WHITE LAKE

WETLANDS CONSERVATION AREA

# White Lake Wetlands Conservation Area Master Plan

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES

COASTAL PROTECTION AND RESTORATION AUTHORITY CPRA

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# Table of Contents

# List of Acronyms

BP – British Petroleum Company Limited

CPRA – Coastal Protection and Restoration Authority

CWPPRA – Coastal Wetlands Planning, Protection and Restoration Act

GIWW – Gulf Intracoastal Waterway

LDWF – Louisiana Department of Wildlife and Fisheries

LWFC - Louisiana Wildlife and Fisheries Commission

NAWCA – North American Wetlands Conservation Act

TPIC – Texas Petroleum Investment Company

USACE – U.S. Army Corps of Engineers

WLWCA – White Lake Wetlands Conservation Area

# Executive Summary

The Louisiana Department of Wildlife and Fisheries (LDWF), in collaboration with the Coastal Protection and Restoration Authority (CPRA), developed this White Lake Wetlands Conservation Area (WLWCA) Master Plan (Master Plan) to address the growing ecologic and infrastructure challenges threatening this vital landscape. Located in Vermilion Parish and spanning approximately 72,000 acres, the WLWCA is a critical freshwater marsh ecosystem that supports a wide array of native wildlife and provides a variety of recreational opportunities. LDWF prioritizes waterfowl and wading bird habitat, including whooping crane *(Grus Americana)* habitat, as part of a reintroduction program.

The Master Plan was created in response to the urgent need to restore and protect the WLWCA's habitats, which are increasingly vulnerable due to complex factors including shoreline erosion, subsidence, and aging infrastructure. LDWF's vision for the WLWCA is rooted in science-based stewardship that balances habitat conservation with sustainable land use. The Master Plan outlines four long-term strategies to preserve biodiversity, enhance resilience, and ensure that the area remains accessible and beneficial to future generations. These strategies include implementation of coastal restoration projects, revitalization of The Lodge and island facilities, development of revenue generation initiatives, and establishment of partnerships for long-term sustainability.

Since its donation by British Petroleum Company Limited (BP) in 2002, the WLWCA has been managed under conservation guidelines that prioritize the preservation of waterfowl habitat. LDWF has implemented numerous projects on the property over the years, including levee repairs, pump upgrades, and shoreline stabilization. Building on this foundation, the Master Plan proposes a series of restoration projects designed to reinforce the area's ecological and operational integrity.

One of the most urgently needed projects is the protection of the WLWCA shoreline, which borders the Gulf Intracoastal Waterway (GIWW) and spans 24 miles within the WLWCA and is experiencing substantial erosion. A three-phase plan has been proposed to armor over 20 miles of shoreline with rock to prevent further erosion. If the GIWW were to breach the shoreline, the adjacent agricultural and marsh lands would be inundated, potentially with saltwater that would devastate agricultural lands. Similarly, the deteriorating levees of WLWCA's refuge area (Unit 2) require immediate attention to prevent permanent flooding and habitat loss. Finally, a proposed project for the northern shoreline of White Lake involves installing approximately seven miles of shoreline protection. This project will prevent erosion, safeguard more than 50,000 acres of adjacent wetlands, and provide a secondary defense for Unit 2 and other areas of the WLWCA against flooding and storm impacts.

The Master Plan also emphasizes the importance of updating the WLWCA's facilities, particularly the historic Lodge and surrounding buildings. Originally constructed in the early 1950s, these structures are now outdated but hold significant potential for revenue generation through expanded group hunting opportunities, ecotourism, and corporate or other group events if they are repaired and updated. Proposed renovations and new construction aim to transform the island facilities into a destination for ecotourism, world-class hunting and fishing, and a center for research and conservation education.

Together, these proposed actions represent a coordinated, forward-looking approach to securing the ecological, economic, and cultural value of the WLWCA for generations to come.

*Figure 1. An aerial view of the WLWCA, island facilities, lodge, and surrounding wetlands south of the GIWW.*

# CHAPTER 1
# Introduction

Louisiana is fighting to safeguard its coast against land loss due to rising sea levels, subsidence, frequent storms, reduced sediment flow, oil and gas activities, navigation infrastructure, saltwater intrusion, and altered hydrology, among other challenges (Penland et al., 2000; Couvillion et al., 2017). The Louisiana Department of Wildlife and Fisheries (LDWF) is acutely aware of the coast's shrinking habitats, including the vital freshwater marshes within the White Lake Wetlands Conservation Area (WLWCA), which LDWF has managed since 2005. As the lead agency behind Louisiana's Coastal Master Plan, the Coastal Protection and Restoration Authority (CPRA) brings decades of experience in coastal restoration and resilience planning. In a unified and strategic partnership, LDWF and CPRA collaboratively developed this WLWCA Master Plan (Master Plan) to address the area's unique environmental challenges and secure its long-term sustainability.

Situated in Vermilion Parish, Louisiana, just south of Gueydan, the WLWCA spans approximately 72,000 acres of freshwater marshes, open water, and agricultural lands (Figures 1 and 2). The WLWCA is divided into six management units, each designed to support specific functions. These units include impounded marshes, where water control structures are used to maintain wetland conditions, and leased agricultural lands, where pumps are used to control water pump off, allowing the areas to remain suitable for agriculture.

