



Creating a Lake Maurepas Long-Term Monitoring Program Through Integrative Experiences



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Long-Term Monitoring Purpose

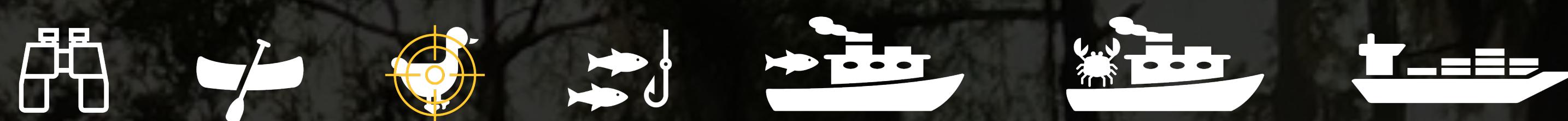
- Generate Knowledge
- Assess Ecological Status (e.g., species, population, ecosystem)
- Produce Reliable, Useful Information for Policy- and Decision-Making

all while
minimizing
cost &
effort but
maximizing
statistical power



Lake Maurepas

- Shallow (depth ≈ 3m)
- Tidally Influenced & Brackish
- 3 River Inflows (Fig. 1)
- Fed. Navigation Channel to Lake Pontchartrain & New Orleans
- Convergent Floodplain w/ Mississippi River
- Commercial & Recreational Value



Lake Maurepas Monitoring Program

Focus	Fishes/Inverts	Ecotox	Wetlands	Chemical
Assess	<ul style="list-style-type: none"> ✓ Abundance ✓ Diversity ✓ Distribution ✓ Condition ✓ Water Quality 	<ul style="list-style-type: none"> ✓ Physiological Stress ✓ Osmotic Gas Gradient Stress ✓ Reproductive Energy Allocation ✓ Endocrine Disruptor Exposure ✓ Population viability & demographics 	<ul style="list-style-type: none"> ✓ Habitat (Health) ✓ Density ✓ Growth 	<ul style="list-style-type: none"> ✓ Physical & Chemical Water Parameters ✓ Sediment Composition & Organic Content ✓ Water & Sediment Contamination
Sampling Methods	<ul style="list-style-type: none"> ➢ Electrofish ➢ Gillnet ➢ Trawl ➢ Dredge ➢ Crab Trap ➢ eDNA ➢ YSI Buoys 	<ul style="list-style-type: none"> ➢ Leukocyte Profiling ➢ Blood/Hemolymph pH ➢ Fecundity ➢ Gonadal, Gill, Liver Histopathology ➢ Mark-Recapture 	<ul style="list-style-type: none"> ➢ Historic Data Engineering ➢ Remote Sensing ➢ Plant Trees ➢ Soil Cores 	<ul style="list-style-type: none"> ➢ Water Sampler ➢ YSI ➢ Dredge ➢ Mercury Analyzer ➢ Spectrometer ➢ Spectrophotometer

Publicly Available Data on Our Website



Figure 1: Map of the Lake Maurepas ecosystem, including some of the LTM sampling regime indicators.

