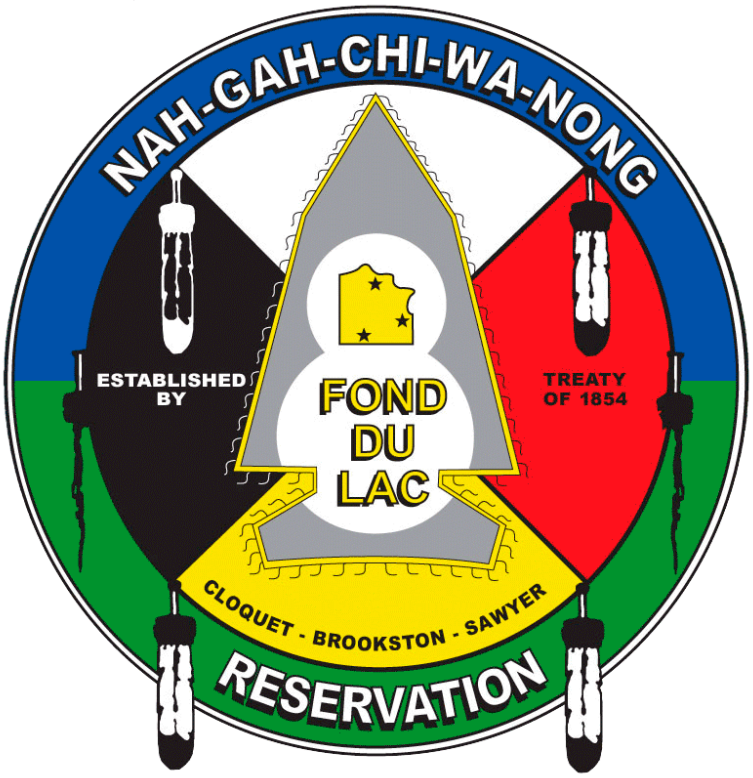
FOND DU LAC RESOURCE MANAGEMENT

2008 INTEGRATED RESOURCE MANAGEMENT PLAN



FOND DU LAC BAND OF LAKE SUPERIOR CHIPPEWA

Fond du Lac: Resource Management
2008 Integrated Resource Management Plan

Draft V

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ii. Signatory page

Prepared By:_____Date _____
Fond du Lac Resource Management Director

Concurrence By_____Date _____
Minnesota Agency Superintendent Bureau of Indian Affairs.

Approved By: _____Date _____
Fond du Lac Reservation Business Committee, Chairwoman
Resolution Number _____ Dated _____

Approved By: _____Date _____
Midwest Regional Director Bureau of Indian Affairs

iv. Vision Statement

The Fond du Lac Resource Management Division is committed to the management,conservation, and sustainability of the natural resources of the Fond du Lac Band in order to protect the environment on the Fond du Lac Reservation and within its treaty areas. The Resource Management Division will use the tools of research, education and outreach with Band Members, partners and stakeholders to accomplish these goals.

vii. Executive Summary

The purpose of the Fond du Lac Band's Integrated Resource Management Plan is to manage the Band's resources effectively for future generations. The Integrated Resource Management Plan will be used to address current and future management options of the Band. The Integrated Resource Management Plan has been developed by a group of people dedicated to the protection, enhancement, and management of Fond du Lac's resources.

This Integrated Resource Management Plan contains information about the Band's past and current management activities and identifies resources that need additional management. The Integrated Resource Management Plan contains alternatives to resource management, as required by the National Environmental Policy Act, which are based on the management objectives. Management activities range from *no action* to *full implementation*, and the alternatives presented reflect that range. The objectives that can be completed under each alternative are displayed in a table located at the end of discussion on alternatives.

Public input was solicited on the draft document, which included a variety of management alternatives. Comments obtained from the community and tribal government were incorporated into the final document, and the hearing process provided a basis for the formulation and selection of the preferred alternative. The preferred alternative is officially approved by Resolution # 1183/08.

Each resource is described in a narrative that was developed in the following format:

- **Description** of the affected environment
- **Background** for that resource
- **Issues, concerns, and opportunities** for that resource
- **Goals and objectives** for that program, with different management alternatives

The final chapter is a summary of the alternatives. The preferred alternative is identified for each resource.

An important purpose of this document is to guide resource managers. Objectives are specific guides for each resource. The objectives should be reviewed frequently and updated as needed. The maximum period before review and update is ten years. All project work will be documented. The Fond du Lac Band is committed to the expansion and development of programs to successfully manage the Reservation's natural resources.

Maps are also included in this plan as a visual aid and resource management tool.

Summary of Preferred Alternatives:

Cultural/Traditional

Alternative 2: A Tribal Historical Preservation Office (THPO) will be employed to better meet requirements of Section 106. Employees will increase from 1 to 2.

Wild Rice

Alternative 2: Improve wild rice harvest by conducting monitoring and restoration projects in the Ceded territories

Water and Wetlands

Alternative 2: Maximize the exercise of tribal sovereignty through the assumption of environmental regulatory authorities under the Clean Water Act: water quality standards, nonpoint source management, permitting under Sections 402 (National Pollutant Discharge Elimination System), and 404 (Wetland Dredge and Fill). These activities are also eligible for federal funding through the US Environmental Protection Agency. Extending the work of the Fond du Lac Office of Water Protection to off-Reservation/Ceded Territories activities (Alternative 3) is not eligible for the same federal program funding, nor do the Band's delegated authorities extend to off-Reservation lands.

Fisheries

Alternative 2: Improve and increase fish population assessments both on the Reservation and within both the 1854 and 1837 Ceded Territories, with the goal of adding harvest opportunities.

Land Resources

An alternative was not developed for land resources. The resource is currently under the direction of the Land Use Committee and the Planning Division, which operates under a separate Land Use Plan.

Forestry

Alternative 2: Ecological Silviculture will be used to guide forest management decisions. A limited harvest zone will be established within a ¼ mile of the wild rice lakes and ¼ mile of the St. Louis River. Major goals under ecological silvicultural include:

- Use of all-aged management where appropriate, especially with Northern Hardwoods
- Reintroduce tree species that are not well represented in their ecological niche (e.g. white pine, red oak, yellow birch).
- Manage most timber types on a biological rotation age not an economic rotation age
- Emphasize management for wildlife and traditional uses of forest products (sugar bush, bark, and berry gathering).
- Guide the forest into a pre-European settlement species composition.

Wildlife

Alternative 3 is the preferred alternative for the Wildlife Program. Increased staffing with additional skilled positions will allow the Program to address more of the needs and opportunities for wildlife in the two Ceded Territories and on the Reservation. This is needed due to the size of Fond du Lac's land area with wildlife interests – 8,000,000 acres – and increasing pressures and changes on wildlife resources.

Air Quality

Alternative 2 will add toxics monitoring and additional stations to better monitor air quality for members' health.

Conservation Enforcement

Alternative 2 will enhance work space to improve efficiency and morale of staff. Enforcement in Ceded Territories would also be expanded. An Administrative Assistant would be hired to track officers' activities and budgets.

Recreational Resources

Alternative 2 will establish a recreation program with emphasis on motorized and non-motorized trails. Establish regulations for motorized trail use.

Energy Resources and Management

Alternative 2 will expedite Fond du Lac's Strategic Energy Plan and capital development project.

Waste Management and Hazardous Substances

Alternative 2 will develop a new waste facility on or off-Reservation and implement curbside pickup for Fond du Lac households. The new facility will help with increased utilization of waste for energy and recycling

1. Introduction

This document is the Integrated Resource Management Plan for the Fond du Lac Reservation. The Code of Federal Regulations requires the development of management plans wherever there is forest land (Code of Federal Regulations, Title 25, Indians, Part 163.11). The Integrated Resource Management Plan incorporates management activities for additional resources as well. Resources and objectives are identified in the selected alternatives. Cooperation between the Band and the Bureau of Indian Affairs and other vital agencies will be necessary to fulfill the intention of the Integrated Resource Management Plan. The Bureau of Indian Affairs authorized and encourages the development of Integrated Resource Management Plans, and both the Band's governing body and the Bureau of Indian Affairs Midwest Regional Director must approve the final Integrated Resource Management Plan.

In developing the Integrated Resource Management Plan, consideration has been given to National Environmental Policy Act. This document will serve both as an Integrated Resource Management Plan and an Environmental Assessment for the Fond du Lac Reservation (authorized by Code of Federal Regulations 40 parts 1500.4 (o), 1500.5(I), and the Council on Environmental Quality Regulation Section 1506.4). However, specific projects or activities that are addressed within this document must follow National Environmental Policy Act compliance procedures and regulation whenever Federal dollars are used. This document will make environmental and legal compliance at the Tribal and Federal level more expedient.

Public Involvement

The Fond du Lac Band of Lake Superior Chippewa has approximately 3,800 enrolled members. As a part of the National Environmental Policy Act scoping requirements, the Fond du Lac Band is required to gather public opinion on natural resources and the environment.

The Integrated Resource Management Plan was developed through a cooperative effort of Fond du Lac natural resource managers in wildlife, wild rice, water, fisheries, forestry, lands, environmental quality, energy, conservation/enforcement and cultural resources. It considers all the resources that are important to Fond du Lac Band members. By consolidating all resources under one plan, and by developing an Internal Project Review Process (see Appendix A), it is designed to identify and resolve potential conflicts between resource management activities.

In addition, the Fond du Lac Resource Management Program conducted a series of public meetings to garner input from Tribal members. Two meetings were held with Elders' groups on the Reservation. An open meeting, widely advertised by

newspaper and in electronic format, was also conducted to allow all Band members the opportunity to listen to and ask questions of resource managers. These three public meetings attracted about 50 tribal members and copies of their questions are included in Appendix B of this report. Finally, the program managers have shared draft copies of this report with the Reservation Conservation Committee. This committee has the responsibility to help set management strategy and to provide guidance to the program.

This Integrated Resource Management Plan is intended to be a management guide for the Fond du Lac managers. It will provide goals and objectives for present and future resource managers, and will provide a framework for project activity planning and decision-making. It will also help resource managers and/or the Reservation Business Committee in the planning of a specific project.

Methodology and Organization of the Plan

Due to significant program expansion with the division and an increase in resource management responsibilities, an updated Integrated Resource Management Plan is essential for enhancing coordination, internal review, efficiency and cooperation between programs. Although Fond du Lac Resource Managers have been working for years to update the original Integrated Resource Management Plan (1990), there has not been a truly unifying framework that could integrate the multiple resource management objectives of the division. This updated Integrated Resource Management Plan will enable the division to consider ways to combine staffing and financial planning to achieve common goals, identify and resolve conflicting goals, and identify common objectives that may achieve multiple resource management goals.

The plan is ordered by chapters intended to identify and compile goals and objectives within each resource category; to analyze classify and organize stated goals in the Alternative table; and to identify any contradictory program goals and provide a process for resolving those inconsistencies. This framework (see Appendix A) integrates the separate management plans and defines an internal review protocol for projects that impact other resource management efforts.

The planning process used for this plan is outlined in A Tribal Executive's Guide to Integrated Resource Management Planning, which includes procedures developed by the Bureau of Indian Affairs–Office of Trust Responsibilities. Fond du Lac Resource Management Division will implement the objectives of the preferred alternative up to available funding levels. The plan will be reviewed by the Fond du Lac Band and the Bureau of Indian Affairs to ensure compliance and revision as often as necessary. Annual reviews are anticipated, although a longer time frame may be appropriate for many programs.

Origins and History

The Fond du Lac Reservation was established under the 1854 Treaty with the United States Government. It is one of six Chippewa Indian Reservations in the State of Minnesota organized under the Minnesota Chippewa Tribe, Section 16 of the Act of June 18, 1934 (48 Stat. 984).

Description of Affected Environment

The Fond du Lac Reservation is located in east central Minnesota, about 20 miles west, southwest of Duluth (see Map on page 2a). The exterior boundary encompasses 101,426 acres, of which 25,087 acres are Trust land and 5,002 acres of Fond du Lac Band Fee land. The remaining 71,337 acres are state, county and private holdings. The trust land status is divided into two types: 8096 acres of tribal/band land and 16,991 acres of allotted land. Land ownership does not include individual Indians who own parcels of land and are in fee status.

The eastern boundary of the Reservation is adjacent to the city of Cloquet, which has population of 11,000 and is a key trade center in the area. The employers in the region are the Fond du Lac Reservation, Saapi Fine Paper Co. and USG Interiors. The community of Brookston is located on the north boundary, and the Sawyer community is located near the southern boundary.

Topography

The elevation on the Reservation varies from 1,200 feet along the St. Louis River to 1,600 feet at the Arrowhead Lookout Tower near Martin Lake. The topographic features vary from rolling hills in the northwest and along the St. Louis River to level and predominantly swamp land in the eastern and southern section. About four percent of the land area within the Reservation can be classified as steep.

Geologically, the Fond du Lac Reservation is part of the Laurentian peneplain and occupies the western part of the Superior Upland. Soil types range from very poorly drained organic soils to well-drained soils with gravel, sandy loam subsoil. Detailed soil surveys are available for Carlton County. The St. Louis County soil survey is currently underway and should be completed in early 2009.

Two major river systems drain the Fond du Lac Reservation. The St. Louis River is the predominated drainage for the Reservation. A small section of the Reservation, around Wild Rice Lake in the south, is drained by the Moosehorn River, which drains into the Kettle River to the south.

Climate

Eastern Minnesota has a continental climate with extremely variable weather conditions possible throughout the year. Temperatures range from extremes of -50 degrees Fahrenheit to +100 degrees Fahrenheit. Mean annual temperature is about +40 degrees Fahrenheit, with winter temperatures averaging zero to +10, and summer temperatures around +70 degrees. Mean annual precipitation is about 26 inches, two thirds of which falls during the period of May to September. Snowfall average is about 50 inches annually and accumulates about two feet in depth in forested areas. The growing season or time between killing frosts averages about 120 days.

4. Natural Resources

A. Cultural / Traditional

A1. Description of the Resource

Cultural resources are often thought of as the archaeological remains of earlier inhabitants. For example, there are burial sites and old villages located near water resources on the Reservation. These are a high priority for identification and protection and the new Land Use Plan identifies a Cultural Preservation District for the entire Reservation (see Lands section).

Traditional Chippewa people used native plants for food, pharmaceuticals, dyes, tools, construction, and basketry. New developments have resulted in many substitutes to replace these traditional native plants. However, many Chippewa people continue to harvest and use native plants in the traditional manner. Traditional resources include maple sugar, berries, medicinal plants, birch bark and basswood bark gathering sites, and native plants that require protection. There is potential for the Reservation to institute a program to buy berries and rice from tribal members and sell the product as *Fond du Lac Reservation grown and harvested by tribal members*, as other bands have done. Some local plants that could be used for natural jams or jellies are high bush cranberries, choke cherries, blueberries, and plums.