# WLWCA OVERVIEW MAP

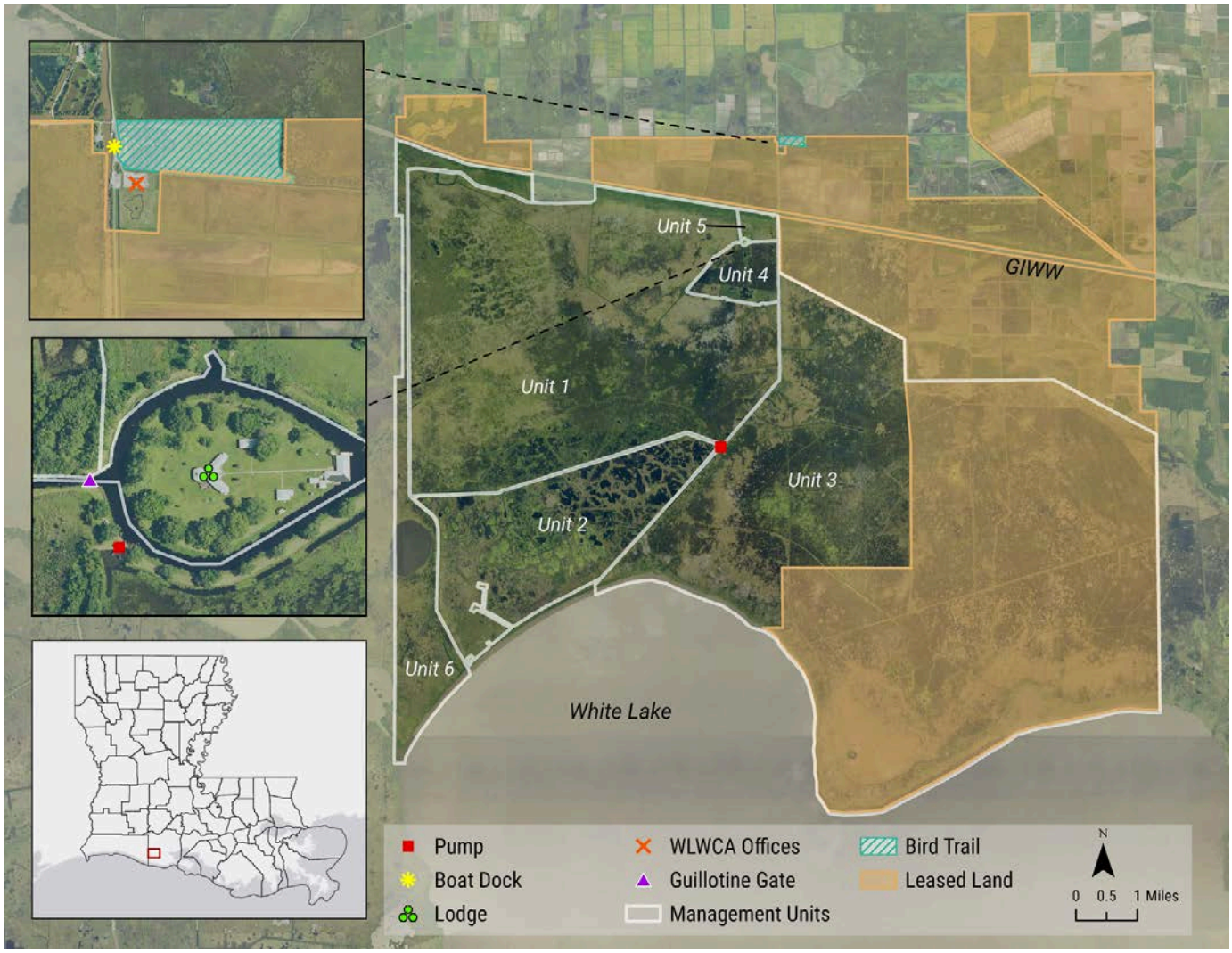


*Figure 2. This map provides an overview of the WLWCA property, including management units, leased lands, the island, LDWF's offices, and other points of interest.*

Unit 1, known as the hunting marsh, hosts lottery-based hunts, is approximately 16,000 acres, and contains approximately 235 acres of rare coastal prairie habitat. Known as the Carreau, Unit 2 serves as a refuge, providing essential wintering habitat for waterfowl, shorebirds, and wading birds. Unit 3, also called the east side marsh, functions as a refuge where access is strictly regulated. The eastern half of Unit 3 is leased and allows limited waterfowl hunting under strict guidelines. Unit 4, a 700-acre marsh, contains the whooping crane *(Grus Americana)* enclosure pen and is managed to support habitat for released cranes but opportunistically provides suitable habitat for wintering waterfowl. Referred to as the bass pond, Unit 5 is primarily managed to enhance fisheries habitat and promote the growth of submerged aquatic vegetation (SAV). Unit 6 remains unmanaged due to its lack of levees and water control structures.

The WLWCA has suffered deterioration at multiple levels, including eroded shorelines, damaged levees and water control infrastructure, degradation of valuable marsh habitat, and aging buildings and facilities; much of which resulted from storms such as Hurricanes Rita, Gustav, and most notably, Delta. Unfortunately, the WLWCA does not currently generate sufficient revenue to repair, maintain, and improve the property to the extent that LDWF would desire.

This Master Plan aims to provide a long-term framework that guides the restoration and sustainable use of the area. It identifies priorities, outlines necessary repairs and improvements, and explores economic opportunities for revenue generation. By doing so, the Master Plan strives to ensure that the WLWCA's ecological and economic values are preserved and enhanced for current and future generations.

Protecting the WLWCA supports the biodiversity of these coastal wetland ecosystems, strengthens coastal resilience, and enhances recreational opportunities. Approximately 75%, or 53,000 acres, of the WLWCA consists of freshwater marsh, which serves as critical habitat for many important wildlife species. The property serves as one of the most important wintering grounds for migratory waterfowl in the U.S. (Tamisier, 1976). Additionally, one of only two remaining whooping crane reintroduction programs in the U.S. is based out of the WLWCA's Unit 4 (Figure 3). The American alligator (*Alligator mississippiensis*) population on the property is abundant, supporting egg collection and a commercial harvest, both of which provide a source of revenue for the WLWCA. The freshwater fisheries habitat of the WLWCA has fostered thriving aquatic ecosystems that have hosted public freshwater fishing lotteries for several years.

