

LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES)

**WETLAND SYSTEM MONITORING REQUIREMENT FOR
CITY OF THIBODAUX
WETLAND ASSIMILATION PROJECT**

**Permit Number: LA0032948
Agency Interest Number: AI19012
Activity Number: PER20220002**

**Proposal
Wetland Monitoring & Reporting for June 2025- July 2026**

by

**Dr. Jonathan M. Willis
Nicholls State University
Department of Biological Sciences,
P.O. Box 2021
Thibodaux, LA 70310**

May 2025

OBJECTIVE:

Conduct and report on annual wetland monitoring according to requirements under permit number LA0032948 for the City of Thibodaux, Point-Au-Chene Swamp Assimilation Project.

STUDY AREA:

The Pointe au Chene Swamp Assimilation Project receives municipal effluent discharge at the northern boundary of the property and flows southward, between a bottomland hardwood ridge on the east and an oil access road on the west (Figure 1). Effluent exits the Pointe au Chene Swamp near the southern boundary of the swamp. Four study sites have previously been established for monitoring (Discharge, Mid, Out, and Control). One 10 x 100 m plot was established in the Discharge, Mid, and Out sites and divided into three 10 x 33 m subplots for annual monitoring. The Control site was established east of the bottomland hardwood ridge and includes three sampling plots.