Historically, forests provided have provided the Chippewa with food, shelter and even transportation. These uses continue with activities such as wild rice harvesting, basket making, birch bark crafting, and maple sugar collecting. Ash, oak, and willows are used for basketry; sumac is used for ceremonial pipe stems. Retaining sugar bush sites is important to local residents. Today pulpwood and sawtimber are thought of as Forest products, where the traditional Chippewa forest products are bark and twine.

Practitioners of traditional healing arts do not promote commercial or industrial exploitation of their resources. However, some native plants are currently used commercially, while others have the potential for commercial use. Criteria for determining whether a native plant has the potential for commercial development include past traditional value, known traditional processing methods, adaptability of traditional methods to commercial processes, research and development costs, unique qualities of the resource or product, sensory appeal, competition with similar products, and current market trends. Of these, past traditional values and processing methods are the most important factors in determining the success of commercial production.

On some occasions in the past, tribes have shared information with state or federal agencies about the locations of sacred or medicinal plants, and sites

were disturbed within weeks of notification. Protection of these sites must be enforced by the Reservation and the state.

A2. Background on Archeological Resources

At the current time, archeological excavations are not permitted on Fond du Lac lands.
However, locations of known burial grounds have been mapped for their protection.
Bureau of Indian Affairs policy is to immediately stop forest activities such as logging, site preparation or road building when any archaeological artifacts are located. An archaeologist is brought in to evaluate the site. Once the limits of the site are determined, further activities are excluded as necessary.

A3. Issues & Concerns

i. Protecting known sites
ii. Preventing looting of cultural artifacts
iii. Keeping highly sensitive information private

A4. Opportunities

i. Implementing new Land Use Ordinance for Cultural Preservation sites
ii. Cooperating with other tribes on cultural resources
iii. Create a Tribal Historic Preservation Office under section 106 of the National Historic Preservation Act

B. Wild Rice

B1 Description of the Resource

There are five primary wild rice lakes on the Fond du Lac Reservation. The total area on which wild rice is currently present on these lakes is 843 acres. The wild rice areas on the individual lakes are: Perch Lake, 411 acres; Mud Lake, 151 acres; Rice Portage Lake, 131 acres; Jaskari Lake, 79 acres; and Deadfish Lake, 71 acres. These lakes are all within the Stoney Brook Watershed, which is tributary to the St. Louis River.

Wild rice is also present in Side Lake, Cedar Lake, Wild Rice Lake, Simian Lake, and Hardwood Lake. Side Lake and Hardwood Lake are within the Stoney Brook Watershed. Cedar Lake and Simian Lake are within the Simian Creek Watershed. Wild Rice Lake is the headwaters of the Moosehorn River, a tributary of the Kettle River.

B2: Background

The density of mature wild rice varies from season to season, as the ecology of wild rice growth is related to cycles of plant decomposition, the number of growing days, and available nutrients. In addition, wild rice is easily lost as a result of natural events, such as high winds, flooding, and hail.

The majority of the wild rice resource on the Fond du Lac Reservation is in the Stoney Brook Watershed. Beginning in 1916, the Stoney Brook Watershed was adversely affected by the creation of a network of judicial ditches. These judicial ditches drastically altered the hydrology of the watershed, resulting in the loss of over 500 acres of wild rice habitat. The lower water levels that resulted from the judicial ditching allowed competing vegetation to encroach on areas that at one time supported wild rice. Besides the Stoney Brook Watershed, wild rice resources in other areas of the Fond du Lac Reservation are in decline as well. The reason for this decline is primarily due to higher water levels, caused by road building and beaver activity.

B2a: Restoration Efforts to Date

The Fond du Lac Natural Resources Program is responsible for the wild rice management and restoration activities on the Fond du Lac Reservation. The primary method of wild rice lake management consists of utilizing water control structures (dams) to stabilize water levels, ditch maintenance, and beaver dam management. Two technicians work full time on water level management and data collection. The Reservation employs a “Ditch Crew,” two individuals responsible for debris removal, beaver dam removal, and trapping of nuisance beavers. The Program Manager and the other technicians assist on these activities and also work on restoration planning and implementation.

The restoration of the major wild rice lakes on Fond du Lac is dependent on restoring the lakes to their historical elevation and a more natural annual hydrological cycle. The implementation of the *Rice Portage Wild Rice and Wetland Restoration Project* resulted in the construction of four water control structures. These four structures are located at the outlet of Perch Lake, the outlet of Rice Portage Lake, an impoundment that is upstream of Deadfish Lake (commonly known as “Upper Deadfish”), and at the outlet of Deadfish Lake. These structures are used to restore the lake elevations and improve hydrologic function.

The restoration of hundreds of acres of wild rice habitat requires the use of mechanical removal methods. The mechanical removal of competing vegetation is achieved using a sedge mat cutter and two aquatic harvesters. The sedge mat cutter is essentially a barge with two five-foot hydraulically powered cutting blades that provide the initial cut of competing vegetation. The aquatic harvesters are barges outfitted with sickle bar cutters and a conveyor belt system that picks up the plant material cut by the sedge mat cutter and delivers it to an offloading site. The wild rice lakes are aerially photographed twice annually to monitor

success and aid in planning efforts. Currently, Rice Portage Lake, Perch Lake, and Jaskari Lake are slated for mechanical vegetation removal. A description of the wild rice lakes on the Reservation is as follows:

Perch Lake

Perch Lake had abundant wild rice stands for many years. About 411 acres of this 657-acre lake had extensive wild rice stands. This lake was not as severely impacted by the drainage ditch system as most of the other wild rice lakes. A concrete dam was constructed on the lake outlet in 1936, but by the 1960s it was non-functional. For several decades, pickerel weed colonized this wild rice lake and displaced many acres of productive wild rice stands. A new water control structure was built in 1998 at the outlet of this lake. From 2001 to 2003, an intensive pickerel weed removal effort was undertaken utilizing the sedge mat cutter to uproot this nuisance weed, followed by removal of plant material with two aquatic harvesters. In total, an area of 200 acres was given this treatment. Wild rice density in restored areas was initially high, but after four to six years, pickerel weed became dominant again. Future plans are to conduct another attempt at removal beginning in 2008. From past experience, it is apparent that a rotational schedule of plant removal will be needed until such time as the seed bank of the pickerel weed is exhausted. The planned rotation of plant removal will consist of approximately 75 acres cut annually. Regular monitoring, mapping, and assessments of this project will be conducted.

Jaskari Lake

This 79 acre wild rice lake is located downstream of Perch Lake. It is also plagued by the colonization of pickerel weed. Efforts to remove this problem weed with the same methods used on Perch Lake are planned, contingent upon construction of an equipment access landing. The construction of this landing is scheduled to take place in 2008. Approximately 15 acres of wild rice habitat is restorable on Jaskari Lake. A maintenance schedule for plant removal is planned for this lake due to the resiliency of pickerelweed.

Rice Portage Lake

The drainage of this lake resulted in the reduction of the original 634-acre lake to only about 131 acres of open water on which wild rice could grow. The remainder of the lake bottom was exposed or very shallow, and competing vegetation overtook these areas. A water control structure was placed at the outlet of this lake in 1998 to regulate water levels. The hundreds of acres of floating cattail mats, sedges, and other competing plants on Rice Portage are cut up with the Reservation's sedge mat cutter, and collected and removed if necessary with the aquatic plant harvester. Some reclaimed areas are seeded to enhance wild rice growth. The restored areas are monitored, mapped, and assessed each year. As of 2007, approximately 30 acres have been restored to wild rice habitat. This restoration method is time consuming due to the nature of the vegetation being removed, and current water levels. If water levels are raised one to two feet, which would aid restoration, the existing wild rice beds would be

rendered unproductive. At the current water level, the vegetation removal forms floating mud flats that are re-colonized by cattails, sedges, etc. The restoration plan for this lake is currently under review.

Deadfish Lake

The wild rice stands on this 71-acre lake were commonly flooded and destroyed by the judicial ditch system that allowed the summer rains to flow rapidly into the lake. Deadfish Lake drains a large area, so a 71-acre impoundment was created upstream of Deadfish Lake to minimize water level bounce. A water control structure was placed at the outlet of Deadfish Lake to moderate lake level fluctuations. This combination of structures has allowed Deadfish Lake to become a reliable lake for wild rice harvest.

Mud Lake

This wild rice lake is located on a side channel of the ditch system, upstream of Rice Portage Lake. The 151-acre lake can have abundant wild rice stands; however, the ditched outlet is an ongoing management problem. Currently, the near shore areas of this lake are being overtaken by horsetail and water lilies. Beginning in 2006, a winter drawdown of water levels was used to stress the water lilies by freezing their root systems. Due to a lack of access, no mechanical removal of competing vegetation is possible. Also beginning in 2006, the ditched outlet of this lake was sand bagged in the open water portion of the year at a level that is one foot higher than past management levels. Over the next five years, water levels will be managed at this higher level. Measurement of the productivity will be conducted to assess the effectiveness of this change.

Wild Rice Lake

This lake historically produced a harvestable wild rice crop, but higher water levels caused by road building and beaver dams have reduced the density of wild rice in this lake. Water levels are currently managed by the placement of two Clemson pond levelers through culverts under Highway 210, beaver trapping, and dam removal. These efforts, combined with several thousand pounds of reseeding over the past four years, have resulted in higher densities of wild rice. Water level management is planned to continue on this waterbody.

Cedar Lake

This lake currently supports a remnant amount of wild rice. Until the 1970s, this lake supported wild rice, and was the place that beginner rice harvesters were sent to learn. Currently, water levels are too high to support a large amount of wild rice. In 2007, a test plot was seeded with 200 pounds of wild rice seed, as part of a long-range plan to conduct beaver dam removal to lower water levels. In 2008, this test plot area will be revisited to assess the results of the reseeding. If successful, a more intensive reseeding effort will take place, along with continued water level management.

Side Lake

This small wild rice lake produces a consistent crop of wild rice, but is virtually inaccessible. The land around the lake is privately owned, and the stream that drains it is commonly un-navigable due to its small size and the presence of

beaver dams. No active management or official harvest declaration is made for this lake.

Hardwood Lake

Currently a remnant population of wild rice is present on this lake, and it is not harvested. The outlet of this lake is a judicial ditch that is severely overgrown and plugged by beaver activity. The present water levels are not conducive to wild rice growth. This lake is extremely remote and difficult to access. Tribal members who are advisors to the Natural Resources Program on wild rice issues have expressed interest in exploring management options for this lake. Those options would entail reseeding of wild rice and water level lowering achieved by reopening the judicial ditch outlet. This plan is currently under review.

B3: Issues, Concerns and Opportunities

Issues

- The ineffectiveness of current mechanical methods for the restoration project on Rice Portage Lake.
- Mud Lake continues to produce a thin crop of wild rice, despite its potential for higher yields.

Concerns

- Invasive species–both invasive and exotic plant species–are of great concern due to their persistence once introduced. While there are no know exotic species in our wild rice lakes, the risk is high given the uses of these lakes by waterfowl hunters and wild rice harvesters.
- Climate change–weather pattern changes, annual precipitation, and temperature changes–all may impact the viability of our wild rice lakes.

Opportunities

- The Stoney Brook Watershed Study will provide a model that will allow for more effective water level management, and identify opportunities for restoration of the original river system, and abandonment of unnecessary ditch segments.
- The current trend of land purchasing, land use planning, and increased resource management capabilities affords long term protection for portions of the wild rice lake watershed that were unavailable in the past.
- Increased Resource Management Division staff and capabilities may allow for opportunities to partner with other agencies and organizations to restore, protect, and enhance wild rice growth throughout the Ceded Territories.

Goals & Objectives

- At a minimum, maintain the current program and management.
- Increase vegetation treatment acreage per annum.

- Increase funding levels for investment in additional equipment, personnel, and training to maximize management identified in the above “Opportunities” section.
- Improve the mapping and monitoring of water levels on resource lakes and increase water level management activities.

C. Water and Wetlands

C1. Description of the Resource

Fond du Lac Environmental Program staff working on water protection issues include a Water Projects Coordinator, a Water Regulatory Specialist and a Watershed Specialist, all of whom comprise the Fond du Lac Office of Water Protection.

C2. Background

Surface Waters

The Fond du Lac Reservation includes abundant freshwater resources, with over 3,000 acres of lakes (828 acres of wild rice waters), nearly 44,000 acres of wetlands, and 96 miles of rivers and streams. The St. Louis River, the largest U.S. tributary to Lake Superior, borders the Reservation to the north and east, and approximately 95% of the waters of the Reservation lie within its watershed. All of the waters within the Reservation are believed to be relatively pristine. There are no known or permitted industrial or municipal discharges to the waters, except to the St. Louis River.

Historical hydrological modifications to many of the Reservation’s wild rice lakes occurred with the development of the judicial ditch drainage system early in the twentieth century. Currently, a restoration project is underway to gradually restore Rice Portage Lake, one of the most productive rice lakes, to its historical water levels, and to minimize water level fluctuations on Deadfish Lake, thereby enhancing its stands of rice.

Shoreline development and the accompanying potential for increased nutrient inputs (septic discharge and lawn chemicals) and erosion are factors that could affect the water quality of several Reservation lakes. Big Lake, the most heavily developed recreation lake and a popular fishery, has more than 180 homes and seasonal cabins along its shoreline. The development of a casino/hotel complex in 1994, adjacent to Otter Creek, could degrade the quality of this designated trout stream via impervious surface runoff from parking lots and rooftops during storm

events, carrying toxic chemicals and road deicing salt, and contributing heated runoff to a thermally sensitive stream.

By 1998, the Fond du Lac Environmental Program developed and the Reservation Business Committee adopted a set of Water Quality Standards for the surface water resources of the Reservation, setting contaminant criteria and designating uses for 24 lakes and eight streams within the boundaries, and identifying Outstanding Reservation Resource Waters. More recently, the Band has been granted "Treatment as a State" authority by the U.S. Environmental Protection Agency, under the federal Clean Water Act, enabling it to enact and enforce such standards.

As a critical tool for implementing these standards, the Environmental Program designed a comprehensive Water Quality Monitoring Plan. Initially a rigorous three-year monitoring project measuring the physical, chemical and biological quality of 24 lakes and eight streams located within the exterior boundaries of the Reservation, it has since been modified to reflect an ongoing status and trends program. This comprehensive database on Fond du Lac surface waters will also permit the Office of Water Protection to develop numerical biocriteria to replace the narrative biocriteria currently in the tribal Water Quality Standards. The data is also utilized to assess and report on the condition of these water bodies and their attainment of designated and aquatic life uses.

Protecting human health requires monitoring for indicators that measure the safety of eating fish or other aquatic wildlife, or of swimming and boating. Conserving ecosystems requires indicators of diverse, healthy aquatic plant and animal communities, and indicators are also needed to assure that water quality and sediment conditions can maintain those biological communities. The Water Quality Monitoring Plan was designed to assess indicators for both human health and aquatic life.

