Lac Courte Oreilles Band of Lake Superior Chippewa

Wetland Program Plan

2024-2028

Lac Courte Oreilles Conservation Department

Introduction

Background

Lac Courte Oreilles is one of six bands of Lake Superior Chippewa Indians, with its reservation situated in the heart of rural Sawyer County, Wisconsin. It's located approximately 75 miles southeast of Duluth, MN and 140 miles northeast of Minneapolis, MN. The area is traditionally referred to as Odawa Zaagaa'inganing (Lake of the Ottawa) by its people. The Reservation encompasses approximately 76,500 acres, of which roughly 86% is forested consisting of mostly northern hardwoods and pines. There are 3,500 acres classified as wetlands five acres or larger. In 2005, a survey was completed which identified reservation wetlands that were an acre or larger and found that the Reservation had a total of 7,540 acres of wetlands, or nearly 10% of the entire land base.

Generally, soils in the northern part of the reservation are loamy material over sand and gravel outwash that have high hydraulic conductivity. The southern end of the reservation is dominated by loamy or silty materials over sandy loam or glacial till.

The Reservation's topography is nearly flat with local relief due to drumlins, moraines, and other glacial features. These features do not encourage the formation of large rivers, but rather a complex system of short streams and creeks interconnecting lakes and wetlands. Located entirely within the Upper Chippewa River Basin, LCO waters are then subdivided into five more watersheds, Couderay River, Lake Chippewa, Red Cedar Lake, Trego Lake/Middle Namekagon River, and the West Fork Chippewa River.

Climate Change

Sustainable management practices consider the whole ecological spectrum and long-term impacts such as climate change; essential to sustaining human and environmental well-being for current and future generations. (IRMP 2010)

The effects of climate change have steadily increased and are present on the Reservation. Important cultural resources that members had easy access to previously, are restricted or no longer available due to necessary protective measures. One such example is the Paper Birch moratorium which was enacted due to species stress and decline; attributed in part, to a warmer climate. Another reservation resource having a hard time maintaining a stable population for tribal subsistence is wild rice or Manoomin.

Projected regional effects of climate change include, longer growing seasons, more intense heat waves, increased water temperatures, longer durations of stratification, decreased ice cover, increased spring, and winter precipitation with more falling as rain, increased frequency, and intensity of heavy precipitation events, as well as decreased soil moisture (GLIFWC, 2023). Extreme storm events are also predicted for our region. These events may impact the quality of water resources by flash increases of sediment or nutrient inputs during such events or eutrophication due to increased water temperatures. (EPA 2024)

These conditions will both impair and enlist a greater demand for our wetlands. It is anticipated additional protections will need to be implemented to ensure the ecological and cultural benefits that LCO wetlands provide. These issues highlight the need to monitor changes in Reservation wetland conditions over time to respond to climate change in a way that reflects our community's values and our role as stewards for the seventh generation.

Environmental Justice

The Lac Courte Oreilles Reservation is identified by CEJST as a low-income community with high energy costs, asthma, and heart disease, as well as a need for workforce development. Many families residing on the reservation have suffered generational historical trauma from acts of colonial dispossession and subjugation; The story of the creation and impact of northern Wisconsin's 15,300-acre Chippewa Flowage is one example.

In 1854, the Treaty of LaPointe established the permanent homelands for the village of Pahquawong and other Ojibwe in the region. For nearly two decades life seemed to have stabilized for this community as members acclimated to the confinements of a reservation. In 1873, the Lac Courte Oreilles reservation was surveyed in preparation for U.S. governmental plans for allotment, a policy designed to convert tribal land holdings into individual tribal ownership. This policy was disastrous for Pahquahwong and other LCO Ojibwe communities as it effectively divided and alienated one quarter of LCO tribal lands and assets. It also started the conversation of damming the Chippewa river, which was vital to the community for subsistence and travel.

In the late 1880's influential Logging Companies began discussions on installing new dams on the Chippewa River for transporting logs destined for the south. Although these discussions never materialized, the State of Wisconsin enacted legislation in 1911 that called for "a system of storage reservoirs on the headwaters of the Chippewa River and its tributaries for the purpose of producing as nearly uniform flow of water as practicable" as well as alleviating problems for residents of the lower Chippewa River. The most compelling reason to build a dam ended up being the generation of hydroelectricity.