*Figure 3. Two adult cranes and their hatchlings near their nest at the WLWCA. (Photo provided by LDWF).*

# CHAPTER 2
# Background and History

The WLWCA is confronted with escalating ecological and operational challenges that jeopardize its long-term viability. The marshes are gradually deteriorating due to the impacts of storms, rising sea levels, and subsidence. Substantial shoreline erosion along the Gulf Intracoastal Waterway (GIWW) has threatened both the land within and beyond the boundaries of the WLWCA. Unit 2, which is managed as a refuge, has for decades used pumps to maintain ideal (shallow) water levels. Unfortunately, this area has experienced substantial marsh collapse due to the oxidation of organic soils as a result of over-utilization of this management practice in the past, prior to LDWF's ownership (Dartez, 2024). Moreover, the northern shoreline of White Lake is retreating, with erosion posing a threat to both the habitat and nearby infrastructure.

LDWF currently supports revenue generation for the WLWCA through land leases, alligator and alligator-egg harvesting, waterfowl hunting and fishing lotteries, and surface leases. However, these sources alone are not sufficient to support the long-term management of this expansive property.

## Louisiana Department of Wildlife and Fisheries

The LDWF was officially established in 1944 through a constitutional amendment, taking over wildlife and aquatic resource management responsibilities previously held by the Department of Conservation (Louisiana State Senate, 2024). The agency derives its authority from both the state constitution and legislative statutes. Legislative implementation is provided through Titles 36 and 56 of the Louisiana Revised Statutes, which empower LDWF to establish regulations, acquire habitat, manage wildlife, enforce fishing and boating laws, and receive appropriated funding and special accounts for conservation programs. LDWF has played a critical role in conserving the state's renewable fish and wildlife resources, ensuring their sustainable use and protection for current and future generations.

### LDWF'S MISSION STATEMENT:

*"To manage, conserve, and promote wise utilization of Louisiana's renewable fish and wildlife resources and their supporting habitats through replenishment, protection, enhancement, research, development, and education for the social and economic benefit of current and future generations; to provide opportunities for knowledge of and use and enjoyment of these resources; and to promote a safe and healthy environment for the users of the resources" (LDWF, 2022).*

## Brief History of WLWCA Establishment and Acquisition

The WLWCA property has a history tied to oil and gas activities dating back to the early 20th century. In 2002, British Petroleum Company Limited (BP) donated the land to the State of Louisiana exclusively for conservation purposes. The donation agreement mandates that the land remain free from industrial development and commercial hunting, emphasizing wetland preservation and continuation of rice farming where feasible. Although BP retains mineral rights, LDWF holds the surface rights and manages all surface activities, utilizing revenues from hunting and surface leases to support ongoing operations and management.

## Legal and Policy Compliance, Limitations of the Act of Donation

The Act of Donation establishing the WLWCA includes binding restrictions to ensure the perpetual protection of the property's ecological integrity. All activities must align with the Conservation Purposes, which prioritize habitat preservation, wildlife management (particularly for waterfowl), and environmental stewardship. Any future transfers of the property must ensure that all restrictions remain in place and that the land is held by a qualified conservation entity. Collectively, these conditions ensure that WLWCA is managed and maintained in perpetuity for conservation, research, and public benefit.

Statutory law further reinforces these limitations. Under Louisiana Revised Statutes §56:799.1–799.7, the state formally acknowledges the WLWCA as a rare and valuable freshwater ecosystem deserving perpetual protection. These statutes establish the White Lake Property Fund, which receives all revenue from agricultural leases, public use fees, and related income, ensuring that funds generated at WLWCA are reinvested in its operation, maintenance, and ecological enhancement. LDWF is given full authority to manage the property, enter into cooperative agreements, and develop conservation management plans.

# PAST PROJECTS

LDWF, CPRA, and their partners (e.g., Ducks Unlimited) have undertaken a series of significant habitat restoration and infrastructure enhancement projects within the WLWCA (Table 1) and adjacent to the WLWCA. These projects reflect a strategy aimed at rebuilding infrastructure, stabilizing shorelines, and setting the stage for more resilient wetland ecosystems. Projects range from levee and pump upgrades inside the WLWCA to rock armoring shorelines, infrastructure and facility construction, and marsh creation in adjacent areas.

## PROJECTS WITHIN THE WLWCA

*Table 1. With the help of partners, LDWF has completed the following projects on the WLWCA since acquiring the property in 2002.*

| YEAR COMPLETED | PROJECT | DESCRIPTION |
|---|---|---|
| 2011 | Unit 4 Levee & Pump Upgrade | Under a North American Wetlands Conservation Act (NAWCA) grant and with Ducks Unlimited, the perimeter levees of Unit 4 were reconstructed, and a new 3-inch Lo-Lift pump was installed to enhance hydrologic control. |
| 2013 | GIWW Rock Breakwater | Ducks Unlimited built 1.54 miles of rock breakwater along the GIWW, funded by NAWCA and LDWF, to reduce erosion and improve shoreline stability (Figure 4). |
| 2019 | WLWCA Office Building Construction | A new, approximately 2,500 square foot, raised office building for LDWF employees was constructed north of the GIWW. |
| 2022 | Unit 1 Weir Installation | A control structure comprising four 48-inch variable-crest pipes was added to Unit 1, supported by Chevron, Bass Pro, and the James M. Cox Foundation. |
| 2023 | Unit 2 Pump Engine Upgrades | Engines in Unit 2 pumps were replaced with new Weichai WP10 models through funding by the Louisiana Waterfowl Working Group. |
| 2024 | Unit 2 Levee Repair | Ducks Unlimited repaired and armored a 460-foot critical stretch of levee at the southwest corner of Unit 2 via a Cooperative Endeavor Agreement, safeguarding interior marshlands. |
| 2024 | Island Building Roofs | FEMA-funded roof replacements were completed on facilities throughout the area to improve building integrity. |
| 2024 | Unit 1 Guillotine Gate Replacement | A new water control structure was installed using the White Lake Conservation Fund. |
| 2025 | Staff Quarters Building Renovation | The staff quarters underwent a full renovation, funded by the White Lake Conservation Fund. |


*Figure 4. A rock breakwater was placed along the GIWW as part of the Ducks Unlimited 2013 project.*

## PROJECTS ADJACENT TO THE WLWCA

The Grand–White Lakes Landbridge Protection project (ME-0019) (CPRA, 2005) was funded by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) and sponsored by the U.S. Fish and Wildlife Service (USFWS). The project included construction of shoreline terraces, foreshore dikes, and marsh creation to halt erosion along the Grand–White Lakes Landbridge. Without the landbridge, Grand Lake and White Lake were at risk of merging. Grand Lake could have potentially increased by over 4,800 acres, and the landbridge would be reduced by 2 miles.