Atmospheric deposition of mercury is of particular concern in this boreal forest and wetland ecoregion, as biochemical processes enhance mercury availability to the aquatic food chain, bioaccumulating to levels that are hazardous to top predators and humans. Consequently, fish caught in Reservation waters can be dangerously high in tissue mercury content. Criteria for the Water Quality Standards were calculated under an assumed fish consumption rate that is much higher than the state of Minnesota or the Great Lakes region assumes for the general population, as some Band members rely upon fish at a subsistence level in their diet. The Environmental Program has completed several projects that assessed contaminant levels (mercury, PCBs and lead) and characterized sediments of twelve Reservation lakes and the St. Louis River. In 2001, Fond du Lac partnered with the Minnesota Department of Health to collect and analyze fish tissue from lakes and the St. Louis River (preferred fishing waters), using the data to develop specific fish consumption advisories.

In 2004, Fond du Lac completed its first Nonpoint Source Assessment Report and applied for Treatment as a State for non-point source authority. The Office of Water Protection received its first base program funding in 2005 and is using that support to implement several projects under the following categories: hydro modification, timber harvesting, roads and urban development. The Resource Management Division is also engaged in a major hydrologic study of the Stoney Brook watershed in partnership with Natural Resources Conservation Service and the U.S. Geological Survey. Ultimately, a Stoney Brook Watershed Management Plan will be developed to account for multiple resource management objectives, including wild rice production and stream and wetland restoration.

The Office of Water Protection also has identified aquatic invasive species as a major concern for protecting the Reservation's water resources. The nonpoint source program provides for broad education and outreach to the Reservation community and affected stakeholders, in order to minimize nonpoint source impacts to Fond du Lac water resources.

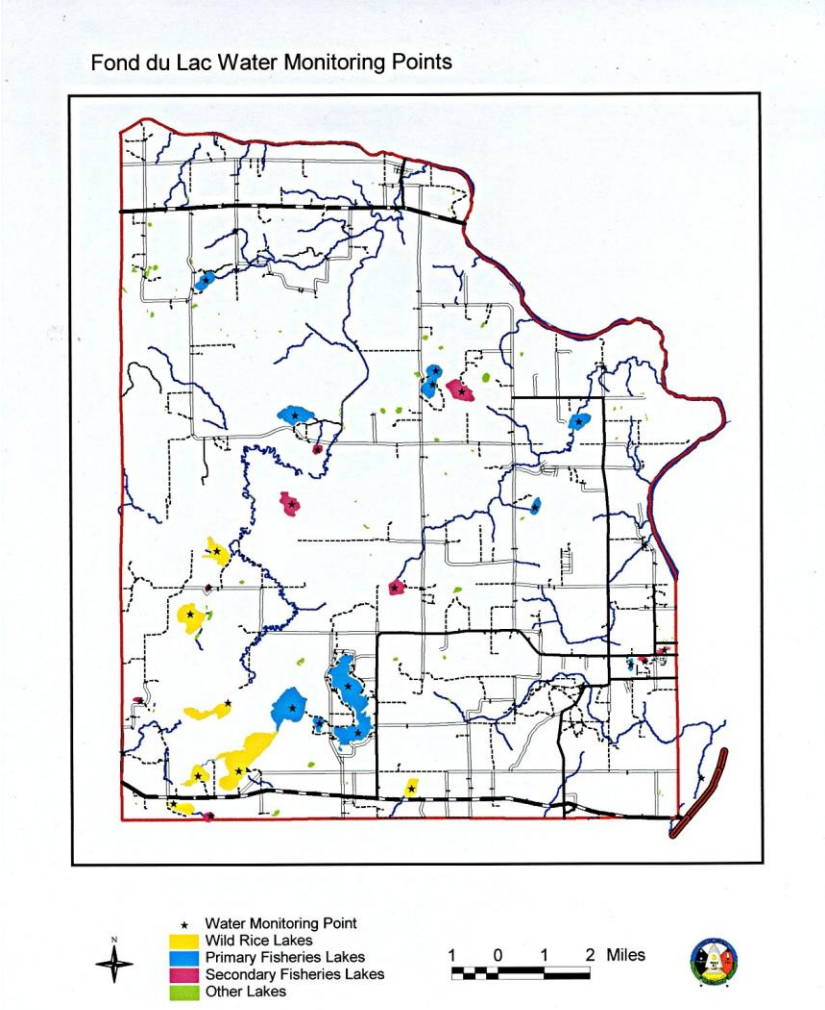

Figure 1 Monitoring Wells

Ground Water

Confined sand and gravel aquifers are the major source of drinking water for the Reservation, as described in the U.S. Geological Survey report *Water Resources of the Fond du Lac Indian Reservation, East Central Minnesota*. However, the crystalline bedrock aquifer underlying the glacial drift has progressively become a more significant source of domestic water supply.

The primary objectives of the Environmental Program are to ensure the protection of valuable ground water resources through the continued closures of abandoned wells, the delineation of protection zones for wells contributing to community water systems, and the development of a wellhead protection plan for the Reservation.

Fond du Lac has used funds from several U.S. Department of Agriculture Environmental Quality Incentives Program grants, as well as Environmental Protection Agency funds, to properly seal nearly 90 abandoned drinking water wells. However, there are still an undetermined number of abandoned wells that will need to be properly closed to protect the Reservation's ground water resources. As funding becomes available, Fond du Lac will continue to seal abandoned wells, keeping accurate records of closure activities and georeferencing the locations of all abandoned wells and their status (sealed or in need of closure). This geographic information will be incorporated into the Resource Management Division's GIS database. The Environmental Program will continue to coordinate abandoned well closure activity with the Forestry Program, contractors and/or the Fond du Lac Heavy Equipment and Construction Division, and georeferencing of well locations as an integral part of ground water protection for the Reservation.

While some areas of the Reservation are hooked up to the city water supply and private wells serve most of the Reservation homes, four community water systems supply drinking water to the homes in those residential areas. Data gathered from multiple sources was used to model groundwater flow patterns and rates, calculate time of travel, and delineate protection zones around the four community water systems. Delineation of wellhead protection areas for these community water systems was the first step in the development of a comprehensive Wellhead Protection Plan for the Reservation. When the data and analysis and modeling for the wells serving the four community water systems was completed, these wellhead protection zones were mapped and made available to other Reservation programs and departments whose activities could impact ground water quality.

The Fond du Lac Environmental Program also prepared a Ground Water Protection Plan and a Source Water Protection Plan for the public drinking water sources on the Reservation. The Ground Water Protection Plan included a contaminant inventory and data from targeted ground water sampling, and concluded that the Reservation's ground water resources were of high quality. The purpose of the Source Water Protection Plan is to protect the quality of Fond du Lac's drinking water by identifying and managing potential sources of contamination and threatening activities that occur within the source protection area. It is a working document that will be routinely reviewed and updated to remain current, active and viable.

Wetlands

Wetlands are defined as areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (U. S. Army Corps of Engineers. 1987. Wetlands Delineation Manual).The Fond du Lac Reservation boundary encompasses 101,153 acres, of which 43,264 (43%) are wetlands. These wetlands consist of forested (67% – black spruce, tamarack, or black ash dominant; includes bogs), scrub shrub (29% – alder or willow dominant), emergent (3% – sedge, reed canary grass, or cattail dominant; includes wild rice lakes), and open water (< 1% – coontail dominant). Many wetlands on the Reservation have been degraded due to human activities, particularly by ditching, road construction, agricultural and silvicultural runoff, and commercial and residential development.

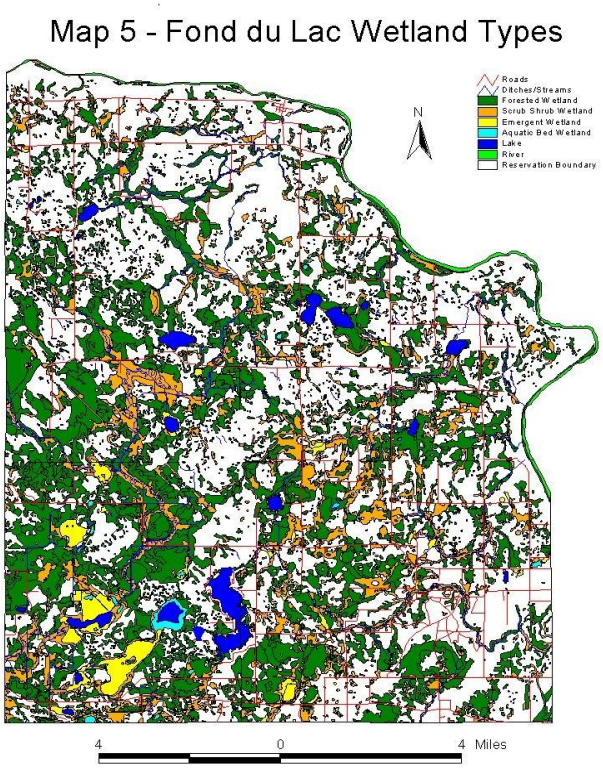

Figure 2 Fond du Lac Wetlands

The Environmental Program has a Wetlands Conservation and Protection program that has been active since October of 1998. A Wetlands Protection and Conservation Plan was adopted by the Reservation Business Committee in October 2000. The plan was expanded, updated and adopted by the Reservation Business Committee in February 2006 to become the Fond du Lac Joint Comprehensive Wetlands Protection and Management Plan. The adoption of this plan led to the development and adoption by the Reservation Business Committee of the Fond du Lac Wetlands Protection and Management Ordinance in June 2006. Since then, the Fond du Lac Office of Water Protection has reviewed, processed and granted 16 Exemption Certificates and three Wetland Activity Permits. Staff have also conducted five pre-application meetings, and investigated four violations, two of which were voluntarily restored by the violator.

Through an Environmental Protection Agency Direct Implementation Tribal Cooperative Agreement (DITCA), Fond du Lac Office of Water Protection staff will obtain credentials through the Environmental Protection Agency to conduct wetland permit inspections on the Environmental Protection Agency's behalf. Tribal inspectors will serve as the "eyes and ears" of the Environmental

Protection Agency by conducting inspections and submitting report. The Environmental Protection Agency will determine the appropriate follow up if any violations of permit conditions are encountered during an inspection.

Through an Environmental Protection Agency Wetlands Program Development Grant, the Office of Water Protection has been working with a contractor to develop a Comprehensive Wetlands Assessment and Monitoring Plan. The development of this plan consists of researching various existing wetland assessment methods and testing the most appropriate ones on Reservation wetlands. The plan will include methodology, standard operating procedures, wetland study sites, and other information required to implement an on-going wetland monitoring program managed by Fond du Lac staff.

The Office of Water Protection has also partnered with the U.S. Fish and Wildlife Service – National Wetland Inventory and Virginia Tech's Conservation Management Institute to continue a pilot program to inventory all of the U.S. Geological Survey topoquads on the Reservation. The Cloquet and Iverson quads were completed in 2005. The Brookston, Brookston NW, Martin Lake, Saginaw, and Sawyer quads remain to be inventoried.

Storm Water

Erosion and sedimentation resulting from storm water can cause significant impact to surface waters. On the Reservation, construction activities have the potential to be a major contributor to these impacts.

Since March 2003, the Office of Water Protection has been providing erosion and sedimentation control best management practices oversight of construction projects on the Reservation. This is the result of the Environmental Protection Agency's National Pollutant Discharge Elimination System Phase II Construction Storm Water regulations as part of Section 402 of the Clean Water Act. In addition to this voluntary oversight, the Office of Water Protection has also entered into a Storm Water Direct Implementation Tribal Cooperative Agreement to conduct inspections of construction sites impacting one acre or more. Two tribal inspectors have been trained and credentialed by Environmental Protection Agency to conduct inspections on the Reservation. More than 13 projects are scheduled for inspection during the construction seasons of 2007 and 2008.

In addition, the Office of Water Protection has been developing the required Storm Water Pollution Prevention Plans for nearly all projects conducted by the Reservation, as well as occasional projects conducted by individual Band members.

C3. Issues, Concerns, and Opportunities

The following represent the various issues, concerns, and opportunities regarding water and wetlands resources on the Reservation (note: this is not an exhaustive list):

- The Fond du Lac Office of Water Protection should collect physical, chemical and biological data from other Reservation water bodies as a baseline characterization of those resources.
- The St. Louis River is threatened by proposed discharges from new taconite and sulfide mineral mining projects upstream of the Reservation. The Fond du Lac Office of Water Protection is tracking the environmental review and permitting processes for several of the largest projects, and providing input to those decisions.
- Proposed reductions from some large regional mercury air emissions sources may result in lower mercury fish tissue concentrations, but there is uncertainty about the impacts to mercury in fish from the new mining discharges. Fond du Lac needs to continue to monitor fish tissue periodically to track trends in mercury concentrations, and provide information to the community on safe fish consumption guidelines.
- Nonpoint source impacts continue to be the major source of impairment to Reservation water resources.
- Construction of a wastewater collection and treatment system to serve the entire Big Lake community (tribal and non-tribal properties), while politically complicated and relatively expensive, would provide the most effective means for protecting Big Lake from nutrient enrichment and pathogens from failing septic systems.
- Other opportunities for lake and stream restoration projects have been identified through the water quality monitoring and assessment program.
- The National Wetland Inventory for the Reservation is now out of date and needs many changes both in coverage and coding.
- Specific wetland water quality standards need to be incorporated into the existing Reservation water quality standards.
- Wetland biological assessment methods and monitoring should be developed to assess the health of Reservation wetlands.
- Degraded wetlands need to be identified and evaluated for possible restoration.
- A wetland mitigation bank should be established (using restored wetlands) for use in mitigating housing and other projects of the Reservation.
- A Clean Water Act Section 404 permit program should be established.
- A sweet grass (*Hierchloe odorata*) habitat restoration project could be conducted.
- The extent and condition of cedar swamps (Northern white cedar *Thuja occidentalis*) should be evaluated. The forest inventory has identified cedar on FDL owned lands. This is a possible area of collaboration with forestry. Are there possibilities for management activities. Right now forestry is not manging cedar due to the inability to regenerate cedar.
-

- A project to monitor and control wetland invasive plants should be established.
- Develop a Storm Water Ordinance to further protect surface waters on the Reservation.

