is the top priority in our communications and outreach efforts. The basin’s needs are being addressed through multiple activities working at different scales.

LPBF’s Education Program

LPBF established a small museum and its headquarter inside the restored New Basin Canal Lighthouse in New Orleans. Tourists, schoolchildren, lighthouse aficionados and others can visit to learn about the region’s history and ecology, and LPBF’s successes. LPBF continues to provide many programs throughout the community, and since the reauthorization in 2012, the funding has allowed the organization to expand our educational capacity greatly. Since the lighthouse opened in April 2013, more than 50,000 youth and adults



have toured its exhibits. Often, schools send more than 100 students at one time, who can rotate through several learning stations, in groups of 20, across the lighthouse grounds.

Water Quality

LPBF's Water Quality Program benefits the waters of the Pontchartrain Basin, the public, and the local economy through maintaining favorable conditions in the lake and improving the condition of tributaries. Overall, the goals and objectives in this program are to understand the current and always changing water quality conditions, identify remedies and reduce impairments as needed, and keep the public informed about all activities. Both local, state and federal entities use our semi-annual results, trends, and other statistical evaluation of the data collected within the basin. The results of this work are transferable to many estuaries throughout the United States, and we have been recognized for our work with **EPA** and other federal entities to share with communities with impaired water bodies. Here is one recent fact sheet: https://www.epa.gov/sites/production/files/2018-01/documents/la_natalbanyriver_1622_508.pdf

LPBF has a weekly Recreational Water Quality Monitoring (Basin Wide Monitoring Program) that has provided timely, scientific analysis and broad dissemination of results to allow citizens to make informed decisions about enjoying the lake for fishing, swimming, and other recreational activities. Initially, this program provided a background database for the removal of Lake Pontchartrain from the 303(d)/305(b) Impaired Waters list (as described on page 1). This Basin Wide Monitoring Program will continue monitoring efforts in the basin at its ten current sites sampled for *in situ* parameters and microbial indicators, though with additional funding we will be able to add two monitoring sites and new water quality parameters.

In water bodies (e.g., lakes, rivers and beaches), **EPA** develops criteria for exposure to bacteria that may indicate viruses that cause illness in humans. LPBF monitors water in southeast Louisiana in terms of criteria set by **EPA** for fecal coliform and enterococci as indicators of fecal contamination. **EPA** is also considering criteria for coliphages, which are viral particles associated with E. coli and are better indicators of viruses in treated wastewater than bacteria. This continued funding will allow LPBF to gather data about coliphages and their usefulness as a viral indicator for the protection of public health in recreational waters. This funding also allows LPBF to advocate for changes to water management practices or issues within the basin by sharing our many successes throughout our basin and the entire state.

Primary and secondary benefits include LPBF's education, advocacy, and training to owners of homes and businesses has improved water quality so that eight water bodies (Lake Pontchartrain and other tributaries) have been removed from the Clean Water Act's Section 303(d) list of "impaired waterbodies," confirming the improved environmental conditions.

Additionally, to address the need posed by episodic problems concerning water quality and public health, LPBF aims to conduct needed analyses and provide information for situations such as Mississippi River flows into the lake from the Bonnet Carre' Spillway, potentially toxic algal blooms, oil rig explosions, sewage spills, or tropical storms and hurricanes. Over the course of 2017, LPBF received 24 calls related to illicit discharges (either fuel or sewage in composition) into waterways that drained to Lake Pontchartrain. Being responsive to the public's concern is an imperative, yet it is very challenging to have such unbudgeted and time-consuming events occur. LPBF then seeks to document, capture and report to the **EPA** spills or discharges that concern citizens. Because of LPBF's active engagement as a resource to the public, LPBF was invited to participate in the State of Louisiana Sanitary Sewer Systems Overflows Commission, study and make recommendations on actions necessary to timely report, reduce, and eliminate sewage overflows.

Algal blooms have been a prominent concern this spring, due to the possible presence of toxin-generating bacteria associated with the certain species of algae, and appearance of a bloom both before and after the



2018 opening of the Bonnet Carre Spillway, which has opened as a result of unprecedented flooding throughout the United States. The Mississippi River drains 41% of the United States, and this is now flowing through the Pontchartrain estuary with the opening of the spillway flood control structure. Phytoplankton and cyanobacterial blooms are increasing worldwide due to eutrophication of aquatic environments, much of the occurrence a result of anthropogenic nutrient enrichment of freshwater rivers and lakes. The influx of nitrogen and phosphorus can have a direct impact on algal species composition and the formation of noxious and toxic blooms as well as surface scums. LPBF has become a partner in **EPA's CyAN** program, a multi-agency project among the **National Aeronautics and Space Administration (NASA)**, **National Oceanic and Atmospheric Administration (NOAA)**, **U.S. Geological Survey (USGS)**, and led by **EPA** to develop an early warning indicator system using historical and current satellite data to detect algal blooms in U.S. freshwater systems. **EPA** enabled LPBF to collect and ship water/algae samples to Golden, Colorado for analyses to identify microcystins that generate the toxins. LPBF's expertise has been in high demand at this time, responding to inquiries from government officials, news media, area residents, as well as film crew managers for NCIS New Orleans, who chose to abort a water-based scene planned for the actors, after contracting with LPBF to collect and analyze water samples.

LPBF also engages municipal, parish, and state officials in water quality task forces aimed at coordinating activities to reduce pollution in target areas. The water quality issues of these areas are dependent on the development and environmental conditions. These learnings have been transferred to municipalities throughout the region, state and country.