The South White Lake Shoreline Protection project (ME-0022) (CPRA, 2006) was also funded by CWPPRA. This effort was sponsored by the U.S. Army Corps of Engineers (USACE) and included the placement of approximately 270,000 tons of rock along 61,500 feet of the southern shoreline of White Lake. Additionally, dredged sediment was used to create over 170 acres of emergent marsh. This project was designed to halt the erosion on the south shoreline of White Lake, which was eroding at a rate of 15 feet per year, threatening the interior marsh.

# CHAPTER 3
# Planning Context

## WLWCA Vision

LDWF's long-term vision for the WLWCA is grounded in careful management to protect and enhance habitat for waterfowl and other native species while adapting to a changing coast. The managers of the WLWCA envision a future where science-driven stewardship sustains one of Louisiana's most vital wetland ecosystems. By integrating sustainable land use and community engagement, the area will serve as a beacon of conservation excellence, preserving biodiversity, supporting resilience, and inspiring future generations to value and protect Louisiana's natural resources and heritage.

In alignment with both LDWF's mission statement and this vision, LDWF has identified seven goals for the WLWCA.

### GOALS

1. Sustaining and managing the high-quality, wetland habitats within the WLWCA
2. Maintaining the wildlife associated with these wetlands
3. Preserving the agricultural presence on the leased properties
4. Generating self-sustaining revenue
5. Allowing additional controlled public access
6. Hosting education and outreach opportunities
7. Supporting biological and ecological research

# Planning Process

The Master Plan development process began with the collection and review of all available and relevant documentation, data, and information on the WLWCA. A comprehensive data gap analysis was conducted to identify any critical information needs. Past plans were carefully evaluated, taking into account both current conditions and future projections. Through this iterative approach, a range of restoration, protection, and infrastructure improvements were proposed.

To ensure the plan charts a sustainable and locally responsive path forward, stakeholder engagement and outreach were prioritized from the outset. Early in the process, stakeholders were engaged to provide project updates and gather meaningful input from experts, land managers, farmers, and sportsmen, ensuring that the plan reflects local priorities and concerns. Ongoing coordination with Governor Jeff Landry and public officials has kept state and local leadership actively informed of major developments. A public information meeting, held on August 19, 2025, in Gueydan, drew more than 100 community members who attended to learn about the Master Plan process and the projects under consideration (Figure 5).

The proposed projects were thoroughly vetted by LDWF and CPRA. From this planning process, four strategies were identified to achieve the seven previously established goals.

*Figure 5. Community members attended a public information meeting about the Master Plan (top). Governor Jeff Landry and LDWF Secretary Tyler Bosworth engaged with a group of stakeholders (bottom).*

# CHAPTER 4
# Strategies

Four strategies are recommended to achieve the WLWCA goals:

**STRATEGIES**

1. Implement Coastal Restoration Projects
2. Revitalize the Lodge and Island Facilities
3. Develop Revenue Generation Initiatives
4. Establish Partnerships for Long-Term Sustainability

## Implement Coastal Restoration Projects

The strategies in this Master Plan primarily include physical repairs and improvements to the WLWCA's infrastructure, such as shorelines and levees. These projects will require a substantial initial investment for their engineering, design, and construction, and future maintenance to ensure their long-term success.

Less than a year before this Master Plan project began, a comprehensive ecological assessment was conducted by a panel of six experts (Lancaster, 2024). The review helped LDWF identify critical areas requiring urgent attention, leading to the adoption of the term “triage” to describe the prioritization process. At the time, breaches in the White Lake north shoreline and the Unit 2 levee had allowed water from White Lake to flood the unit, making its repair the top priority. With the successful restoration of the levee along the southwest corner of Unit 2, attention has now turned to the rapidly deteriorating GIWW, and the northern shoreline of White Lake. The following three coastal restoration projects have since been assessed and prioritized as essential to maintaining the WLWCA’s capacity for effective habitat management.

# 1. PROTECTING THE WLWCA SHORELINE ALONG THE GIWW

The GIWW north and south shorelines present one of the biggest infrastructure challenges facing the WLWCA. The GIWW stretches about 12 miles through the area along 24 miles of WLWCA shoreline. Over time, this canal has widened significantly, and erosion has pushed the shoreline to the very edge of the original levee system. Only 1.5 miles of this stretch have been protected with rock breakwaters so far. The rest is rapidly deteriorating, putting nearby marshes, farmland, and the area's water systems at serious risk (Figure 6).

*Figure 6. Erosion can be seen along the north shoreline of the GIWW adjacent to agricultural leased land on the WLWCA property.*

Shoreline protection along the GIWW is critical not only for the long-term resilience of the WLWCA but also for the ecological, economic, and cultural sustainability of surrounding lands and communities. The shoreline of the GIWW is subject to erosion caused by wave action, boat wakes (Figure 7), and storm surges. Erosion leads to the conversion of marsh to open water and removes the natural buffer that protects interior marshes from potential saltwater intrusion (while this basin is managed as a freshwater system by the USACE, the GIWW can become more saline during drought conditions). Shorelines absorb and slow floodwaters that would threaten nearby communities during hurricanes and rain events. Additionally, these shorelines protect coastal habitats used by migratory birds, waterfowl, fish, and other wildlife from fragmentation. Navigation is vital to Louisiana's maritime economy, and shoreline protection is crucial to maintaining navigable routes.