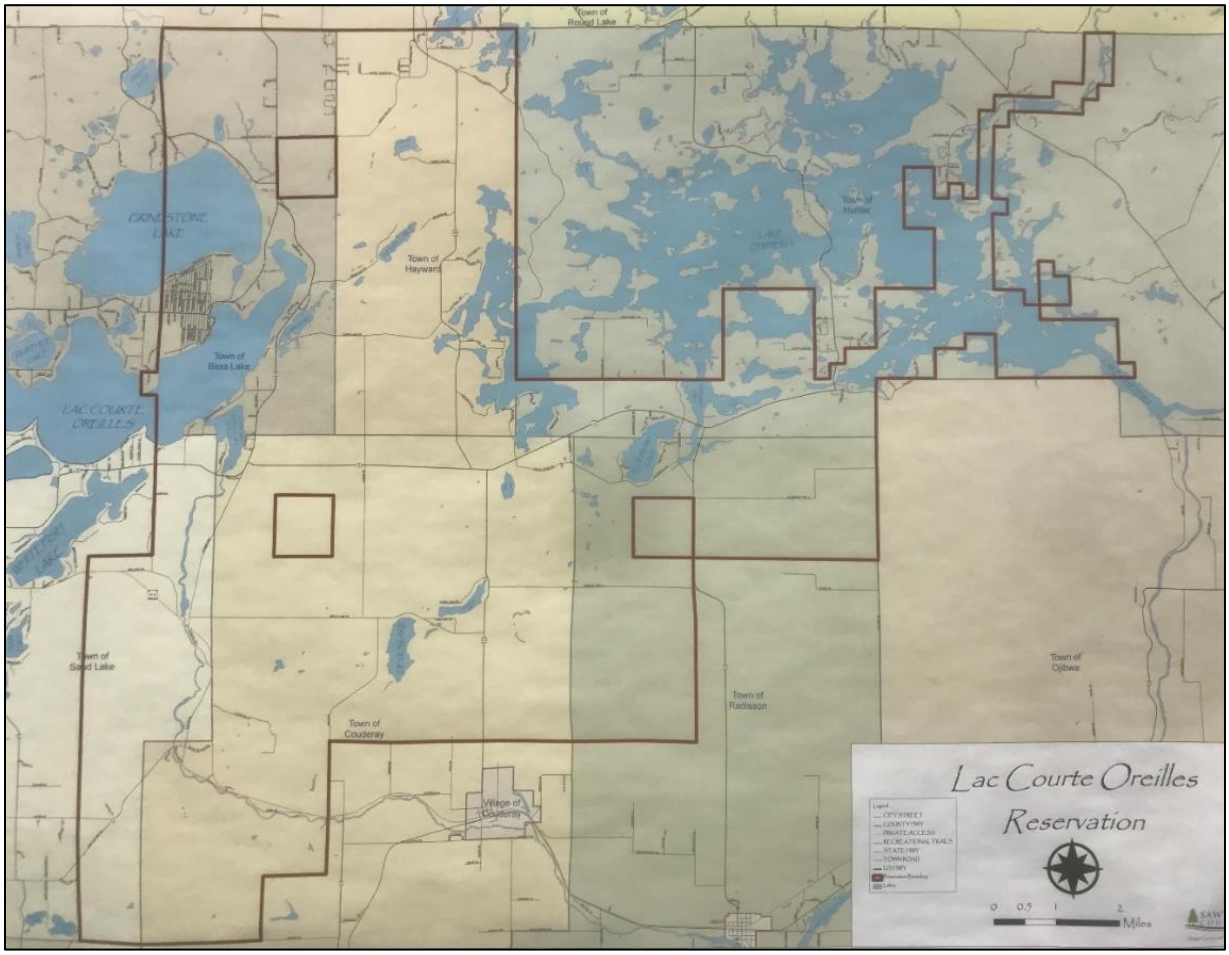
In 1914, Wisconsin-Minnesota Light & Power (WML&P) purchased the rights to develop the Pahquahwong dam, setting the stage for a fight that would not be won by LCO Ojibwe communities. After years of opposition to the dam, the Federal Power Act was passed in 1920. This cleared the way for WML&P to obtain a license to construct the dam and flood tribal lands. Dam construction began in 1922 and contracts were executed by the Power Company for the grim task of removing tribal burials, some hundreds of years old.

On March 23, 1923, the dam was completed, and the gates closed. Over the next three months the flood water crept closer to the old village forcing residents to pack up their belongings and move to higher ground. In the final days, Pahquahwong residents stood on the bluff to the west watching their ancestral village disappear forever. Unable to accept the unconceivable, both men and women wept hysterically.