Goals and Objectives

- Continue to protect ground water/drinking water resources of the Reservation.
- Continue with current water quality data monitoring programs.
- Develop nutrient and biological criteria for surface waters.
- Update Reservation-specific fish consumption guidelines.
- Successfully construct and operate a wastewater collection and treatment system for the Big Lake community.
- Continue to implement the tribal nonpoint source management plan.
- Complete and implement the Stoney Brook Watershed Management Plan.
- Seek funding to implement lake and stream restoration projects.
- Continue to actively participate in environmental review and permitting for mines upstream of the Reservation and within the 1854 Ceded Territories, in order to raise awareness of tribal concerns and treaty rights, and protect critical resources.
- Continue to press for mercury emissions reductions, both at the state and national level.
- Develop shoreline protection guidelines for development occurring on Reservation lakes.
- Delineate zones of protection for community water systems on the Reservation.
- Continue to seal abandon drinking water wells to protect aquifers.
- Continue administration of the Wetland Protection and Management Ordinance; revise the ordinance as needed.
- Continue application efforts for Treatment in the same manner as a State for the Wetlands Regulatory Program.
- Assume Clean Water Act Section 404 permit authority on the Reservation.
- Develop a Comprehensive Wetland Assessment and Monitoring Plan; implement and maintain the plan.
- Develop a comprehensive wetland restoration and mitigation banking plan.
- Develop and implement an invasive plant monitoring and management plan.
- Develop, gain Reservation Business Committee approval, and implement a Storm Water Ordinance.
- Begin application efforts for Treatment in the same manner as a State for a Storm Water Regulatory Program.
- Assume Clean Water Act Section 402 permit authority on the Reservation.
- Increase staff to allow proper separation of regulatory review and project

development assistance.

D. Fisheries:

D1. Description of Affected Resource

The majority of the lakes on the Fond du Lac Reservation are small, shallow bodies of water, more suitable for growing wild rice than for the management of any significant fisheries. Many of these lakes do have fish, however, with populations consisting primarily of northern pike (*Esox lucius*), largemouth bass *(Micropterus salmoides*), panfish (*Lepomis sp.*), yellow perch (*Perca flavescens*), and bullhead (*Ameiurus sp.*). Due to relatively shallow water, high abundance of aquatic macrophytes, and substrates composed predominantly of decaying organic matter, many of these Reservation lakes are incapable of supporting any naturally reproducing populations of walleye (*Sander vitreus*). These lakes are, however, conducive to the production of northern pike, panfish, largemouth bass, and bullhead but are also subject to frequent winterkill.

Most of the lakes on the Reservation do have some type of public access, though most are strictly carry-in accesses. Big Lake and West Twin Lake do have public boat access.

The fishery of the St. Louis River is by far the most important one for residents of the Reservation. At least four game fish species can be found in appreciable numbers; northern pike, walleye, smallmouth bass (*Micropterus dolomieu*), and channel catfish (*Ictalurus punctatus*). The channel catfish fishery remains the highest priority of Fond du Lac Band members who regularly use the St. Louis River's fishery resources. Access to the St. Louis River, both by boat and shoreline, is not limited.

D2. Background of the resource

Stocking of walleye fry and fingerlings has been attempted in both Big Lake and West Twin Lake. Repeated stockings have failed to produce populations capable of supporting themselves through natural reproduction. Data does suggest that at least some stocked individuals have survived and contributed to a marginal fishery, though evidence of natural reproduction has not been observed. Both lakes lack significant spawning habitat. Walleye are also reported in Lost Lake. While numbers do not appear to be significant, at least some successful natural reproduction must be occurring, as no records indicate this lake has been stocked in the recent past.

Regular stocking of lake sturgeon eggs and fry into the Cloquet River to reintroduce lake sturgeon into the St. Louis River watershed has been attempted since 1998. The species was identified by the Band as a priority for management actions. Plans are underway for the development of a hatchery to raise sturgeon fry and fingerlings. It will be located along the Stoney Brook River. The hatchery might be used in the future for raising additional fish species.

Of the many streams within the boundaries of the Reservation, several have been reported as historically having resident, self-reproducing trout populations. Very little data is present to suggest that there are still significant numbers of brook and brown trout present in such creeks as Big and Little Otter Creeks, Martin Creek, Fond du Lac Creek, and Stoney Brook. Beaver activity, the subsequent warming effects on the waters behind beaver dams, and habitat alterations (e.g., culverts) have probably lead to the decline in these trout populations. The Fond du Lac Natural Resource Program and the U.S. Fish and Wildlife Service have both stocked brook and brown trout eggs and fingerlings in the past, which has probably resulted in several of these populations continuing to survive in low numbers. It is unlikely that natural reproduction is contributing to any of the populations.

Much can be done to improve the trout populations on the Reservation. Stream improvements and the removal of beaver and their lodges and dams may improve habitat for resident trout populations. Stocking may need to be a part of future management activity, but shouldn't be random and haphazard as past stocking activities appear to have been. In addition, regular assessments need to be performed following any stocking efforts.

The fisheries in the 1854 and 1837 Ceded Territories are numerous and diverse, from small trout streams in the Superior National Forest, to lakes such as Mille Lacs that are capable of sustaining large walleye populations, to the salmon and trout of Lake Superior. Walleye and northern pike appear to be the most important species to Band members, and are relatively abundant throughout both of the Ceded Territories. A high priority for Band members is a concentrated subsistence harvest at Mille Lacs Lake, where a regular spring harvest season occurs.

The Resource Management Division currently has access to a pool of several technicians who devote their efforts towards fisheries, wild rice, forestry, and wildlife issues. The on-Reservation manager oversees the entire on-Reservation Program, concentrating on natural resource issues as they arise.

The Resource Management Division currently has one full time fisheries biologist in the Ceded Territory Program, with access to and cooperation from the technician pool. The focus of the Ceded Territory Fisheries Program is on walleye assessments and population monitoring, including both spring adult and

autumn age-0 recruitment surveys. Additional assessment work has been done on local rivers and streams.

D3. Issues, concerns, and opportunities

The following issues, concerns and opportunities have been identified for the fisheries section of the Integrated Resource Management Plan:

- Routine Monitoring of the Fisheries and Habitat
  - Spring and fall electrofishing surveys for walleye
  - Summer net assessments of lakes
  - River and stream surveys for trout and non-game fishes
  - Habitat surveys in conjunction with fish assessments
- Restoration of lost / declining fisheries
  - In-stream habitat improvements
  - Lake shore habitat improvements
  - Stocking programs
- Mercury and other heavy metals in contaminated fish
  - Public education
- Spread of exotics (including, but not limited to, Ruffe, Carp, Round Goby, Rusty Crayfish, Chinese Mystery Snail, Zebra mussel, Eurasion Watermilfoil, Spiny Waterflea, and Viral Hemorrhagic Septicemia [VHS])
  - Public education
- Increase Harvest Opportunities
  - Spring spearing / netting seasons for walleye
  - Fall netting for walleye and other game fishes
  - Netting opportunities in Lake Superior

Goals and Objectives

Goal: Develop a long-term database for the fisheries of the Fond du Lac Reservation and the 1854 and 1837 Ceded Territories so that management decisions can be based upon current data.

- Perform regular assessments of the fisheries and aquatic habitat to build long- term data sets.
- Cooperate with and coordinate activities with other agencies, i.e., Minnesota Department of Natural Resources and the 1854 Treaty Authority.
- Identify fish stocks and populations that might benefit from supplemental stocking or reintroduction, both on-Reservation and within the Ceded Territories.

Goal: Provide greater harvest opportunities:

- Initiate off-Reservation spearing and netting activities in the 1854 Ceded

Territory, including both inland walleye and Lake Superior salmon, trout, herring, and whitefish stocks.
- Monitor increased harvest to prevent any over-exploitation of stocks.
- Develop a cost-benefit analysis of a new fish hatchery for lake sturgeon.

E. Land Resources

E1. Description of Resource

Under the terms of the Treaty of 1854, the Fond du Lac Reservation was established as containing at least 100,000 acres. Over the years, and especially since the Allotment Act that divided the previously communally owned Reservation into individually owned tracts, Indian owned land within the Reservation boundaries has dwindled. Currently, the Band and/or the Minnesota Chippewa Tribe own about one-quarter of Reservation lands, or the land is held in trust by the federal government for the band/tribe.

Fond du Lac Reservation encompasses 101,426 acres. This includes the Black Bear Casino Resort and the Fond du Luth Casino sites. Indian owned land within the Reservation is as follows:

1. Band and Tribal lands – 8,096 acres, including the Fond du Luth Casino in downtown Duluth and the Black Bear Casino Resort complex.
2. Allotment lands – 16,991 acres of land originally owned by individual Fond du Lac enrollees around the turn of the century. Multiple descendants now own the land, which is not under the direct control or management of the Band unless the Band owns 51% or more of a given parcel.

Other major landowners within the Reservation are:

1. The University of Minnesota, which owns approximately 2,700 acres at its Cloquet Forestry Center.
2. Thousands of acres of land are tax forfeit to the state of Minnesota and are under the management of Carlton County and St. Louis County.
3. Potlatch is the largest single private landowner with tracts scattered throughout the Reservation.

E2. Background on the Resource

Allotments

In 1887, the General Allotment Act (or Dawes Act), sponsored by Massachusetts Senator Henry L. Dawes, was signed into law by the President of the United States. The act gave each Indian a certain number of acres of land based on head-of-household status, age, and intended land use. Allotments ranged from 40 to 160 acres per person. The land was held for a statutory period by the U.S. government and could be sold by the Allottee after 25 years or placed into "Fee" or taxable status. If the taxes weren't paid, the land became tax forfeit and defaulted to the county or state. Many criticize the act as an attempt to assimilate Native Americans by forcing the adoption of a more Western lifestyle.

The effect of the act nationally was to remove nearly two-thirds of lands within Reservation boundaries from Indian ownership. It also led to highly fractionalized ownership when land was divided among a deceased owner's heirs. It's not uncommon for a single 40-acre allotment to have dozens or even hundreds of owners, each owning a small percentage or part of a percentage of the interests.

Managing such fractionalized lands is difficult. In order to gain permission for management activities or projects, the majority of interests must agree to the project by signing a Power of Attorney form. Distributing revenues from some projects can also pose a problem. Tracking ownership and probates and keeping records of current contact information can be very time consuming and difficult.

ILCA – Indian Lands Consolidation Act

In the 1980s, recognizing the need to manage Indian lands, the Indian Lands Consolidation Act was passed. The act sought to buy small, fractionalized interests from Allottees. For a variety of reasons, the act was challenged in courts and rewritten in 1984, 1997, and again in 2000. Today, the act still pursues small, fractionalized interests and buys those interests at fair-market value from the Allottees. Federal purchase the small interests in behalf of the affected Band. Revenues from leases, timber sales, etc. are used to pay off the Federal "loan". As a result, the Fond du Lac Band now has a 50% or greater interest in 38% of the allotments.

Land Use Plan

The Land Use Plan for the Fond du Lac Band of Lake Superior Chippewa was approved by the Reservation Business Committee in August of 2007. The plan included a recommendation that lead to the adoption of a Land Use Ordinance, the purpose of which is (from section 102 of the Land Use Ordinance):

- To reflect the continuing commitment of the Fond du Lac Band and to protect, preserve and enhance the resources in a manner which is

consistent with, and reflective of, traditional Anishinabe values;

- To administer the standards set forth in this Ordinance in a uniform manner over all land within the Fond du Lac Reservation, which is subject to the jurisdictional authority of the Fond du Lac Band.
- To protect the environment and residents of the Fond du Lac Reservation through the regulation of commercial and industrial development, non-residential use, residential development, Reservation of sensitive areas, and shoreland areas.

Figure 4 shows the Fond du Lac land zoning districts. The zoning districts are 1. Cultural Reservation District (CP), 2. Residential District (R), 3. Mixed use district (M), 4. Natural Resource Management District (NR), 5. Commercial District (C), 6. Industrial District (I), 7. Parks and Recreation (PR) and 8. Shore land overlay (SO)

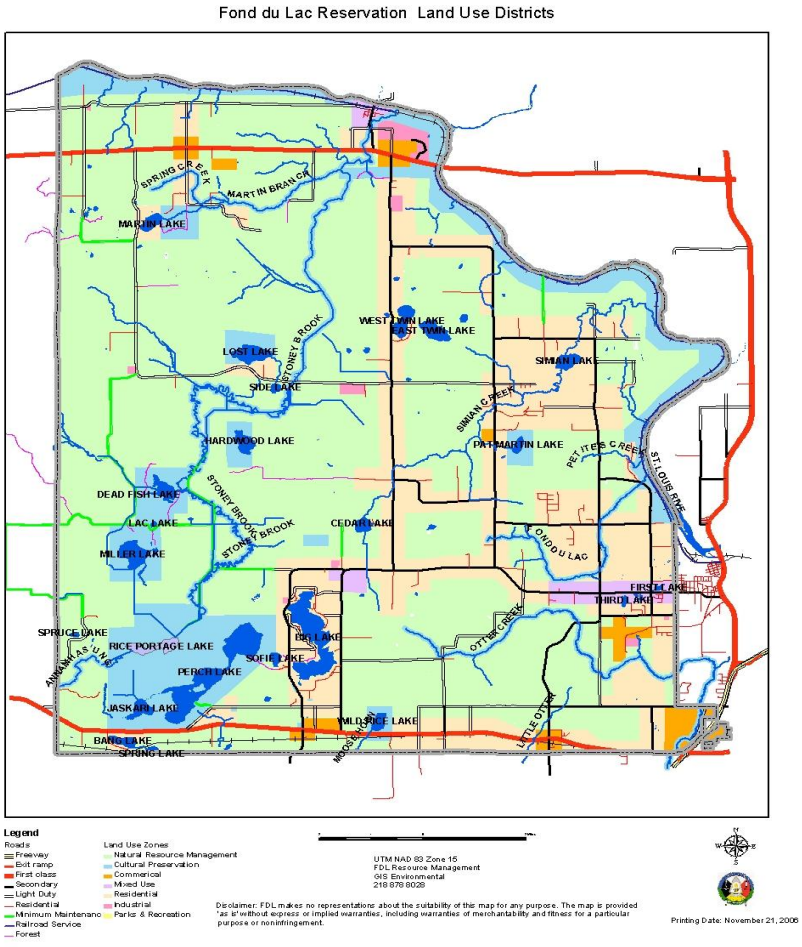

Figure 3 Land Use districts

E3. Issues, concerns, and opportunities

The following are issues that the Land Use Committee identified as important in the development of the Reservation:

- Less than one-third of the land within the Reservation is owned by Fond du Lac.
- Approximately one-half of the Fond du Lac Reservation is covered by wetlands, drainage areas, streams or lakes. Current habitat mix favors game species such as deer and grouse. Efforts are underway to restore lakes and enhance wild rice production.
- Much of the Reservation is undeveloped forest and lowlands. The northern third is rural agricultural with pockets of residential and includes

the village of Brookston. The southern third is rural with intense development around Big Lake, several commercial sites, and the casino complex. The middle is a suburban extension from Cloquet and includes most tribal operations centers.