*Figure 7. Barge traffic on the GIWW can be seen in this Google Earth imagery from 2012 and is a key contributor to shoreline erosion.*

## WHY IT MATTERS

If the GIWW breaches the adjacent shorelines, the consequences would be devastating:

- Flooding would damage or destroy rice fields, cattle pastures, and managed marshes within and around the WLWCA.
- The flooding risk is not limited to the WLWCA—it would also affect neighboring communities and private lands.
- Valuable habitat would be lost, turning uplands into open water and threatening the area's role as a critical wintering ground for waterfowl.
- Losing the wintering waterfowl habitat at the WLWCA would affect waterfowl numbers both within the WLWCA and in the surrounding areas.

To address this urgent issue, a three-phase project plan is proposed to reinforce the GIWW shoreline with rock breakwaters (Figure 8), following a similar approach to the 2013 shoreline protection project (Table 1, Figure 9).

**Phase 1:** Protect the most vulnerable approximately 9 miles of the north shoreline adjacent to agricultural areas.

**Phase 2:** Protect an additional approximately 3.5 miles of the vulnerable south shoreline, also adjacent to agricultural areas.

**Phase 3:** Protect the remaining approximately 9 miles adjacent to wetland areas.

In total, approximately 21.5 miles of shoreline will be armored to prevent erosion and mitigate future breaches. The full project is expected to cost around $126 million, with $5 million allocated for engineering and design and $122 million for construction (Table 2).

*Table 2. Cost estimates for three phases of shoreline protection installation on the GIWW. Total cost are rounded.*

| PHASE | ENGINEERING & DESIGN COST | CONSTRUCTION COST | TOTAL COST |
|---|---|---|---|
| PHASE 1 | $ 2 M | $ 51 M | $ 53 M |
| PHASE 2 | $ 709 K | $ 18 M | $ 19 M |
| PHASE 3 | $ 2 M | $ 52 M | $ 54 M |
| **TOTAL COST** | **$ 5 M** | **$ 122 M** | **$ 126 M** |

## GIWW SHORELINE PROTECTION PHASES

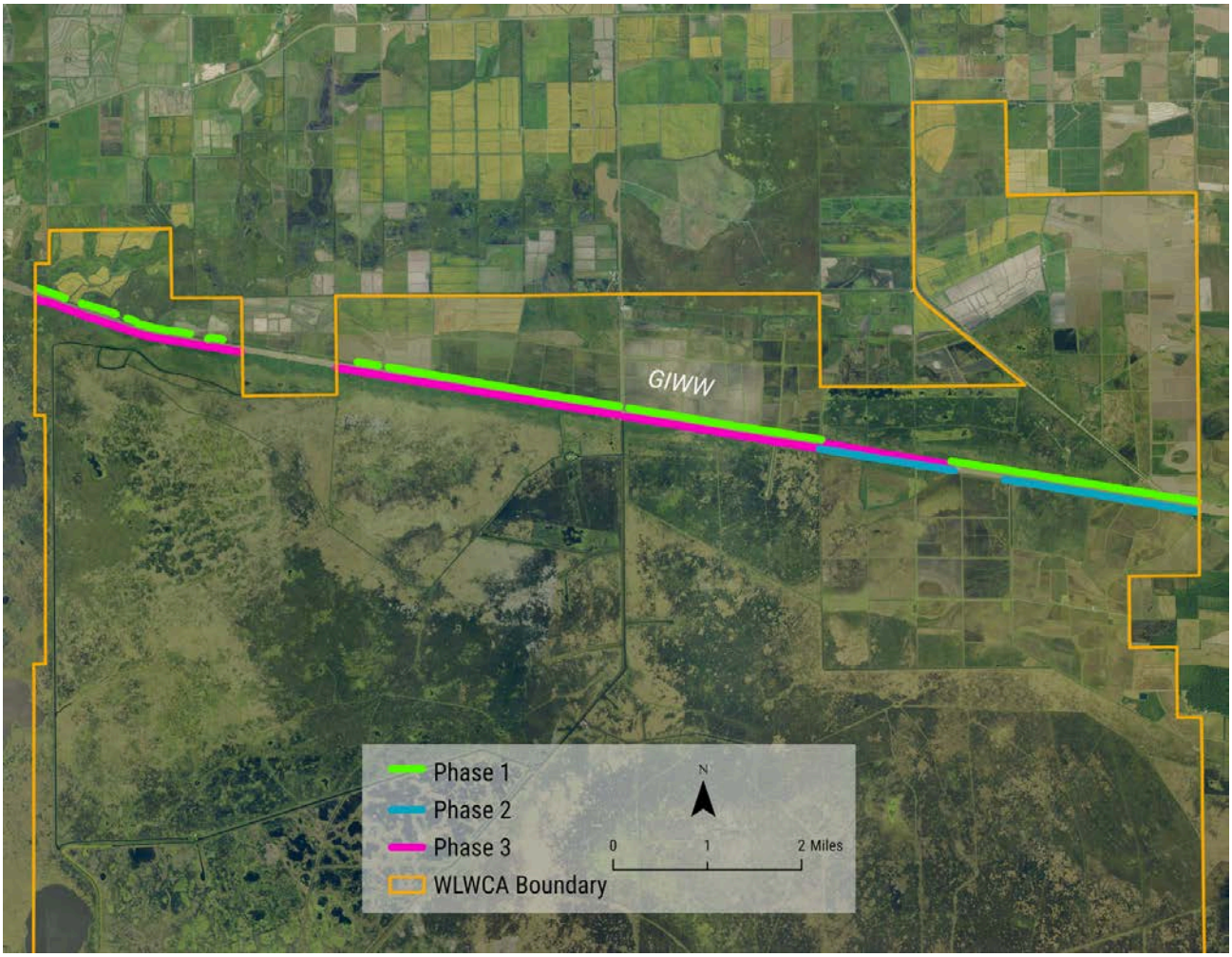


*Figure 8. GIWW shoreline protection phases.*

*Figure 9. This photo from 2013 shows a section of the 1.5-mile rock breakwater built by Ducks Unlimited as part of a shoreline protection project along the GIWW.*

# 2. REPAIRING THE LEVEES OF UNIT 2

Unit 2 of the WLWCA also requires urgent attention due to the significant deterioration of its levee infrastructure. Induced subsidence has lowered the average interior elevation of Unit 2 to three feet below sea level. Past management included prolonged, dramatic seasonal drawdowns in late spring, exposing the organic wetland soils in the unit, causing oxidation and the subsequent loss of elevation over many years.