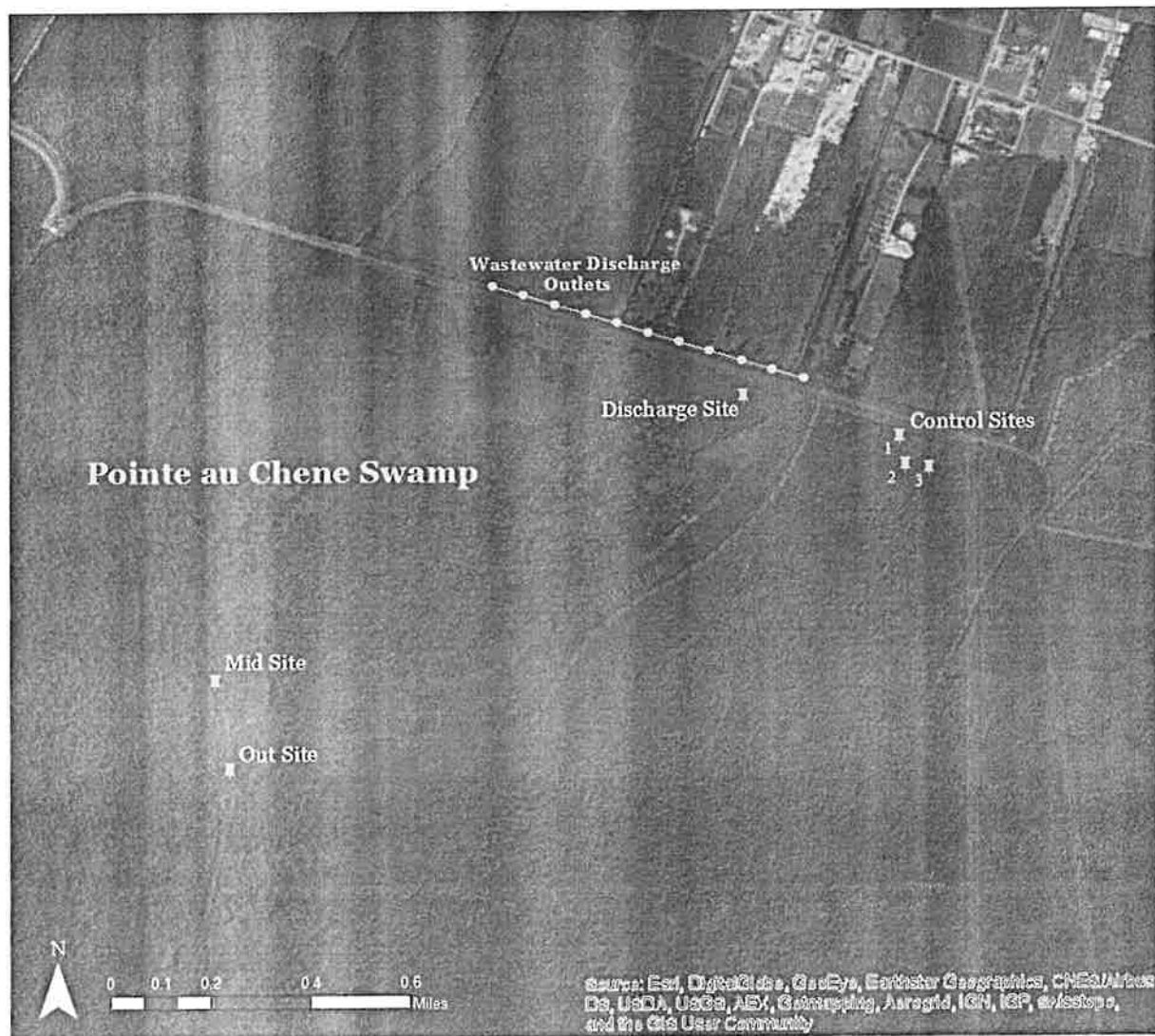


Figure 1. Map of the Pointe au Chene Swamp Assimilation project and locations of study sites.

MONITORING PLAN AND DELIVERABLES:

Monitoring for this permit will be conducted from June 2025 until July 2026. Sampling of wetland system characteristics will include the collection of a minimum of three samples per site at each of four sites: 1) discharge site within 100 m from the discharge point, 2) midway between the discharge site and the out site, 3) the out site where water discharges into a receiving area, and 4) the control sites located east of the bottomland hardwood ridge (two forested, one a marsh control). Water samples will also be collected directly from discharge outlets. Water stage or depth will be measured at each study site using a combination of manual stage measurements (March-September) and continuous water level recorders (October-February; Deer Hunting Season). Water level recorders will be recalibrated periodically and correlated with periodic manual stage measurements to ensure accuracy. Manual water stage measurements will be collected monthly during periods of accessibility (e.g., outside of hunting season) for calibration and redundancy. Daily water stage measurements will be averaged to provide a monthly water stage level for the yearly report.

Nutrient Analysis I and II (TKN, TP, NH_3N , NO_2N , NO_3N , and PO_4), and other parameters (BOD_5 , TSS, pH, dissolved oxygen, salinity, and temperature) of surface water will be sampled quarterly at all sites (approximately once per three months as landowner access permits). All surface water samples will be delivered to PACE Analytical laboratory (formerly Analytical and Environmental Testing, Inc.) in Baton Rouge, LA for analysis, with the exception of dissolved oxygen, temperature, salinity, and pH which will be measured with using handheld meters meter. Nutrient loading rates for total nitrogen and total phosphorus will be calculated on outfall001 effluent sampling data and assimilation area size and reported annually.

Annually, we will measure stem diameter at breast height (DBH) for all trees > 3.2 cm DBH that have been previously tagged in each study area. We will also tag unmarked trees > 3.2 cm DBH for inclusion in future studies. Recorded DBH measurements will be used with previous DBH data to determine changes in perennial net primary production based on tree growth. Six leaf litter fall traps (0.25 m^2) have also been previously installed in each study area. Litter fall will be collected from all traps to determine annual litter fall. Litter will be separated into leaves, reproductive material, and woody material, dried at 60°C for 48 hours, and weighed. At the marsh control site and at the In site, End of Season Live (EOSL) biomass will be collected at the end of summer as the appropriate productivity estimate.