- The Land Use Ordinance now regulates tribal and member owned fee lands.. Non-member fee lands are regulated the local unit of government with authority, generally the city of Cloquet, Carlton County or St. Louis County.
- According to a recent survey, Band members favor protecting cultural/historical sites, hunting and sugarbush land, and lake shore and stream bank areas. The Band should continue acquiring land within and outside the Reservation. There is strong support for creating a commercial center near the Tribal Center. New housing should be scattered around the Reservation.

Goals and objectives

The Land Use Plan for the Fond du Lac Band of Lake Superior Chippewa is dedicated to desired future conditions where:

- The natural resources are of a high quality, offering land for sustainable levels of traditional hunting, fishing, and gathering activities within naturally functioning, viable ecosystems.
- The historical and cultural resources of the Band are protected for the benefit and knowledge of future generations.
- All land is owned or controlled by the Fond du Lac Band.
- Band members have adequate opportunities for employment, education, recreation and commercial services.
- Band members have sufficient choices of affordable residential options, including areas with an emphasis on owner-occupied housing.
- A distinctive, positive image establishes a recognizable sense of place on the Reservation, reinforces the self-confidence of the Band and its members, and provides a focus for the community.

F. Forestry

F1. Description of the Resource

Fond du Lac Forestry's mission is to manage Fond du Lac's natural resources sustainably to achieve the needs and desires of the Band while maintaining ecosystem health and integrity. The forest will be managed to maintain or increase the biodiversity of the forest.

Organizational Overview

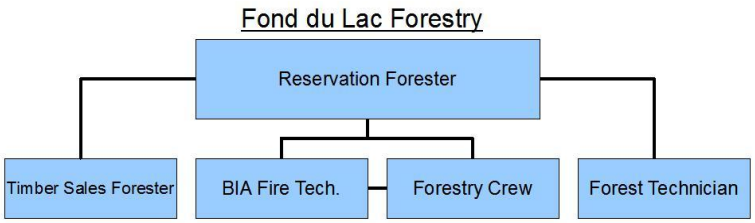

Figure 4 Forestry Organizational Chart

Under the Band's Self-Governance Compact, the Fond du Lac Reservation Business Committee assumed responsibility for the Forestry Program from the Bureau of Indian Affairs on October 1, 1997. The Forestry Program has one Reservation Forester, a Timber Sales Forester, a Forestry Technician, a Bureau of Indian Affairs Forestry Technician, and five forestry and fire aids. Additionally, seasonal fire fighters and tree planters are sometimes employed.

Introduction

The Fond du Lac Reservation has about 22,000 acres of commercial forested lands, primarily dominated by aspen. In addition to aspen, the Fond du Lac forested lands have several thousand acres of northern hardwoods (sugar maple, basswood, and yellow birch), red pine, ash, and swamp conifers (black spruce, northern white cedar, and tamarack).

F2. Background on the Resource

Forests are managed on the Fond du Lac Reservation to maintain or create wildlife habitat, maintain or increase biodiversity, improve the health and vigor of the forest and associated ecosystems, and for special purposes such as creating habitat ideal for blueberry growth or reducing the fuels around houses to protect them from wildfires.

Timber sale design and harvesting utilize Ecological Classification Systems to assist in understanding natural disturbance patterns, to grow trees most suited to a given site's moisture and nutrient qualities, and to mimic natural successional patterns. The Minnesota Department of Natural Resources has developed a hierarchical ecological classification system for Minnesota. Such a system is mapped and classified at a variety of landscape levels, from provinces down to subsections.

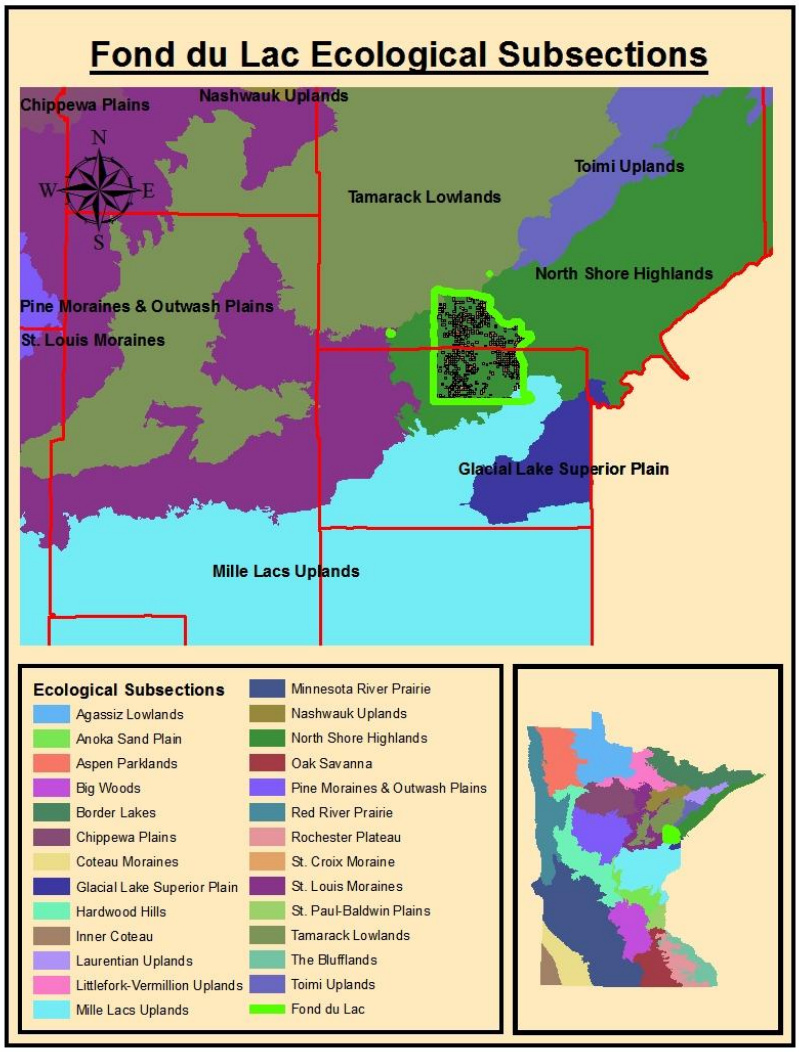

Figure 5 Ecological Subsections

The majority of the Fond du Lac Reservation is within the North Shore Highlands Subsection, which lies within the Northern Superior Uplands section. The Northern Superior Uplands largely coincides with the extent of the Canadian Shield in Minnesota and is characterized by glacially scoured bedrock terrain with thin and discontinuous deposits of coarse loamy till and numerous lakes.

The second level of Ecological Classification System that Fond du Lac forestry personnel incorporate into their decision matrix is called the Native Plant Community. From the Native Plant Community found at a given site, foresters and technicians are able to determine the likely nutrient and moisture regime of the site, the historic vegetation likely present on the site, what the successional pathway of a given stand of trees is, and what tree species are best suited for the site.

Presettlement Forests

Using notes written by survey crews in the late 1800s and early 1900s, Minnesota Department of Natural Resources ecologists have been able to reconstruct likely forest composition of pre-European settlement vegetation.

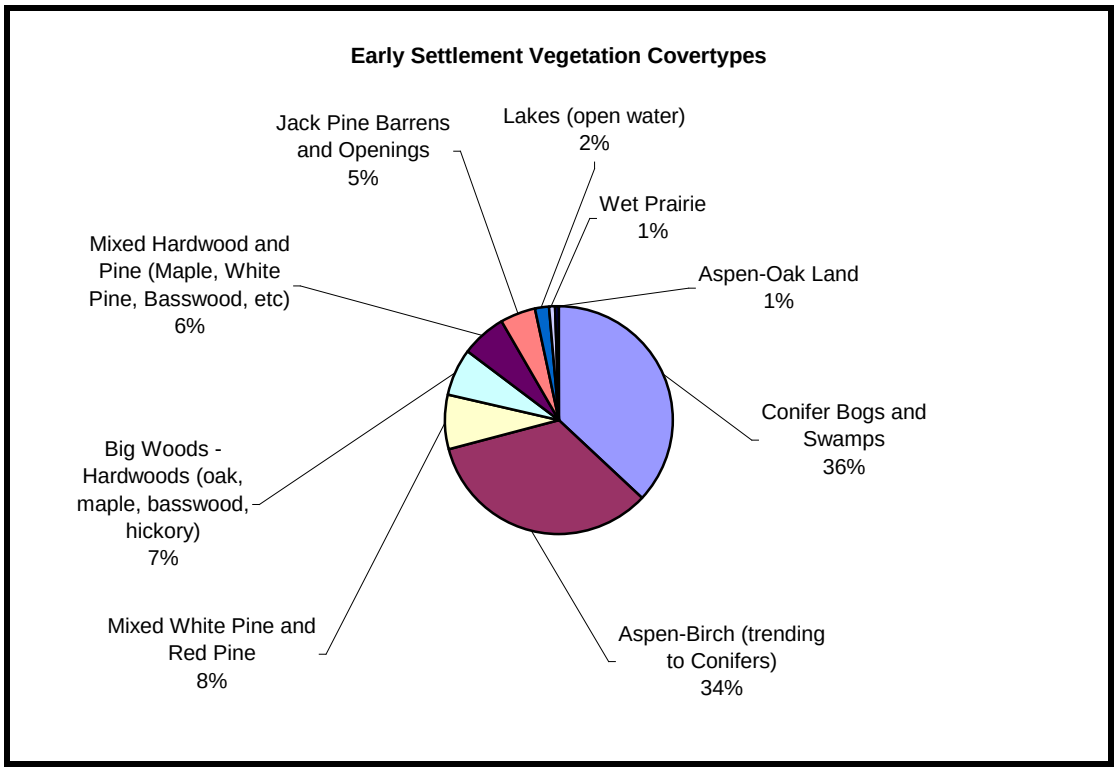

Figure 6 Early Settlement Vegetation Relative Abundance

The uplands were primarily aspen/birch, tending to conifers or northern hardwoods. The pine types made up most of the remainder of the forest.

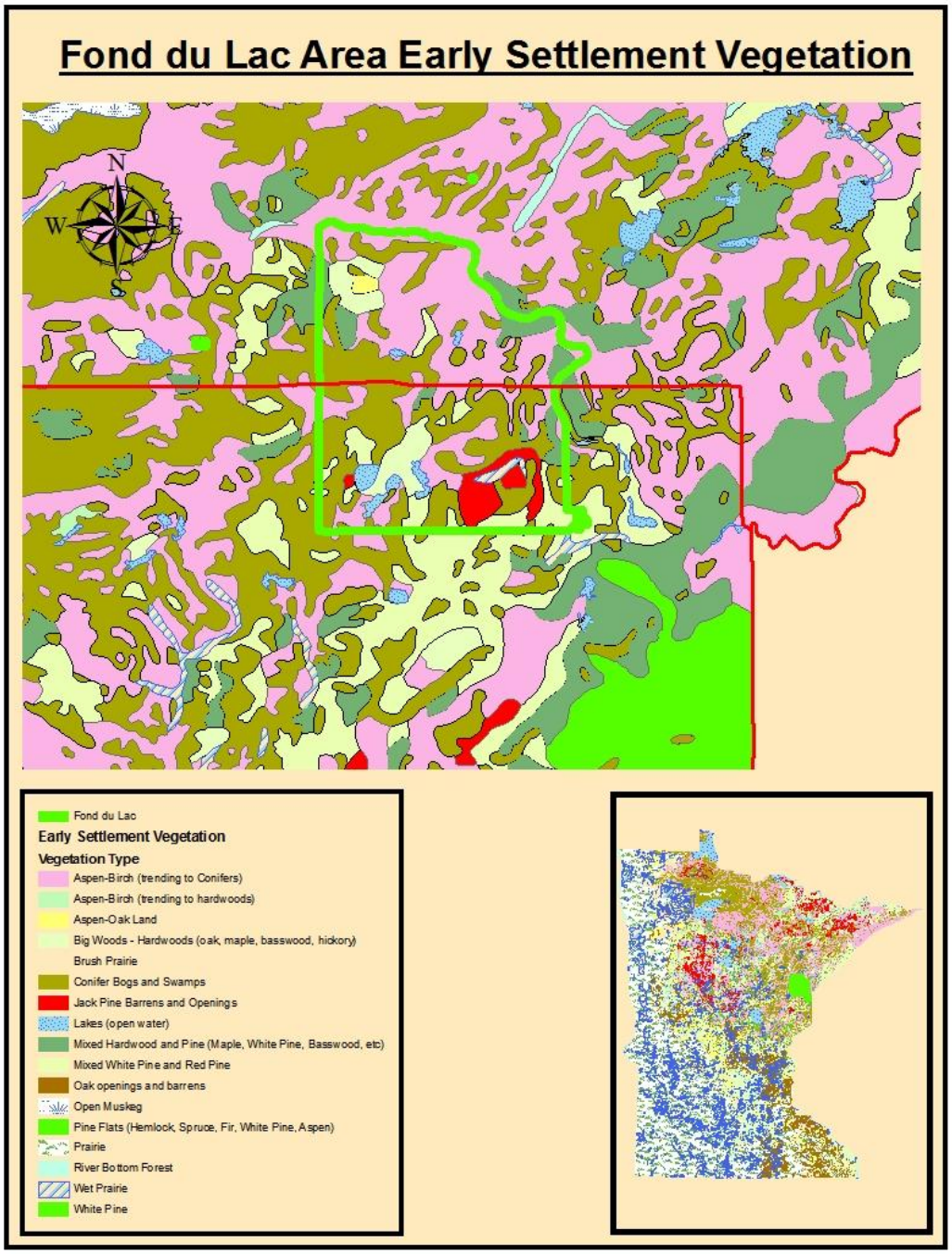

Figure 7 Early Settlement Vegetation Map

The covertype categories reconstructed from the survey notes are quite different than the covertype categories Fond du Lac Forestry uses today. Aspen and birch made up over a third of the land base in the past and make up about half of the land base today. The amount of conifer bogs and swamps is substantially less today, and the number and distribution of upland conifer species (like white, red, and jack pine) present in the past was probably quite a bit greater than the number and distribution of conifer species today.

Logging History

As the United States was developing as an industrial nation, lumbermen looked westward to the Minnesota territories' vast northern coniferous forests, and its prized white pine. Some of the richest stands of white pine were on the Fond du Lac Reservation in present-day Carlton County near Cloquet. Loggers gained access to the southern portion of Minnesota's coniferous forest through the Treaty of 1837. The 1854 Treaty opened the North Country.