Interior infrastructure elements, such as impoundment levees, pumps, and gates, enable the managers at the WLWCA to regulate water levels among the five managed units on the property. This hydrologic management helps support waterfowl and other wildlife that depend on specific hydrologic conditions. Management may also include preventing inundation of marshes during rain events and/or high water in the GIWW. Conversely, management may include maintaining elevated water levels during periods where they might otherwise dry out. Too much or too little water can both degrade habitat quality. The infrastructure elements enable the managers at the WLWCA to adaptively manage habitat when responding to extreme weather events and changing ecological conditions. Maintaining levees, pumps, and gates also helps block or regulate saltwater inflow, protecting interior marshes from saltwater impacts and increased erosion caused by wave action and storm surge.

## WHY IT MATTERS

Without functioning levees and pumps, Unit 2 risks becoming a permanently inundated impoundment (lake), rendering it unmanageable for waterfowl habitat. Flooding of Unit 2 would result in the loss of managed marsh habitat and waterfowl resting and foraging grounds.

A key area of concern is the Unit 2 levee near the Texas Petroleum Investment Company (TPIC) facility (Figure 10). This area has suffered erosion from repeated high water events and hurricanes, leaving some areas with less than two feet of protective levee. Additionally, the presence of aging oil infrastructure complicates levee repairs, as pipelines laid across levees prevent the addition of fill material.

*Figure 10. A portion of the TPIC facility is shown in this image with associated pipelines running along the ground and oil and gas infrastructure in the location canal - all of which complicates restoration and maintenance of the Unit 2 levee.*

## EXPLORING SOLUTIONS

Several options for repairing Unit 2's levee system are being evaluated. This process involves close coordination with multiple agencies, including CPRA, LDWF, the Louisiana Department of Conservation and Energy (C&E), and TPIC. The following options are being considered (Figure 11):

**Alternative 1: Restore the levee in its current location**
This would involve working around aging oil and gas infrastructure, which makes construction more difficult and more expensive. This alternative is probably not feasible.

**Alternative 2: Plug the TPIC Access Canal at the Florence Canal and repair the remaining levee**
This is the most affordable option, but it requires TPIC to plug and abandon the wells and remove the associated infrastructure at that site.

**Alternative 3: Build a new levee across the marsh, avoiding the TPIC infrastructure entirely**
This option would sacrifice part of Unit 2, leaving it unprotected. It is also the most expensive, requiring extensive permitting and environmental mitigation; however, it is the most feasible way to ensure the protection of Unit 2 if Alternative 2 is not viable.

The total cost for repairing Unit 2 is estimated to range from $29 to $63 million, with $1 to $2 million allocated for engineering and design, and $28 to $60 million for construction (Table 3).

*Table 3. Cost estimates for three alternatives for restoration of the Unit 2 levees.*

| ALTERNATIVE | ENGINEERING & DESIGN COST | CONSTRUCTION COST | TOTAL COST |
|---|---|---|---|
| ALTERNATIVE 1 | $ 1.5 M | $ 50 M | $ 51.5 M |
| ALTERNATIVE 2 | $ 1 M | $ 28 M | $ 29 M |
| ALTERNATIVE 3 | $ 2 M | $ 60 M | $ 63 M |

## Unit 2 Levee Restoration Alternatives


*Figure 11. Three Unit 2 levee restoration alternatives are depicted in this figure. Alternative 1 involves repairing the levee within its existing footprint, as illustrated in the bottom map. In Alternative 2, at the top, left, the TPIC canal is plugged at the Florence Canal. Alternative 3, at the top, right, includes two phases. In Phase One, a new levee is built across the marsh, bypassing the TPIC canal entirely. In phase two, the remaining area of the Unit 2 levee is repaired after oil and gas extraction has ceased.*

# 3. PROTECTING WHITE LAKE'S NORTHERN SHORELINE

Like the GIWW shoreline, the northern White Lake shoreline is also unprotected from wave action, vessel wake, storms, and other high-water events. During an ecological review in 2024, experts noted that the northern border between White Lake itself and the WLWCA required protection to prevent "catastrophic erosion" (Lancaster, 2024). LDWF reports that the shoreline has receded at varying rates along its 16-mile expanse, estimating the amount of recession to be between 40 and 130 feet over the 20 years between 1998 and 2018 (Figure 12).