Because this is a fourth year monitoring effort, additional monitoring will be performed. Floral species diversity (including relative diversity, relative dominance, relative frequency, and importance values) will be determined at each sampling station, and percent whole cover will be determined in 10, 1-m^2 subplots at each sampling station. Accretion rate will be determined by sampling of previously established feldspar plots. Sediment, vegetation, and water samples will be collected and submitted to Pace Analytical for determination of requested metals (Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, and Se). Vegetation and sediment will also be collected for determination of Nutrient Analysis I and II (TKN, TP, NH_3N , NO_2N , NO_3N , and PO_4), as appropriate.

Statistical analyses will be conducted using R statistical software 3.4.1 (The R Foundation for Statistical Computing. 2017). One-way analysis of variance will be performed to determine difference among study sites and baseline data for the monitoring characteristics (if available). An alpha probability level of 0.05 will be used to assess significant differences between means. Further comparisons of means with significant ANOVA results will be made using Tukey-Kramer Honestly Significant Difference (HSD) test as needed. Once statistical analysis is completed the results will be presented in the 2025-2026 Annual Wetland Monitoring & Reporting Requirements report and delivered to the City of Thibodaux.

BUDGET: Wetland Assimilation Monitoring June 2023-July 2024

Budget Breakdown	Funds Required	Subtotal	SUM TOTAL
1. Personnel Salaries			
Willis (2 months)	14,009		
Willis Fringe (30%)	4,203		
Student Workers	3,600		
Student Fringe (7.65%)	46		
Subtotal		21,858	
2. Supportive Expenses			
Lab Water analyses *			
Supplies	3,195		
Travel	550		
Operations	160		
Subtotal		3,905	
3. Indirect University cost share (15% of grant)	3,865	3,865	
Total Project Costs Requested	SUM TOTAL		\$29,628

* All surface water analyses outsourced to same laboratory used by city; will be paid directly by the City of Thibodaux and therefore are not included in my budget

BUDGET JUSTIFICATION:**1. RESEARCH SALARIES**

Willis. Funds are for the P.I. in the form of approximately 2 months of 2024 summer salary (\$14,009), based on expected 10 month academic year (AY 2025-2026) salary (\$70,046).

Willis Fringe. Funds are for fringe benefits (\$4,203) on the 2 months of 2024 summer salary that is requested. Benefits at Nicholls State University are 30%.

Student Worker. Funds are for a student worker to assist with collection of data and processing samples in the University lab (1 worker x 24 weeks x 10 hours/week x \$15/hour=\$3,600). The student will be trained in the techniques essential to the project and assist in data collection.

Student Fringe. Funds are for student fringe benefits for four weeks when the student is not in class (4 weeks x 10 hours x \$15 x 7.65% = \$46). Benefits at Nicholls State University are 7.65%.

2. SUPPORTIVE EXPENSES

Lab Costs. Will be paid to Pace Analytical (formerly Analytical and Environmental Testing, Inc). directly by the City of Thibodaux and therefore are not included in this budget.

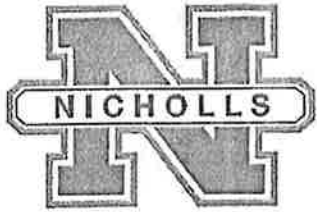
Supplies. Funds are for the purchase of supplies for general field sampling (\$3,195). including storage containers, data loggers, buffer solutions to calibrate hand-held meters, field probes, and other consumables.

Travel. Funds are for travel to field sites for data collection, travel to state and federal Regulatory Agencies, maintaining current knowledge and technology expertise by attending professional meetings, as well as presentation of project findings at those meetings. (\$550).

Operations: Funds are for repair and maintenance of university equipment used in the project and other operational costs including publication costs (\$160).

3. OVERHEAD

The overhead charge of \$3,865 (15% of total grant) is the University standard rate for a non-federal contract.