Summary of cutting prior to 1950

Pre-1925 (estimated)	17,000,000 Board Feet	60% White Pine
1925 to 1948 (estimated & records)	800,000 Board Feet ($5,200 value)	2% White Pine
1948 to 1949	1,000 Board Feet ($10 value)	No White Pine

The above is taken from a 1949 report prepared for a presentation by former Agency forester L.W. Chisholm

Most of the volume removed up to 1925 was cut before the Act of June 25, 1910, which set forth the basis for harvesting Indian timber under sustained yield management and established machinery to make this possible. Initially, this act was not considered applicable to Minnesota. Trees were cut under the Acts of 1889 and 1902 amendments. Timber removal occurred on both allotted and tribal lands, and resulted not only from sales but from timber trespass and wildfires as well. The focus of early logging was the highly valued old growth white pine trees that were depleted by 1924. Much of today's forest originated from the ashes of the 1918 Cloquet fire.

Harvesting of the re-growth, mostly for pulpwood, has continued to be a way of life in northern Minnesota. This was the most heavily forested region in the state. Originally, it supported a forest of aspen, birch, eastern white pine, red pine, jack pine, black spruce, white spruce, balsam fir, tamarack, and northern white cedar. Logging and fires, however, have altered the character of the forest. The alteration has resulted in a reduction of the conifer component of the forest.

Acreage and Timber Volume

There are two types of tribal trust lands: tribally controlled lands and allotment lands. Tribal/Band trust land occupies 8,096 acres, Band fee lands 5,002 acres and allotment land occupies 16,991 acres. Total Indian owned land within the Reservation boundaries equals about 30,089 acres. (The timber volume analysis is based on an inventory of 28,329 acres. When this IRMP is updated the Timber volume will be updated as new inventory data becomes available)

Figures 8 & 9 summarize the covertype acres and volumes for tribal, allotted and total trust commercial forest lands. Aspen is by far the largest covertype by acres and volume for both tribal and allotted lands. Northern hardwoods, swamp conifers, and swamp hardwoods are the next most abundant types based on acres.

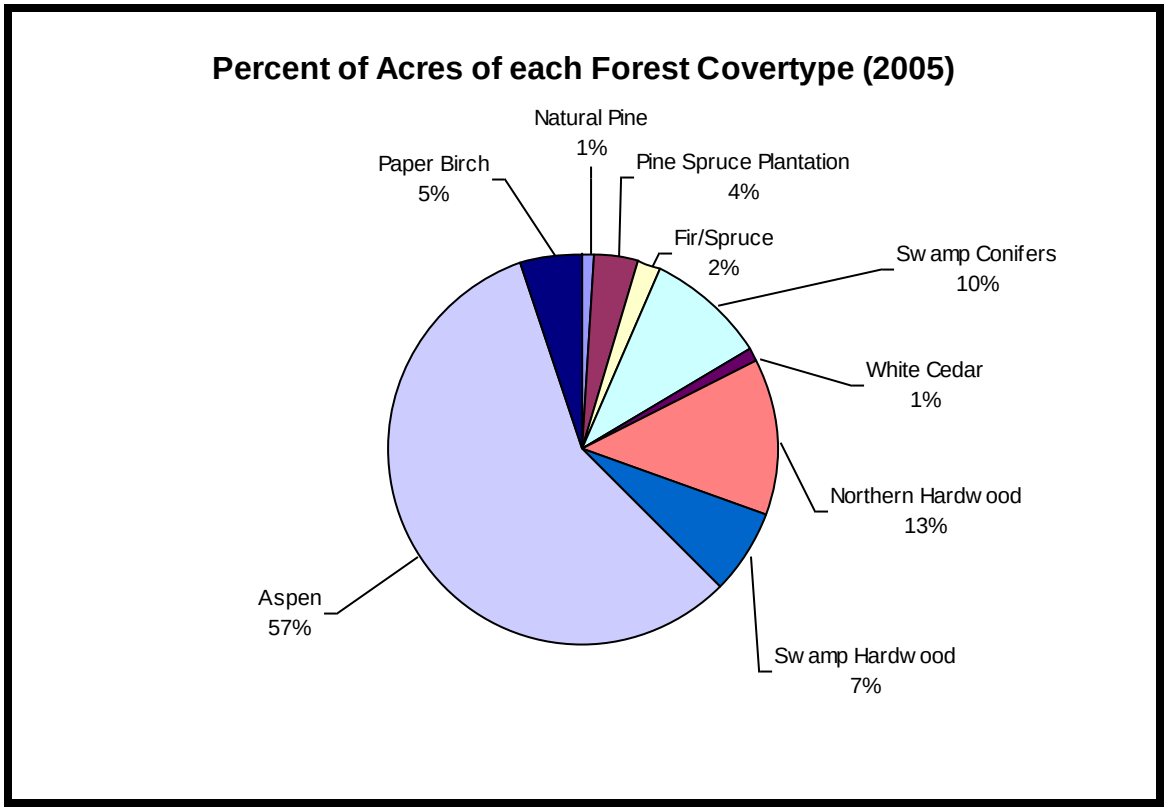

Figure 8 Forest Covertype Relative Abundance

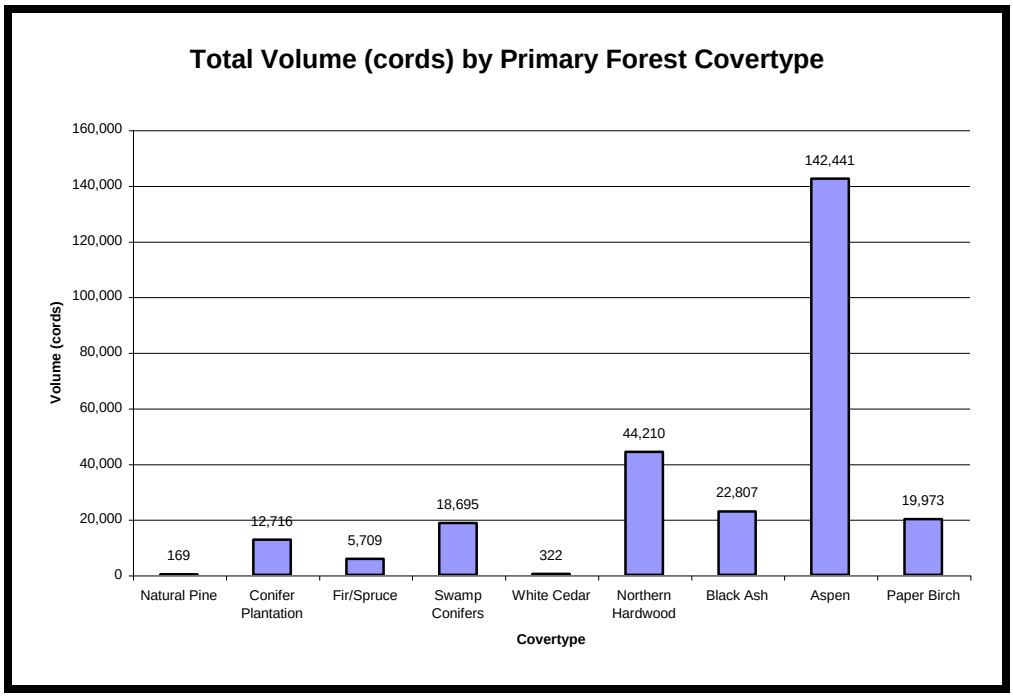

Figure 9 Volume by Covertype

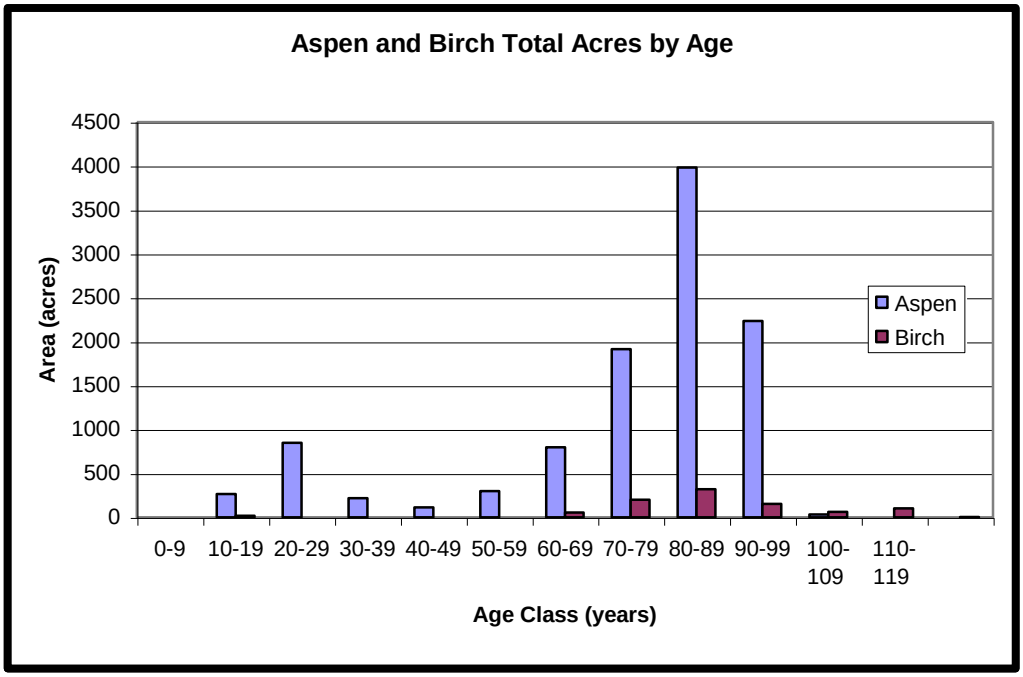

Figure 10 Age distribution of Aspen and Birch Covertypes

The age distribution of paper birch is similar to aspen. Although some paper birch can live up to 140 years, the majority of paper birch will start to decline at an age similar to that of aspen. Some of the oldest birch depicted in the graph above may not actually exist. They were present during the last forest inventory (some lands inventoried in 1985).

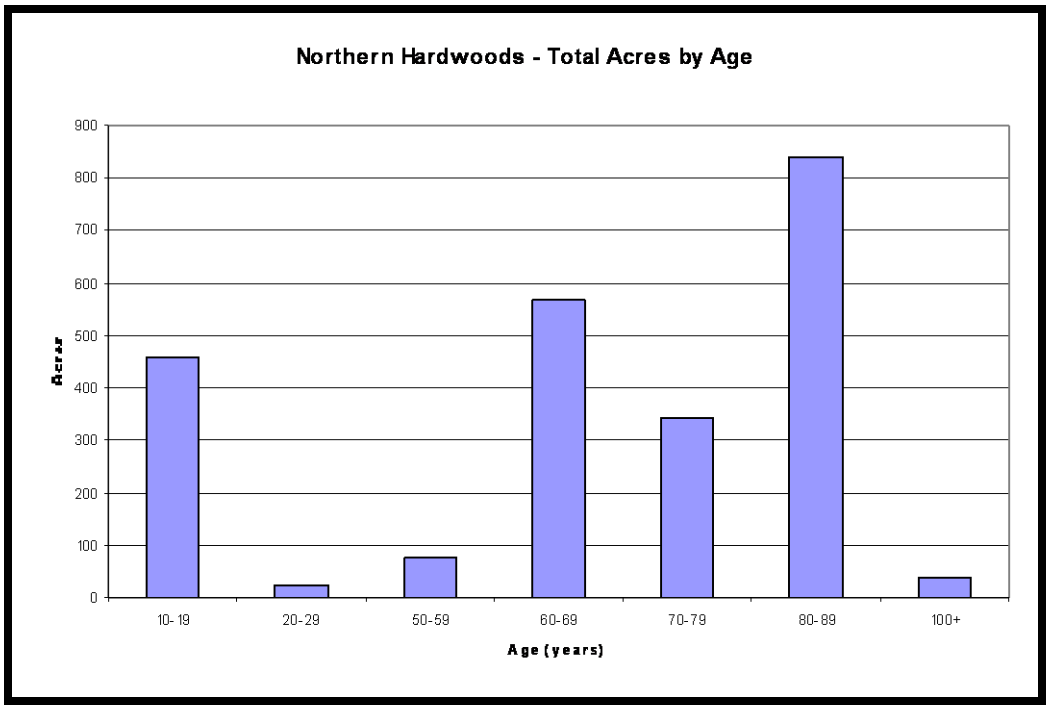

Figure 11 Northern Hardwood Age Distribution

Northern Hardwoods is a mix of sugar maple, basswood, and yellowbirch. Associated species include red maple, white spruce, white or green ash, red oak, black cherry, balsam fir, and ironwood. Sugar maple and yellowbirch are long-lived species.

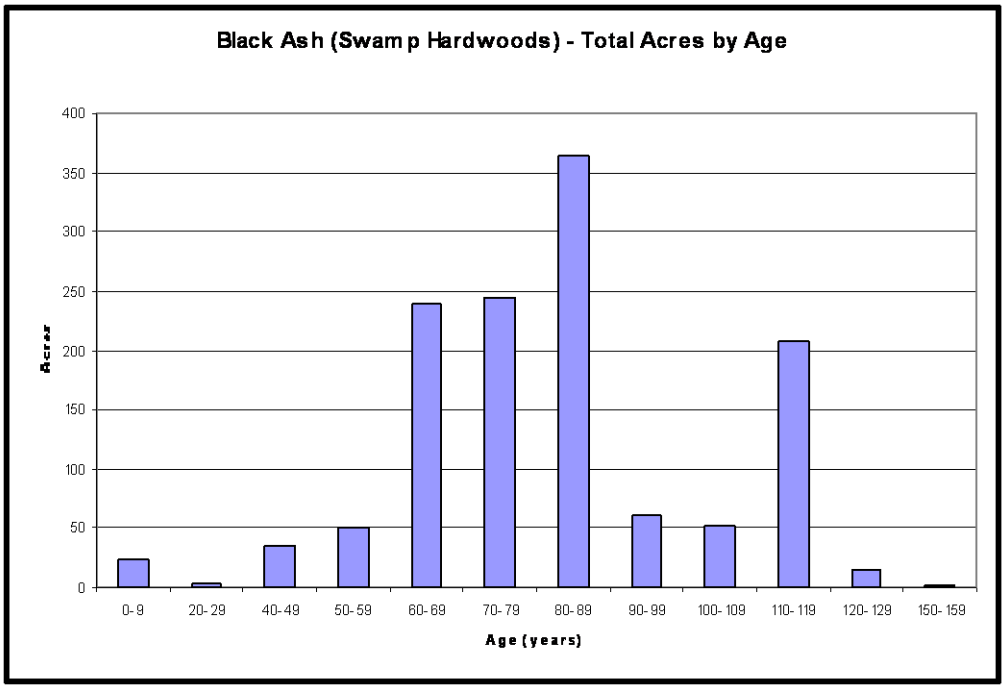

Figure 12 Swamp Hardwoods Age Distribution

Swamp hardwoods is also a mix of species, consisting of black ash, red maple, and American elm. Typically, in Fond du Lac, swamp hardwoods stands are overwhelmingly dominated by black ash. Black ash is a long-lived species.