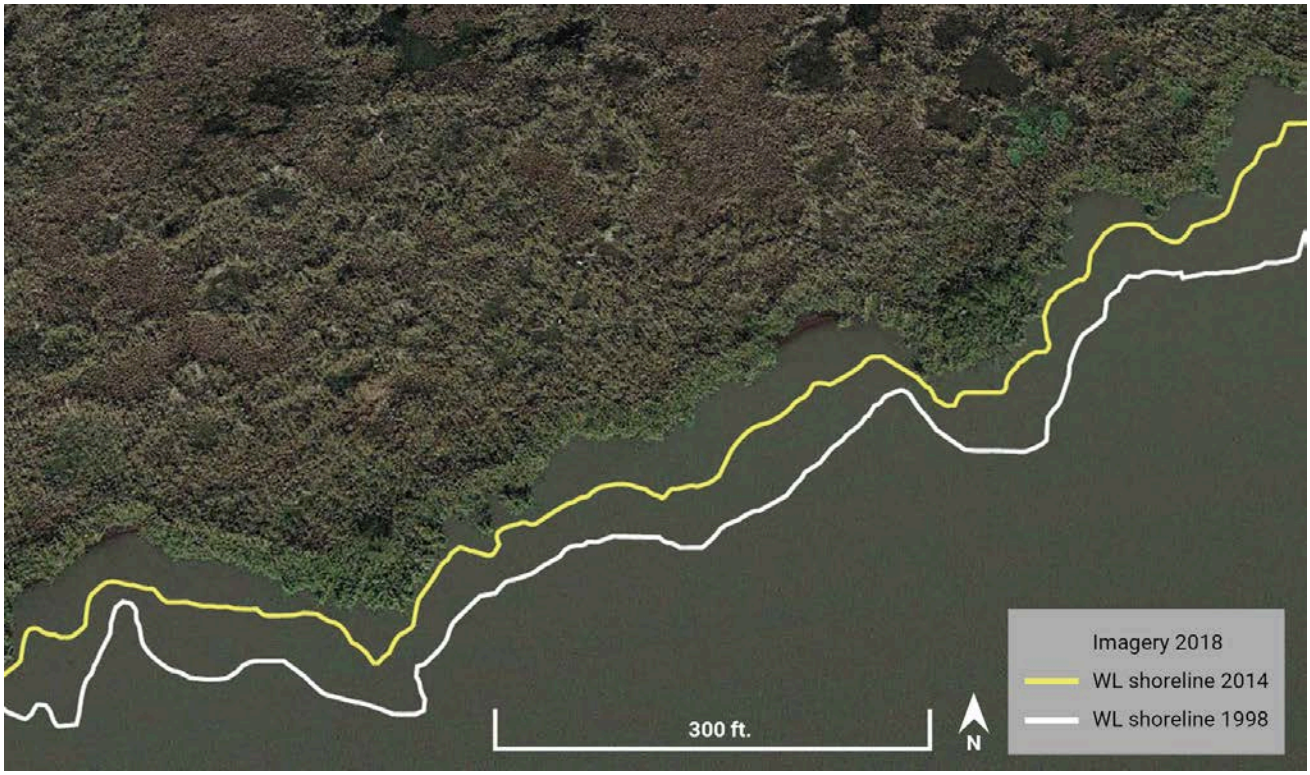


*Figure 12. The recession of the northern shoreline of White Lake between 1998, 2014, and 2018 is apparent in this composite provided by LDWF. The shoreline was delineated at various years using satellite imagery.*

## WHY IT MATTERS

The northwestern edge of White Lake is eroding due to wave action and storm surges. This erosion threatens more than 50,000 acres of valuable wetlands, which not only support wildlife but also act as a natural storm buffer for the nearby communities.

To protect this vital area, the project aims to stabilize the current shoreline, which will reduce land loss and thereby protect the adjacent wetlands. This effort also strengthens the nearby restoration in Unit 2 by providing an additional layer of protection against storm surge and flooding. The project plan includes building rock breakwaters along approximately 7 miles of White Lake's northwestern shoreline (Figure 13). These structures will help absorb wave energy and prevent further erosion—similar to successful CWPPRA projects completed at South White Lake (ME-0022) and Grand Lake (ME-0021).

The estimated cost for this work is approximately $99 million, comprising $3 million for engineering and design and $96 million for construction (Table 4).

*Table 4. Cost estimate for restoration of White Lake's northern shoreline.*

| ENGINEERING & DESIGN COST | CONSTRUCTION COST | TOTAL COST |
|---|---|---|
| $ 3 M | $ 96 M | $ 99 M |

## White Lake North Shoreline Protection


*Figure 13. Planned rock protection features are delineated in blue along the White Lake North Shoreline.*

# Revitalize the Lodge and Island Facilities

The WLWCA island facilities were originally constructed in the early 1950s (Figure 14). While they have been maintained over the years, they are now in urgent need of revitalization to meet the goals of the area and to fully realize their potential as revenue-generating assets. The WLWCA offers a unique Louisiana experience, and its island facilities could serve as a powerful platform to showcase this valuable state resource.


*Figure 14. The Lodge, along with other buildings and facilities, is shown on this map of the island.*

*Figure 15. The Lodge as viewed from the front entrance.*

*Figure 16. The Lodge living room.*

*Figure 17. Guest house bedroom.*

To maximize the functionality of these buildings for additional revenue-generating operations and visitor engagement on the premises, it is recommended that the island campus be redeveloped. This Campus Redevelopment option would include approximately 8,000 square feet of building renovations and 10,000 square feet of new construction. This redevelopment includes the renovation of The Lodge, the boathouse and its attached dock, the locker room building, and the guest cottage. New building construction would include an additional guest cottage and an outdoor kitchen.

Private funding will be raised to support the Campus Redevelopment component of the Master Plan, and total project costs have been estimated for two scenarios:

> **Scenario 1:** The Comprehensive Renovation ($7.4 million) - a renovation of the island facilities in their current configurations and uses.
>
> **Scenario 2:** The Campus Redevelopment ($9.6 million) - a redevelopment of The Lodge and 10,000 square feet of new construction that includes an additional guest house and an outdoor living area.

The Lodge should be the showpiece of the island at the WLWCA, offering an authentic Louisiana experience and a place to relax, congregate, and learn about the vast wetland resources of the surrounding area. To capitalize on this large space, Scenario 2: The Campus Redevelopment is recommended. This option not only increases the capacity for guests to the island, but also includes a conversion to a more functional and communal area. The Lodge's guest bedrooms would be converted to a meeting or conference area (Figure 18). This will enable the facility to be rented by corporations or educational organizations for small group retreats or meetings. The large dining and living areas, kitchen, staff wing, and the Lyndon B. Johnson suite will continue to serve their original function but will be refreshed. Additionally, a new outdoor kitchen and living area, located off the living room, will provide a relaxing outdoor space for guests.