The aftermath resulting from the flooding of the Chippewa Flowage still has lingering effects on the Lac Courte Oreilles people. Although many "LCO Catholic" graves were reinterred to higher ground from the flooded "Old Post community" to the "New Post community" cemetery, the flood waters came too fast preventing many burials from recovery and now many of our forefathers are entombed under this body of water or randomly scattered throughout the islands and shores. Conservative estimates number the traditional graves left behind at 1500-1900.

This historic loss of tribal lands also devastated Tribal members subsistence lifestyle with the flooding of prime hunting lands and thousands of acres of wetlands. Wetlands supporting many culturally significant plants, like the 25,000-pound Manoomin crop traditionally harvested annually on the Chippewa River.

This program seeks to monitor and restore wetlands, as well as develop regulations for wetland protection. Key components of the program include documenting the trends of climate change in our wetlands, while incorporating community concerns/observations for direct program restoration goals and future projects. Projects will provide opportunities to improve the socioeconomic status of tribal membership through participation in restoration projects (i.e. employment), which will also increase overall capacity to address environmental justice issues in the future.



Wetland Overview

Wetlands on the reservation provide numerous environmental benefits such as nutrient assimilation, stream flow maintenance, groundwater recharge, flood and erosion control, and water quality benefits. They are also important habitats for nesting, breeding, spawning, and feeding areas for many different species. On reservation and Ceded Territory wetlands are important for traditional hunting and gathering practices of traditional food and medicines, like Manoomin, cranberries and Labrador Tea.

LCO wetlands are classified using the Cowardian classification system to be consistent with other tribal and federal entities. The reservation has four main types of wetlands: forested, scrub-shrub, emergent, and aquatic bed. Each of these four types currently has an established Reference Wetland that was identified in the 2005 LCO Wetland conservation Plan and will continue to be used as a standard for the duration of this Wetland Program Plan.

Program Goals

The LCO Wetland Program Plan is a framework of achievable goals spanning the next four years. They are as follows: maintaining a consistent monitoring plan for established reference wetlands, developing an expanded plan to cycle through other wetlands on the reservation, developing the capacity to enable updated wetland delineations of reservation wetlands, and identifying wetland restoration projects.

This plan reflects the US EPA's Core Elements Framework:

- Monitoring and Assessment
- Regulatory Activities
- Voluntary Restoration and Protection
- Water Quality Standards for Wetlands

Core Elements

Monitoring and Assessment

Developing a monitoring and assessment strategy is critical to program success. Previously, the LCO Wetland Program attended meetings and training to learn about current scientific findings and methodologies that ensured best practices were identified and utilized. Implementation of these best practices are included in this WPP and updates the prior 2005 LCO Wetland Conservation Plan. This plan utilizes 2014 Wisconsin Department of Natural Resources Rapid Assessment Methodology (WDNR RAM) and was tested on the 2005 Reference Wetlands. These pilot runs allowed the Wetland Specialist to draft a monitoring and assessment strategy which will be utilized in the work that will take place over the course of the next four years.

Monitoring will consist of collecting consistent data to establish a baseline for reference wetlands and other Reservation wetlands. This includes documenting the trends in Reservation water quality conditions over time. Wetland hydrology sampling will evaluate parameters such as temperature, pH, sediment, and nutrients to analyze potential water quality changes associated with climate stressors. The monitoring plan will initially include only the established reference wetlands from 2005 and then expand beyond that to include all Reservation wetlands and will include the documentation of use by humans and non-humans. Knowing how these things change over time will help inform us of climate change trends on LCO wetlands.

Assessments will be done with the WDNR RAM which is intended to assess condition and functional value based on observable characteristics of individual wetlands. Assessments use general information, Floristic Quality Assessments, and site investigation with aerial photographs to accomplish this. LCO assessments will also include plant surveys to supplement the WDNR RAM and will initially include only the established reference wetlands from 2005 before expanding beyond that to include all Reservation wetlands over time.

LCO's monitoring and assessment strategy includes updating tribal wetland inventory maps. The program currently uses the National Wetland Inventory (NWI) database for wetland location and extent, but there are limitations to using this data. Over the next four years, the program will begin building capacity to self-delineate Reservation wetlands to ground truth, use current mapping technology to update wetland

inventory, and evaluate the ecosystem services provided by tribal wetlands and how they can be connected to overburdened LCO communities if they aren't already.

