



Jean Lafitte National Historical Park and Preserve, Barataria Unit

Project Descriptions

The Gulf Coast Network (GULN) conducts long-term ecological monitoring on four indicators of ecosystem health –called vital signs– in the Barataria Unit of Jean Lafitte National Historical Park and Preserve.

Water quality is measured at five sites: Bayou Bardeaux, Whiskey Canal, Pipeline Canal, Tarpaper Canal and Millaudon Canal. These sampling sites are located in the park's canals and bayous and all are accessed by boat, once every other month. Field measures include water temperature, specific conductance (SpC), pH, dissolved oxygen (DO) and turbidity. Samples are collected for *Escherichia coli* (E. coli), calcium, magnesium, nitrate, nitrite and phosphorous.

Amphibians are monitored using coverboards and PVC pipes as passive, artificial cover objects. Plywood coverboards are arranged in clusters of four along transects in two different locations along Bayou des Familles. PVC pipes are hung in pairs from nearby trees. During sampling events that occur every other month, the team records all amphibian species present and counts individuals in each board or pipe. They also record temperature in each cover object and environmental conditions for the site.

Breeding landbirds are sampled from fixed point locations using an established point-count method, which documents every individual heard or seen during a ten minute period. All monitoring points are resampled every year during the breeding season.

Terrestrial vegetation is sampled within fixed 20 meter x 20 meter plots to determine the composition and condition over time of vascular plant communities. All plant species are identified, and in nested subplots, the relative frequency and percent cover of each species are recorded. Data are also collected on tree growth, recruitment and mortality. All plots are sampled once every four years.

Across all vital signs, the network collects data at 241 permanent points in the park. These locations are mapped on the next page.



The Gulf Coast Network monitors water quality in the Barataria Preserve by taking water samples from this and other canals.



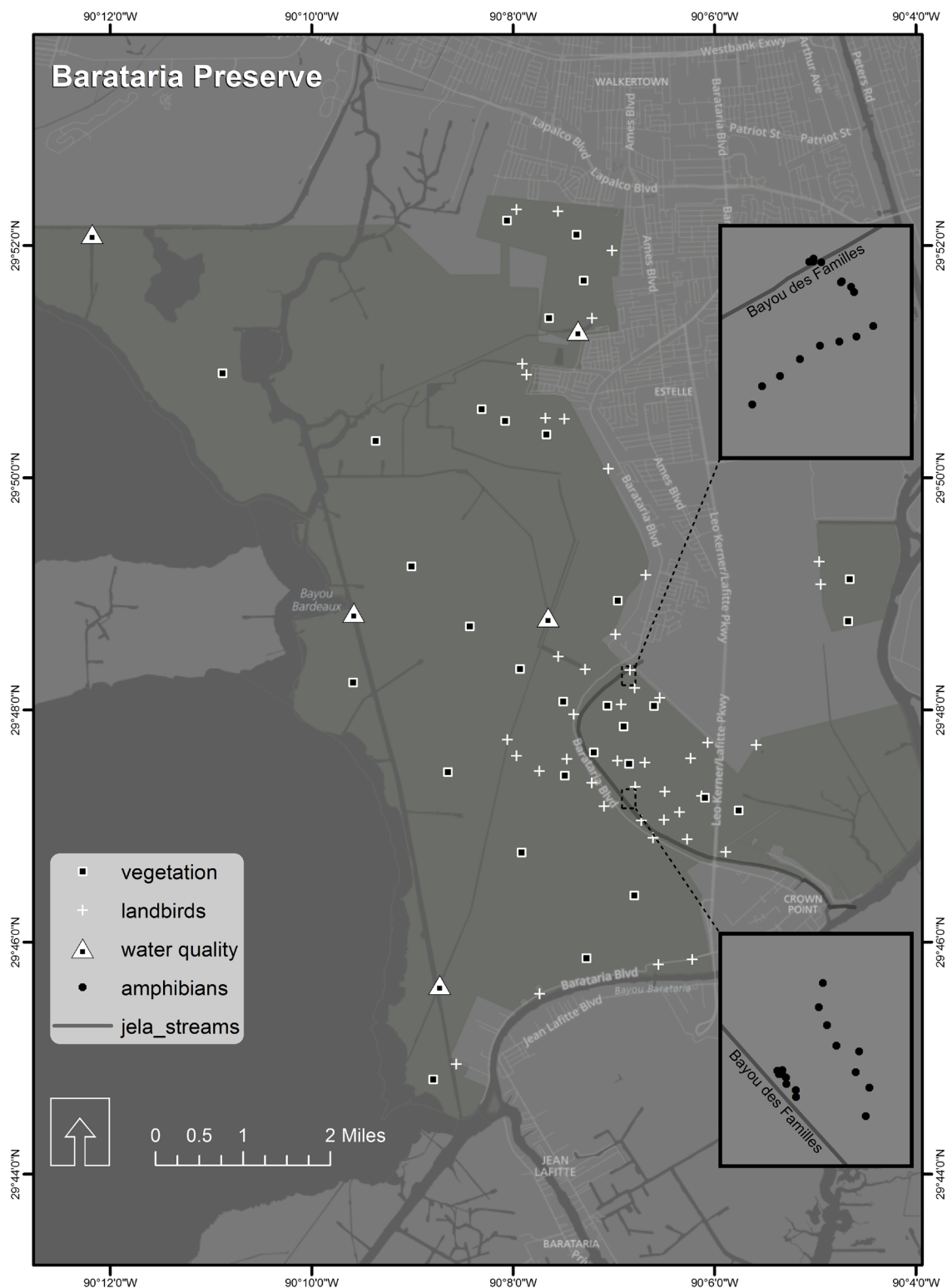
Amphibian monitoring involves placing PVC pipes and coverboards in two study sites and checking them every other month. PVC pipes attached to tree trunks are used by bird-voiced treefrogs (*Hyla avivoca*) and other species.

GULN Vital Sign	Number of Sampling Points	Sampling Frequency	Monitoring Start Year
Water Quality	5	Every Other Month	2008
Amphibians	128 pipes, 64 boards	Every Other Month	2011
Breeding Landbirds	32	Annually	2014
Terrestrial Vegetation	12	Every 4 Years	2021

Gulf Coast Network

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Inventory and Monitoring Division
National Park Service
U.S. Department of the Interior



For more information, visit <https://www.nps.gov/im/guln/index.htm>

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