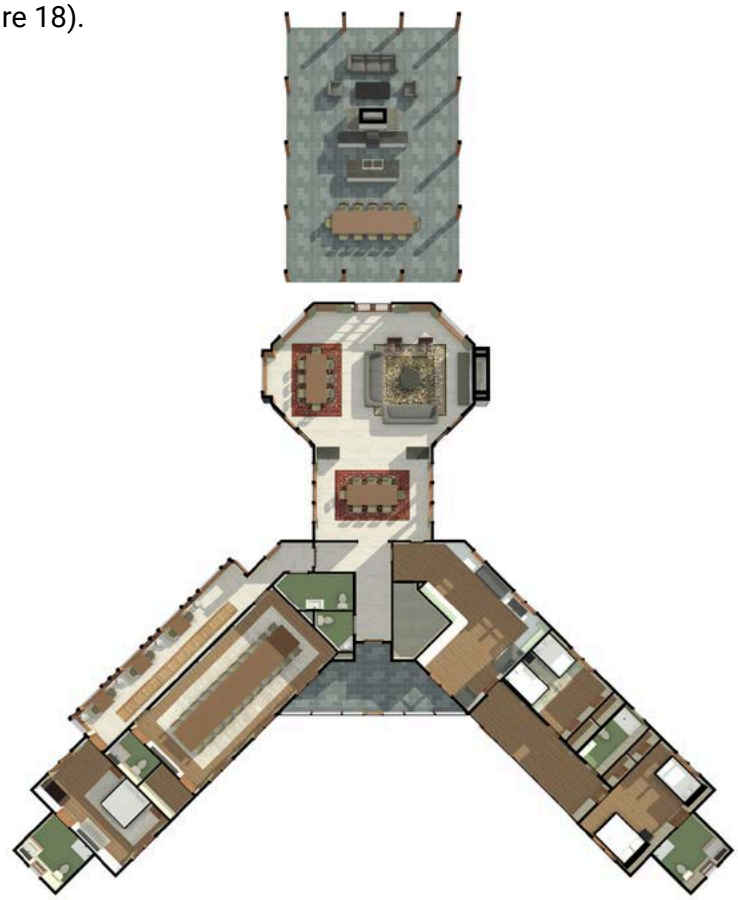

*Figure 18. The Lodge seen from above in the new configuration proposed in the Campus Redevelopment scenario. Guest rooms have been converted to a conference room, and a new outdoor living area has been added.*

The vision for the Guest Cottage in the Campus Redevelopment option (Figure 19) includes a renovation to upgrade its capacity to accommodate 12 guests, up from the current four. It is also recommended that a second Guest Cottage with the same layout be constructed adjacent to the existing one, bringing the guest overnight capacity to 24. The other remaining buildings include the Boat House, Boat Dock, Locker Room, Staff Quarters, Shed, and Pergola. Upgrading these buildings for safety and regulatory compliance is also recommended. The existing Staff Quarters were renovated in 2024 and may not require renovation at this time.

*Figure 19. The new configuration includes demolishing the existing guest cottage and replacing it with two new cottages, and increasing capacity.*

# Develop Revenue Generation Initiatives

The WLWCA generates revenue through various sources, including waterfowl hunts and fishing permits selected by lottery, and property and surface leases, alligator hunting, and alligator egg collection through a competitive bid process. The largest revenue-generating activities by far are the agricultural and hunting leases, providing a combined 83.7% of all revenue (or approximately $991,000) in FY 23-24 (LDWF, 2025). After the leases, alligator egg collection generated about 7.2% of all revenue (or approximately $85,000). Lottery hunts are opened to the public every year, with winning applicants paying $350 to hunt the Unit 1 marsh and $225 to hunt in several adjacent rice fields. In FY 23-24, lottery hunts generated about 4.4% of all revenue (or approximately $52,000). Historically, the WLWCA hosted corporate hunts, which generated $30,000 per event, allowing 12 guests to stay for 2 days and 2 nights and participate in hunting, fishing, and skeet shooting. However, since the facilities were damaged by Hurricane Delta in 2020, corporate hunts have not been offered.

As part of this Master Plan, potential additional revenue opportunities have been identified—most importantly, enabled by the revitalization of The Lodge and surrounding facilities. This transformation is expected to attract outdoor enthusiasts and sportsmen, positioning The Lodge as a premier destination for outdoor activities.

During duck season, LDWF could generate an estimated $2 million by offering guided waterfowl hunting that includes accommodations for up to 24 hunters, chef-prepared meals, and exclusive access to The Lodge and island amenities. In the off-season, The Lodge can be rented for corporate events, such as meetings and retreats, potentially generating an estimated additional $1 million annually. Other activities, such as alligator hunting, ecotours, fishing excursions, skeet shooting, and other outdoor experiences could further increase revenue.

These initiatives could yield additional annual revenue, providing a sustainable financial foundation for maintaining and enhancing the WLWCA property for the long term.

# Establish Partnerships for Long-Term Sustainability

Initially, governance of the WLWCA was overseen by the White Lake Property Advisory Board (the board). The board was created in 2005 to advise the LDWF and the Louisiana Wildlife and Fisheries Commission (LWFC) on the administration, conservation, and management of the property. Composed of appointed members representing environmental organizations, academic institutions, local government, corporate stakeholders, and legislative leadership, the board ensured diverse input into conservation planning. A minimum of seven members were required to have scientific expertise, and at least three were to reside in Vermilion Parish. Board members served without compensation. The board's responsibilities included guiding the development of a conservation management plan, overseeing habitat restoration, promoting biodiversity, and supporting environmental education. (Louisiana Act No. 613, §2, 2004).

Though the board played an advisory role, final authority rested with LDWF, and by extension, the LWFC. The White Lake Property Advisory Board was officially discontinued on August 1, 2016, through Act No. 203 of the 2016 Louisiana Regular Legislative Session. This legislation repealed the statutory authority that had established the board, as it was determined that the board's advisory functions could be absorbed by LDWF, which retained full authority over the management of the White Lake Property.

Several governance structures are possible as a mechanism to support facility and infrastructure improvements and ongoing maintenance through sustainable revenue generation. Potential structures include nonprofit organizations, public-private partnerships, benefit corporations, and public benefit corporations.

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# White Lake Wetlands Conservation Area
# Master Plan

WHITE LAKE
WETLANDS CONSERVATION AREA