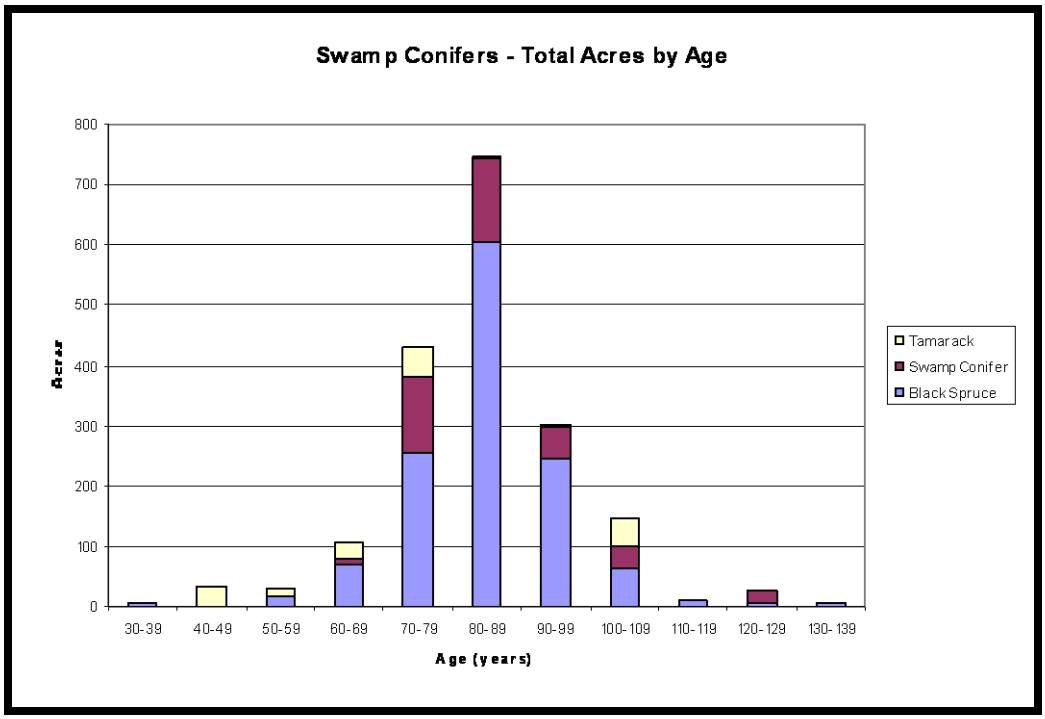

Figure 13 Swamp Conifers Age Distribution

Swamp conifers are a mix of species including tamarack, black spruce, and white cedar. All three species are long-lived.

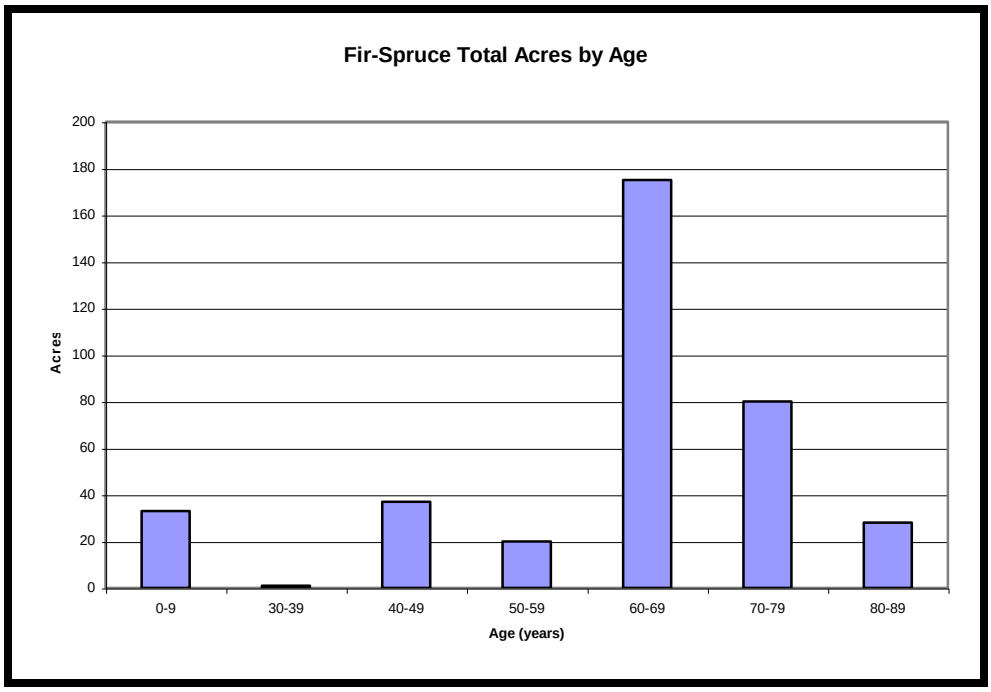

Figure 14 Fir-Spruce Age Distribution

Fir-Spruce is a mix of white spruce and balsam fir. White spruce is a long-lived species, growing to 150 years on a good site. Balsam-Fir is short-lived and typically starts to die or be wind thrown in less than 50 years.

Timber Sales

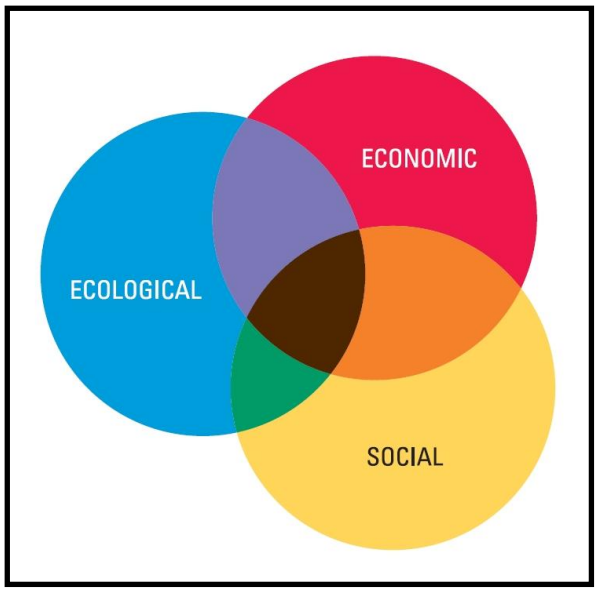

Figure 15 Balancing Economic Ecological and Social

Timber sales on Fond du Lac lands strive to achieve a sustainable balance between the needs and desires of the Band, economic constraints or opportunities, and ecological concerns and opportunities. Examples include providing a source of income to landowners, regenerating a declining species, improving wildlife habitat and increasing the growth rate and form for longer lived species like white pine and sugar maple.

Every sale has a written set of objectives and a silvicultural prescription. Silvicultural prescriptions are written using the Native Plant Community as a guide to what can and should grow on a given site, what direction a stand may take under natural conditions, and how it might be directed to help achieve the timber sale's objectives. In addition, cultural resources,

surface and ground water, and naturally occurring flora and fauna are protected by following Best Management Practices as outlined in the Sustaining Minnesota Forest Resources publication.

Timber Markets around the Reservation

Company	Location	Primary Products Used
Ainsworth Engineered	Cook, Grand Rapids, Bemidji	Aspen, Birch, Tamarack, Pine, Maple, Ash
Jarden Home Brands	Cloquet	Aspen, Birch
G.P. Superwood	Duluth	Aspen
Minnesota Power	Mountain Iron	Wood Chips
Numerous small sawmills	Cloquet area	Mixed hardwood and sawtimber
SAPPI	Cloquet	Aspen, Spruce
Savanna Pallet	McGregor	Aspen, Hardwoods
Stora Enso	Duluth	Spruce, fir, aspen
UPM - Blandin	Grand Rapids	Aspen, Spruce, Balsam Fir
Verso	Sartell (yard in Carlton)	Aspen

Table 2: Local Mills

Historically, most timber sales on Fond du Lac are sold on a sealed bid basis and are advertised to loggers by newspaper, website, and direct mailing. The Fond du Lac Timber Sale Policy, approved in October of 2004, states that Band members will be given preference on all timber sales occurring on Tribal or Band lands. On sales taking place on allotment land, allottees are given the option to offer Band preference or not. When Band preference is chosen, only bids received from Band member loggers are considered.

The Fond du Lac Band is also starting a new Timber Harvesting enterprise (logging company), expected to be fully operational in the fall of 2007. The Integrated Resource Management Plan process will be used to determine how the “Timber Cutting Policy” may be changed to help support this enterprise.

Reforestation

Timber sales are designed and implemented in such a way that reforestation often occurs naturally.

Tree planting is done where natural regeneration is inadequate, when non-forested areas (e.g. old fields) are being converted to forested areas, or when there is a desire to add species that aren’t naturally present or abundant.

Every year, Fond du Lac forestry plants trees, typically to

Figure 16 Tree Seedlings

boost the conifer and oak composition of the forest. A portion of the revenue received in many timber sales typically is used to pay for the cost of tree planting when done to enhance a site.

Invasive Species, Insects and Disease, Storms, and Trespass

Numerous insects, tree diseases, and invasive non-native plant species threaten the health and diversity of trees across the Reservation. In addition to invasive species, large storms, fires, and unauthorized timber cutting also may occur.

Figure 17 Emerald Ash Borer

In the event of large-scale tree mortality, salvage timber sales may be set-up to harvest the downed or damaged material.

Currently, insects that are potential threats to Fond du Lac's forests include the emerald ash borer and gypsy moth. Soon, emerald ash borer traps will be distributed around key areas like campgrounds, pow-wow grounds, and other areas where people may bring firewood from long distances. The traps detect the insect's presence and if detected, other mitigation efforts can then be made to help minimize its spread and impact.

Forest insect infestations, timber trespass, and invasive species are of ongoing concern to Fond du Lac. Fond du Lac Forestry takes these threats seriously, monitors new threats, and when necessary pursues mitigation strategies that may include legal action.

Fire Management

In 1997 the Fond du Lac Band assumed responsibility for fire pre-suppression and initial attack in the protection of all Trust lands within the Reservation. The Fond du Lac Band and the Bureau of Indian Affairs – Minnesota Agency agree that it is their joint responsibility to adequately manage and protect forested lands and other natural resources on trust lands.


Figure 18 Prescribed Fire

In May of 1999, the Fond du Lac Band of Minnesota Chippewa approved a strategic Wildland Fire Management Plan that provides programmatic direction in managing wildland fire on tribal lands, while ensuring protection of valued cultural and natural resources. The Wildland Fire Management Plan has been used as a guide for development of site-specific projects for certain fire management

activities, such as prescribed burns and other fuel reduction methods. For the remaining state, county, and private lands within the Fond du Lac boundaries, the Minnesota Department of Natural Resources provides protection.

Fond du Lac has also had extensive wildland fuel reduction programs in wildland urban interface and hazardous fuels areas. Prescribed burning and mechanical treatments are used in the hazard fuel projects and these are often are integrated with silvicultural or wildlife habitat objectives. As a result of efforts with wildland urban interface and hazard fuel reduction, Fond du Lac has received recognition as a state "Firewise" community since 2003.

Related Management Activities

Community Service:

Fond du Lac Forestry provides a number of services to Fond du Lac Band members including removing trees that pose a structural or fire risk to homes, providing woodlots for firewood, firewood for funeral ceremonies, establishing the shade canopy at the pow-wow grounds, providing information about allotment locations, and lot clearing.

Forest Roads:

Forest roads on the Reservation are owned and maintained either by the state, the Reservation or the township in which they are located. They may be used for recreational purposes such as hunting or as access roads for timber harvests. In general, forest access roads on Fond du Lac fall in three categories:

1. Ditchbank roads
2. Abandoned township or county roads
3. Roads constructed for timber harvest

The Minnesota Department of Natural Resources has discontinued maintenance on two of their Ditchbank roads, the Spirit Lake Road and the Arrowhead Truck Trail. Fond du Lac has taken over maintenance of the Arrowhead Trail. Fond du Lac has also agreed to assist with maintenance of the Berthiaume Road. Other roads outside the Fond du Lac State Forest are maintained primarily when harvest activities take place.

Fond du Lac Forestry must also consider the impact on wetlands, cultural resources, aesthetics, and rare plants and species habitats in maintaining or closing forest roads. As a result of conflicting interests, road access sometimes becomes challenging and contentious.

F3. Issues, Concerns, and Opportunities

Issues & Concerns

A wide range of forestry related issues and concerns exist at Fond du Lac, including:

- The new Logging Enterprise may influence forest management by increasing the pressure on the resource.
- Significant ash decline (mortality) is occurring in some black ash forested wetlands and emerald ash borer may add to the problem.
- Allotment ownership is highly fragmented, which causes management challenges.
- Protection of sacred / archeological sites needs to be monitored.
- Soil compaction is an ongoing concern.
- No road and trail policy currently exists to address openings and closings and vehicle access.
- Invasive plant and insect species such as buckthorn, worms, garlic mustard, emerald ash borer, gypsy moth may adversely affect the Fond du Lac resource.
- Birch decline is an ongoing concern that may increase with climate change.

Opportunities

A well-run Fond du Lac forestry program could:

- Balance social and ecological needs and desires of the Band while providing wood products in a sustainable manner.
- Monitor for emerald ash borer, collect and store seeds in cooperation with U.S. Department of Agriculture and keep up to date on current efforts by other agencies.
- Assist the Land Consolidation Project and Reservation Business Committee to continue purchasing interests.
- Continue working with the State Historic Preservation Officer and Cultural Resource Specialist to protect archeological and sacred sites.
- Continue following Best Management Practices as outlined in the Site-Level Forest Management Guidelines book.
- Develop road and trail policy in collaboration with wildlife staff, conservation officers, the Cultural Resource Specialist, and water and wetlands staff.
- Monitor forest health and keep current with Department of Natural Resources monitoring and research efforts.
- Use pre-European settlement vegetation as a guideline for future vegetation composition (covertypes).
- Keep current with research regarding climate change.
- Continue regeneration efforts to assure tree regeneration is adequate.
- Delineate native plant communities on all forested upland sites.

- Open paper birch bark harvesting to Band members before timber sales where birch will be harvested.
- Use sustainable forestry management practices to enhance habitat for both game and non-game wildlife.

F4 Goals and Objectives

Goal - Manage forest resources in a manner that produces a healthy forest. There will be an emphasis managing forest lands according to habitat type or native plant communities, while considering forest diversity and wildlife habitat.

Objective to meet the goal:

- Design timber sales to enhance wildlife habitat and diversity.
- Design forest development projects to enhance wildlife habitat and diversity.
- Where appropriate, reintroduce fire to meet the goal.

Goal - Visual Best Management Practices will be utilized when practiced near areas of special concern such as lakeshore, home sites, and parks.

Objective to meet the goal:

- Identify potential limited access areas for the protection of cultural, recreational, water and wildlife features.
- Identify and maintain special use areas such as sugarbush camps and areas for gathering of sacred and natural plants.
- Follow the St. Louis River Plan.