Monitoring and Assessment					
Monitoring will consist of collecting consistent data to establish a baseline for reference wetlands and other Reservation wetlands.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
Document trends associated with climate change on Reservation wetlands	X	X	X	X	X
Sediment and water chemistry analysis	X	X	X	X	X
Wetland use by humans and non-humans	X	X	X	X	X
Assessment will look at condition and functional value based on observable characteristics of individual wetlands.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
WDNR RAMs - Referance Wetlands	X		X		X
WDNR RAMs - Other Wetlands		X		X	
Updating Tribal wetland inventory maps.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
Build capacity to self-delineate wetlands	X	X	X	X	X
Build capacity to use mapping technology	X	X	X	X	X

Regulatory Activities

Currently the Tribe lacks specific ordinances that relate to a wetland regulatory/permitting program and is only briefly mentioned in the LCO Shoreline Protection Ordinance. To date, tribally controlled wetlands are not subject to imminent threats of development or construction due to the difficulties of access, and other available options. However, it is necessary to prepare for future wetland preservation and protections through administrative codes, as well as evaluate cumulative impacts to resources with consideration of environmental justice concerns. Regulatory Activities will be the primary responsibility of the LCO wetland program working in tandem with the LCO Attorney General's Office, to develop codes/ordinances compliant with Tribal law for Tribal Governing Board review and adoption.

Regulatory Activities					
Review Tribal Codes and protections for wetlands on the Reservation.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
Tribal Code Review	X	X	X		
Recommendations Report				X	
Presentation to Tribal Governing Board					X

Voluntary Restoration and Protection

Two specific wetland goals were identified in the 2005 LCO WCP: a) To achieve zero net loss of quantity, quality, functionality, and biological diversity of wetlands within the exterior boundaries of the LCO Reservation and b) Provide mechanisms for consistent protection, management, restoration, and mitigation of wetlands. These goals are still relevant to this LCO wetland program and WPP. Establishing restoration goals and identifying wetland protections not only acknowledge previous wetland efforts but also enables program objectives to gain fruition and coordinate efforts between future partners.

Restoration goals for the next four years include identifying Manoomin restoration projects, wetland wildlife habitat improvements, and conducting an assessment of non-native plants within Reservation wetlands. Manoomin is a culturally important plant that is found to be "Highly-Extremely Vulnerable" to climate change for several factors like natural barriers, human land use changes, limited dispersal, thermal and hydrological niche, sensitivity to disturbance, dependance on snow and ice, dependance on uncommon landscape features, sensitivity to pathogens, predators, and competition, as well as limited genetic variation (GLIFWC, 2023). Migratory birds use wetlands extensively and there are a few species like Wood Ducks and Common Loons that are found within the reservation that are considered "Moderately-Highly Vulnerable". Climate change is predicted to increase non-native species in the region making it important to understand quantity and type of species that exist within the Reservation boundaries.

Protection goals for this WPP aim to identify high risk wetlands and provide recommendations that can be implemented within the Reservation. Post COVID has seen a dramatic rise in development within Sawyer County with droves of teleworkers and retirees recently moving to the Lac Courte Oreilles area, many within the exterior boundaries of the reservation. This increased pressure underscores the need to identify protections and environmental justice policies that can be put in place now and in the future.

Voluntary Restoration and Protection					
Establish restoration goals.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
Identify wild rice restoration projects	X	X	X	X	X
Wetland wildlife habitat improvement projects		X		X	
Assessment of non-native plants within Reservation	X		X		X
Identifying wetland protections.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
Identify high risk wetlands	X	X	X		
Recommend protections that can be implemented			X	X	X

Wetland Water Quality Standards

Water quality monitoring is the responsibility of LCO Conservation Department's EPA Water Quality and Manoomin Programs. While a large portion of Reservation wetlands do not have at least 12 inches of standing water for the entirety of the growing season, there are numerous culturally important ones that exist. Currently the program has five years of Manoomin water quality data that will be used and

expanded towards LCO Conservations efforts developing LCO's Water Quality Standards. The additional data collection of wetlands which have seasonal standing water will enable LCO Conservation to develop a comprehensive analysis for decision making.

The timelines and goals for the 2024 WPP include:

Wetland Water Quality Standards					
Develop LCO's Wetland Water Quality Standards.					
Actions	**2024**	**2025**	**2026**	**2027**	**2028**
Collect data in wetlands with seasonal standing water	X	X	X	X	X
Analysis of collected data		X	X	X	
Recommendation of Wetland Water Quality Standards					X

References

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