Routing Approval Form for Submission of Grant Proposals or Contracts to External Sponsoring Agencies

NOTE: The University MUST approve all externally sponsored programs before proposal submission
Submit this form AT LEAST 10 WORKING DAYS BEFORE DEADLINE
(revised Feb. 2025)

Nicholls State University
Office of Research and Sponsored Programs
167 Elkins Hall, P.O. Box 2083

Director: quenton.fontenot@nicholls.edu / (985) 449-2563
Contract & Grant Specialist: mikenzi.authement@nicholls.edu / (985) 448-4496
Fax: (985) 493-2530
Nicholls Federal ID#: 72-6011797

ORSP #: 2888

Funding Agency Deadline: 5/30/25

PRIMARY INVESTIGATOR DATA & PROJECT INFORMATION

Principal Investigator: Jonathan M. Willis

Email: jonathan.willis@nicholls.edu

Campus Phone #: 4313

Cell Phone #: 225-445-6823

College: SciTech

Department: Biological Sciences

Proposal Title: WETLAND SYSTEM MONITORING REQUIREMENT FOR CITY OF THIBODAUX WETLAND ASSIMILATION PROJECT

Prime Agency: City of Thibodaux

Subaward Agency:
(if applicable)

Project Start Date: 6/1/2025

Project End Date: 7/31/2026

Total Budget Request: \$ 29,628

Project Summary: (please provide a brief summary of the proposal; 3 line maximum)

Assimilation wetland site monitoring in support of the City of Thibodaux WWTP permit

Principal Investigator Signature: *
(sign and date)

Date: 5/12/2025

PROPOSAL DATA

PROPOSAL TYPE

- ☐ Pre-proposal/ Letter of Intent
☒ Proposal
☐ Proposal & Contract
☐ Contract

TYPE OF SUPPORT REQUEST

- ☐ Instruction
☒ Research
☐ Public Service
☐ Student Services
☐ Instructional Support
☐ Other

FUNDING CATEGORY

- ☐ Federal Direct
☐ Federal Indirect (flow-through)
☐ State Contract
☐ State Competitive Grant
☐ Private

SUBSEQUENT SUBMISSIONS

2ND SUBMISSION

Proposal Type:

- ☐ New Proposal
☐ Contract
☐ Supplemental
☐ Revision

Revised Funding Amount: _____
Revised Project Title: _____
Revised Project Period: _____

Revised Budget: ☐ Yes ☐ No
Revised Budget Amount: _____

3RD SUBMISSION

Proposal Type:

- ☐ Contract
☐ Supplemental
☐ Revision

Revised Funding Amount: _____
Revised Project Title: _____
Revised Project Period: _____

Revised Budget: ☐ Yes ☐ No
Revised Budget Amount: _____

4TH SUBMISSION

Proposal Type:

- ☐ Contract
☐ Supplemental
☐ Revision

Revised Funding Amount: _____
Revised Project Title: _____
Revised Project Period: _____

Revised Budget: ☐ Yes ☐ No
Revised Budget Amount: _____

*Investigators Assurance Statement: By signing this form, the Principal Investigator certifies and assures that: (1) the information submitted within the application is true to the best of their knowledge; (2) that any false, fictitious, or fraudulent statements or claims may subject the Principal Investigator to criminal, civil, or administrative penalties; and (3) that the Principal Investigator agrees to accept responsibility for the scientific conduct of the project, Co-PIs, and to provide the required progress reports, the final report and

ALL INVESTIGATOR(S) / OTHER PROJECT PERSONNEL DATA

Role	Name	Salary Type	# of Months per Award Year
-Select Role-		-Salary Type-	
-Select Role-		-Salary Type-	
-Select Role-		-Salary Type-	
-Select Role-		-Salary Type-	
-Select Role-		-Salary Type-	

*If Salary is written as "other" please explain:

COST SHARING

Category	University Matching	University Source of Funding	Source of 3 rd Party Match	In-kind or In-cash
Salaries		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Fringe (____%)		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Supplies		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Equipment		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Professional Services		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Travel		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Operating Services		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Tuition and Fees		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Other		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash
Indirect Cost (____%) <input type="checkbox"/> Yes <input type="checkbox"/> No		Acct #:		<input type="checkbox"/> In-Kind <input type="checkbox"/> In-cash

If more than one account number is used in a category, show allocations on a separate attached sheet

Cost sharing must be approved by the authorized budget Head of the Source account, please include email or letter from the appropriate responsible party

ADDITIONAL APPROVALS NEEDED

<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Human subjects involved in research? If yes, contact Dr. Alaina Daigle at (985)448-4697 or at alaina.daigle@nicholls.edu for approval.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Non-human vertebrate animal subjects involved? If yes, contact Michele Robichaux at (985)448-4761 or at michele.robichaux@nicholls.edu for approval.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radiation and/or Biohazards involved? If yes, contact Brian Clausen at (985)448-4783 or at brian.clausen@nicholls.edu for approval.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Does the proposal involve alterations/relocations/renovations of facilities? If yes, a letter or email including the source account # and amount from VP of Facilities is required. Contact Danielle Breaux at (985)449-7041 or at danielle.breaux@nicholls.edu for approval.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Does the proposal use technology fee funds as a match? If yes, a letter or e-mail including the source account # and amount from the Instructional Technology Specialist is required. Contact Nicole Cotten at (985)448-4252 or at nicole.cotten@nicholls.edu for approval.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Will this project require any faculty or staff overload (i.e. adjunct/overload teaching assignments, etc.?)

APPROVALS

DEPARTMENT/CENTER APPROVAL: The application identified above has been reviewed by the undersigned. The review included the overall budget request, commitment of time and effort by professional staff, rates of compensation and/or stipend levels, request for equipment and the justification presented, allow ability of direct cost charging, and allocation of adequate space and facilities. (If more than department head or dean's faculty are involved in this project, supplemental approval is required.)

P.I. Department Chair: _____

Date: 5/12/2021

(P.I. DEANS OFFICE APPROVAL as needed: Approval is given for the proposed activity to be undertaken in this school/college by the personnel identified in the proposal, and for any cost sharing.

P.I. Dean: _____

Date: 5/12/21

Sponsored Research Office: _____

Date: 5/12/21

Provost of Academic Affairs: _____

Date: 19 MAY 28

Payroll & Grants Coordinator: _____

Date: 5/26/21

Notes/Comments:

TO: Wendy
Controller's Office

DATE: 5-26-25

RE: Information Attached

☒ Verify Budget Complete & Correct

☐ Verify enough funds and that money
can be used for this purpose

☐ Other

TITLE:

Wetland System
Monitoring Requirement
for City of Thibodaux
Wetland Assimilation Project

PROJECT DIRECTOR:

Jonathan Willis

DATE NEEDED FOR:

5/30/25

PERSON AND # TO CALL FOR PICK-UP:

☐ Okay to sign

☐ Invoice/Report -- No copies needed

FROM: Wendy
Controller's Office

DATE: _____

RE: Information Attached

☐ Verified Budget Complete & Correct

☐ Verified sufficient funds available and
money can be used for this purpose

☐ Funding Cost to NSU? ☐ No ☐ Yes

☐ Salaries: \$ _____

☐ Travel: \$ _____

☐ Oper Services: \$ _____

☐ Supplies: \$ _____

☐ Equipment: \$ _____

☐ Other: \$ _____

☐ Tuition Waiver: \$ _____

Total.....\$ _____

Source of Above Funding Other Than Grant:

☐ Indirect Cost Reimbursement: ☐ No ☒ Yes

If No, Amount Not Received _____

If Yes, Basis 15% total (City of Thibodaux)

If Yes & Less than Univ Policy, amount not
receiving: _____

REMARKS (if any): Budget 14,009
Willis 70,046 : 10 = 7,004.60 x 2 = 14,009.20