Coastal Sustainability:

LPBF's Coastal Sustainability Program activities benefit the communities of southeast Louisiana and aquatic and terrestrial wildlife in the Pontchartrain Basin estuary. The program needs are being addressed through multiple types of science and restoration activities, providing extensive research for all parishes in the entire Pontchartrain Basin estuary.

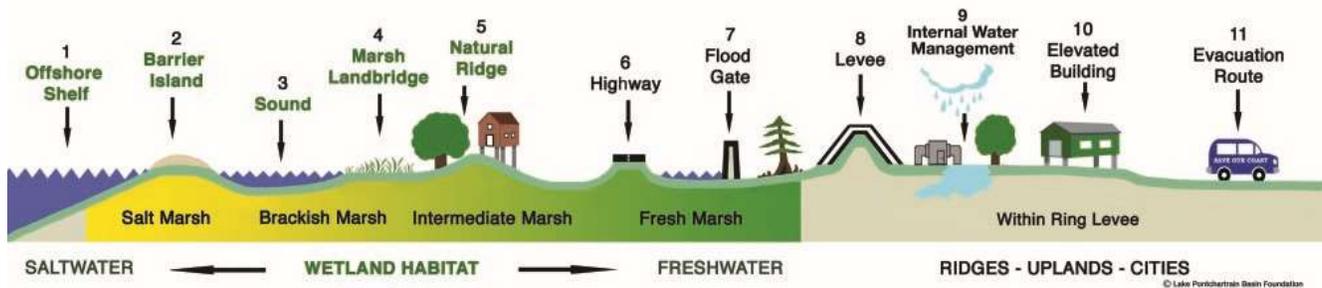
LPBF's comprehensive scientific monitoring is released in real-time through Hydrocoast maps produced by GIS specialists and released bi-weekly since 2013. These maps are a snapshot of the basin's ecologic condition and water quality. Every two weeks five maps are released, including salinity, habitat, biology, precipitation and water quality. The maps are used extensively by professional scientists, regulators, commercial and recreational fishers. Fishers use them to guide fishing activity. State officials use them for guidance on diversion operations. On LPBF's website, more than 500 Hydrocoast Maps are archived online providing a continuous inventory of basin conditions since 2012. In 2018, LPBF released its first annual atlas of the Pontchartrain Basin Estuary. This will represent an annual synthesis of the prior year of data collection on hydrocoast maps. The Hydrocoast maps have drawn particular interest by the **Corps of Engineers**, and LPBF has a joint project underway as a technology transfer.

LPBF has a goal to restore Natural Habitats along Lake Pontchartrain's armored Southshore. Armored shorelines of concrete provide poor habitat for lake organisms, especially juveniles which would otherwise use natural marsh edge to hide from larger predators. Creating little pockets of marsh will provide small oases for important estuarine animals. To restore natural habitats along the otherwise armored south shore of Lake Pontchartrain, LPBF has undertaken two projects: LPBF created the Bayou St. John Urban Marsh (mentioned on page 2) and a new area known as "Lake Vista" in Jefferson Parish.

LPBF led the creation of half an acre of marsh where Bayou St. John meets the lake with this funding. Included in this project was a flood gate operation plan with the Orleans Levee Board that benefits aquatic and terrestrial wildlife and improves water quality along the entire Bayou. A short pier over the marsh is planned to accommodate multiple user groups: fishers, educators, birders, and neighborhood residents.

Saving our Coast

Most recently, LPBF created the Multiple Lines of Defense Program. The “lines of defense” are both man-made and natural and include barrier islands, sounds, marshes, natural ridges, man-made ridges, floodgates, levees, pump stations, elevated homes and businesses, and evacuation routes. Restoring targeted habitat sites, such as swamps and marshes, is integral to recreating a self-sustaining coast and permanent storm protection for coastal communities. The **Army Corps of Engineers** has incorporated the strategy in upgrading its hurricane protection system for the region. The Multiple Lines of Defense Strategy was developed in 2006 by LPBF. It describes the various features on the landscape that reduce the risk of damage from storm surge to local communities, infrastructure, and economy.



Conclusion

Reauthorization of the PRP Program is comprises a critical portion of our total budget - though it has decreased significantly over the years - and allows us to continue our many restoration efforts including:

- Weekly lake/river testing for quality assurance, all made publicly available
- Science-based advocacy to improve quality of life in Louisiana’s urban center
- Leadership role in restoring Louisiana’s nationally significant coastal ecosystem
- More than 100,000 citizens educated each year about stewardship for current and future generations
- More public access to waterfront recreation in underserved areas
- Data sharing with municipal, parish, state & federal government agencies

Although the Lake and its resources have made a tremendous comeback, Lake Pontchartrain and its surrounding area continue to face environmental challenges. All across the United States, the protection of rivers, streams, lakes, bays, and adjacent lands can create jobs, protect fisheries relied upon by the fishing industry, protect food and drinking water sources, protect and create tourism opportunities, enhance property values, decrease local government expenditures and provide recreational opportunities, including those associated with the multi-billion dollar fishing industry. Because so many rely on the services provided by waterways, when they are not protected, governments must undertake costly projects to restore them or to replace the services they provide.

With Congressional support we can continue this great work for years to come, leaving behind a legacy of clean water, a strong economy, and a prosperous region. It is for this reason we ask for the reauthorization of the Program for another 5 years with increased funding.

Thank you for the opportunity to submit this testimony.

Lake Pontchartrain Basin Foundation
<http://saveourlake.org>