Goal - Reduce fire risks in Urban Interface.

Objective to meet the goal:

- Reduce fuel loading by prescribed fire or mechanical treatment.
- Public education.
- Be prepared for wildfires during the fire season.
- Locate housing in less fire prone areas.

F5 Management Alternatives and Potential Impacts

As the Fond du Lac Forestry program goes forward several alternatives are under consideration. Each alternative has a unique set of consequences and a different annual allowable harvest level. (The annual allowable harvest level will be recalculated for the preferred alternative as new inventory data becomes

available. The allowable cut will be based on the alternative objectives and constraints).

F.5.a Alternative I: Maintain the Current Program

Under this alternative:

- Harvest rates will be set at 4,500 cords per year.
- The Cultural Preservation Zone will be included in the allowable cut calculations.
- Forest development practices would remain the same. Site conversion or plantation management would remain the focus of forest development. The amount of forest development accomplished remains dependent on funds and the availability of suitable sites. Mechanical release of the seedlings will remain the primary means of controlling unwanted vegetation. Herbicide use will be an optional release method.
- Roads built to access timber sales will not be closed but will not be maintained. Roads will be seeded with vegetation when timber sale activity is completed to prevent erosion and provide browse for deer.
- Timber harvest in the Cultural Preservation District will be limited to selection harvest (cutting some trees, typically leaving half or more of the trees). This will minimize the negative aesthetic impacts of any management activity. Roads will be closed (bermed or gated) to prevent vehicle traffic.
- Even-age timber harvests will continue where natural resource and forest management is permitted.
- Other resources will be protected.

Covertype	Rotation Age	Annual Allowable Cut in Cords
Aspen	65	2,761
Paper Birch	65	337
Northern Hardwood	75	723
Pine/Spruce Plantations	125	161
Swamp Conifers	90	179
Swamp Hardwoods	90	244
Fir/Spruce	55	128
White Cedar	No ACC	--
Natural Pine	No ACC	--
Total AAC		4,533

Table 3: Alternative I breakdown of harvest

F.5.b Alternative IIa: Ecological Silviculture with a "No Harvest Zone" The Preferred Alternative.

Under this alternative:

- A portion of the Culture Preservation District will remain open to timber harvest.
    - A limited harvest zone will be established in areas that are within a quarter mile of the wild rice lakes, the St. Louis River, and within the Cultural Preservation District.
- Harvest rates will be set at 4,300 cords per year.
- The Minnesota Department of Natural Resources Native Plant Community Field Guide will be used to determine habitat types and successional pathways, and to help the forest managers make management choices. Emphasis will be placed on increasing covertype diversity (for example, increasing the component of northern hardwoods or conifers in aspen stands).
- Aspen will be the focus of forest management efforts. The rotation age for aspen will be set at 65 years and diversity may be increased by introducing white pine, white spruce, red oak and other hardwoods into relatively pure aspen stands. Wildlife and traditional native products will be an important consideration in management.
- Northern hardwoods will be managed on an all-aged basis, for diversity.
- Red and white pine stands will be managed with an extended rotation (125+ years). The pine types will be regenerated primarily using the shelter wood method. Fire will play an important role in pine regeneration.
- More emphasis will be placed on regenerating paper birch. Birch is an aesthetically pleasing tree and provides an important traditional native resource with its bark.
- Most artificial regeneration will be to enhance natural regeneration.
- Only roads identified as part of a permanent road network will be maintained.

Covertype	Rotation Age	Annual Allowable Cut in Cords
Aspen	65	2,430
Paper Birch	65	387
Northern Hardwood	75	829
Pine/Spruce Plantations	125	0
Swamp Conifers	90	217
Swamp Hardwoods	125	294
Fir/Spruce	125	107
White Cedar		--
Natural Pine		--
Total AAC		4,264

Table: 5 Alternative IIa breakdown of harvest

F.5.c Alternative IIb: Implement Ecological Forestry with a "No Harvest Zone"

Under this alternative:

- Forest management activities will be very limited in the Cultural Preservation Zone. Forest management may occur to correct a forest health concern or wildfire hazard. Management activities may also occur if active management is needed to meet diversity goals.
- The Cultural Preservation Zone will NOT be included in Annual Allowable Cut calculations.
- Harvest rates will be set at 3,400 cords per year.
- The remainder of outcomes will be the same as in Alternative IIa.

Covertype	Rotation Age	Annual Allowable Cut in Cords
Aspen	65	1,900
Paper Birch	65	269
Northern Hardwood	75	525
Pine/Spruce Plantations	125	164
Swamp Conifers	90	215
Swamp Hardwoods	125	101

Fir/Spruce	125	187
White Cedar		--
Natural Pine		--
Total AAC		3,361

Table: 6 Alternative IIb breakdown of harvest

F.5.c Alternative III: Maximize Timber Production:

Under this alternative:

- Harvest rates will be increased to 6,000 cords per year.
- The harvest will be temporarily accelerated and all over-mature timber will be harvested within the next ten to twenty years. This will aid the new forest enterprise on the Reservation.
- Aspen will be managed on a 45-year rotation and most aspen stands will be maintained as aspen. Site conversions to other species will be limited to off-site aspen and areas where aspen regeneration has failed.
- The Land Use Ordinance Zones will determine what type of management activities occur in each zone. Timber harvest will continue in the land use zones where natural resource and forest management is permitted or in conditional permit areas.
- Forest management activities will occur in the Cultural Preservation Zone. Forest management will pay special attention to water quality, protecting archeological resources and maintaining visual quality.
- The forestlands in the Cultural Preservation Zone will be included in the allowable cut calculations and the initial harvest plan.
- Reforestation efforts will concentrate on maximizing fiber production. Herbicides will be the primary tool for releasing seedlings.
- Fire management will continue its concentration on suppression. Fire may be used as a site preparation tool (for example, to prepare areas for planting or seeding).
- A network of forest roads will be established and maintained. The road network the will be designed to efficiently remove forest products. Some roads may be seasonally gated to reduce damage when conditions are too wet.

Covertype	Rotation Age (years)	Annual Allowable Cut (Cords)
Aspen	45+	4,084
Paper Birch	55	401
Northern Hardwood	75	723
Pine/Spruce	70	279

Plantations		
Swamp Conifers	90	179
Swamp Hardwoods	90	244
Fir/Spruce	55	128
White Cedar	No AAC	---
Natural Pine	No ACC	---
Total AAC		6,038

Table: 6 Alternative IV breakdown of harvest

G. Wildlife:

G1. Description of affected Resource:

The large areas of forest and wetlands on the Fond du Lac Reservation support relatively abundant populations of wildlife. Most historical species are still present. Past logging and homesteading practices on the Reservation have favored the dominance of early succession forest species such as deer and grouse. Most of the Reservation's historic large pine timber has been removed and the current forestry practices of the major landowners do not favor the return of big contiguous blocks of older timber. In addition, many Band members expressed support for maintaining high populations of deer and grouse for sport and subsistence hunting.

In spite of past drainage practices and current development, the Reservation has one of the best wetland complexes in the surrounding area. The highlight of this complex are the six wild rice lakes in the southwest corner of the Reservation that attract large numbers of waterfowl and support numerous other wetland associated species. Current wetland management plans support the continuation and enhancement of these lakes and associated wildlife species.

The Ceded Territories are used by Fond du Lac Band members exercising traditional hunting, fishing and gathering rights under the Treaties of 1854 and 1837. All of Fond du Lac's moose harvest, most of the deer harvest and much of the furbearer and non-game harvest occurs in the Ceded Territories.

G2. Background on the Resource

Historically, the primary focus of the Wildlife Program has been to assist the Band with exercising treaty hunting and trapping rights in a culturally significant and biologically sustainable manner. Additional program duties include habitat

improvement projects, research and surveys related to game populations, the collection of harvest information, liaison with other agencies and Reservation programs and recommendations for tribal hunting and trapping seasons.

Waterfowl

The wild rice lakes and numerous streams and beaver ponds on the Reservation support abundant waterfowl populations. In addition, large numbers of waterfowl pass through the Reservation during the spring and fall migrations. During fall waterfowl seasons, many tribal and state-licensed hunters hunt the Reservation's wetlands. Mallards, teal, wood duck, ringnecks, coots and Canada geese are common in the hunter's bag. Trumpeter swans are increasingly observed on the lakes as well.

Big game

Whitetail deer are pursued by tribal and state-licensed hunters on the Reservation. This species is arguably the most important wildlife species to Band members in terms of interest, sport and subsistence use. The Minnesota Department of Natural Resources estimates a spring pre-fawning density of approximately 23 deer/mile^2 for the Reservation and surrounding area. Fond du Lac tribal hunters take about 25-30% of their total deer harvest on the Reservation and most of the rest from the immediate surrounding area.

Bear are common on the Reservation and throughout most of the Ceded Territories; however, many Band members choose not to hunt bear for reasons of clan kinship. The average annual Band bear harvest by tribal members is usually zero to two animals. State-licensed hunters take several bears annually from the Reservation.

Moose are one of the few wildlife resources where the demand by tribal members – primarily hunters – exceeds the supply. Moose are relatively plentiful in the 1854 Ceded Territory. However, moose numbers have not increased in recent years and may be declining. Demand for moose by sport and tribal subsistence hunters and non-consumptive users is high. Information on moose populations and habitat requirements is needed by wildlife managers if moose are to be maintained on the landscape. A few moose use the Reservation although they are at the southern extremity of their range in Minnesota there and it's unlikely the Reservation can support a viable herd. Moose are largely absent from the 1837 Ceded Territory.

Small game

Major small game species include snowshoe hare and ruffed grouse. Sharptail grouse probably were historically more abundant on the Reservation than at this time. At least one known lek site has been unoccupied in recent years. A lack of natural or prescribed fire to maintain needed open habitat is probably the primary reason for their decline. In surrounding areas of the Ceded Territories, sharptails are locally abundant where they are intensively managed for. Hares and ruffed grouse are cyclically abundant and traditionally are important for sport and subsistence use by Band members. A few Band members harvest a small number of snapping turtles for personal use.

Furbearers

Furbearers such as mink, muskrat, beaver, otter, marten and fisher are common on the Reservation. Beaver are frequently removed as nuisance animals when roads, culverts golf courses, homes or rice lake management conflicts with their damming activities. At times, the Reservation Business Committee has authorized a bounty for taking them. A small number of Band members continue to trap regularly. Numbers and interest fluctuate with fur prices and the ease of winter access. A number of other furbearer species are taken: bobcat, badger, coyote, raccoon, and red fox for example. However, not much is known about furbearer populations or relative abundance on the Reservation or the Ceded Territories. Currently, good information on tribal furbearer harvest exists only for marten, fisher, bobcat and otter. Marten age data suggests that the marten population is heavily exploited, but it's believed that individuals from surrounding areas repopulate the Reservation.

Nongame/Protected species

With the impending delisting of the bald eagle there will likely be no federally listed threatened or endangered wildlife on the Reservation in the near future. However, the Canada lynx is listed as threatened by the federal government in the 1854 Ceded Territory. Fond du Lac currently protects cougar, lynx and wolf with closed harvest seasons in the Ceded Territories and the Reservation. In addition, sharptail grouse have no open season on the Reservation. Specific tribal code language also protects cranes, swans, pelicans, bats and loons. Minnesota has a number of state-listed wildlife species of threatened, endangered, or special concern status that occupy the Ceded Territories and may also use the Reservation.

G. 3 Issues, Concerns, and Opportunities

- Survey results from the 1980s, 1999, and observed current activities of Band members suggest an emphasis on game species and a need to promote game populations. Wildlife in general consistently ranks high in importance for Band members on natural resource related surveys.
- Fond du Lac has invested substantial capital in arguing for the recognition and meaningful exercise of their hunting and gathering rights under the Treaties of 1854 and 1837.
- Band members utilize wildlife for subsistence and recreation. Some species of wildlife hold particular spiritual and cultural significance in Ojibwe traditions.
- Wildlife populations, good wildlife habitat and public access for hunting, trapping and related activities are still abundant within the Reservation and Ceded Territories.
- The final stage of the 1854 Treaty case regarding how Fond du Lac Band members can exercise their rights has not been settled. New political or legal challenges to the meaningful exercise of treaty rights are possible.
- National trends indicate youth participation rates in outdoor oriented activities, including hunting, trapping and other wildlife related activities, is declining and tribal trends may mirror this national trend.
- Hunter harvest, land management practices and other human and natural trends on the Reservation and Ceded Territories will affect wildlife populations.
- Nongame and protected wildlife are not given much attention, but are probably important to Band members.
- Impending climate change will likely affect northern species such as moose, lynx or marten at the southern edge of their range on the Reservation and the Ceded Territories. Climate change will also impact southern species such as turkeys or opossum at the northern end of their range. Still other species may find their numbers or preferred habitat altered. More research needs to be done to predict these changes and develop management strategies to address them.
- Tribal wildlife resources and the demand for them will not remain static. Continued research into these changes and professional development of tribal wildlife managers will be required.
- Current resources devoted to the wildlife program are inadequate to fully address all of the issues, concerns and opportunities.

Goals and Objectives

Goal - Maintain abundant populations of game species, waterfowl and furbearers:

- Coordinate with other Fond du Lac Resource Management Division programs, other state, county and federal agencies and private landowners to create and take advantage of opportunities to develop and implement wildlife habitat projects for game species, waterfowl and furbearers.
- Collect and analyze hunter and trapper harvest data for trends and reporting purposes.
- Continue and expand population survey data for game species, waterfowl and furbearer species.

Goal - Give additional consideration to nongame and protected species:

- Coordinate with other Fond du Lac Resource Management Division programs, other state, county and federal agencies and private landowners to create and take advantage of opportunities to develop and implement various wildlife habitat projects for nongame and protected species.
- Continue and expand population surveys for nongame and protected species.

Goal - Help the Band develop and implement sound conservation strategies for all wildlife species.

- Work with Fond du Lac Enforcement, the Conservation Committee and the Reservation Business Committee to develop and implement seasons and bag limits and other harvest strategies as needed to ensure long-term resource protection.
- Obtain for wildlife species a higher priority in Reservation land management and natural resource decision making.
- Take a more active role with other agencies and private landowners to ensure that the quality and quantity of wildlife habitat is not depleted in the Ceded Territories.
- Target wildlife research in ways that will improve understanding of wildlife populations and their relationship with habitat and improve tribal wildlife management capabilities.

Goal - Ensure that treaty rights and the recreational and subsistence needs of Band members are met.

- Coordinate and liaison with the Reservation Business Committee, the Conservation Committee and other Fond du Lac programs, federal and state agencies and legal representatives to ensure that plentiful opportunities are maintained and developed for Band members to enjoy a meaningful exercise of treaty rights and access wildlife resources for subsistence and recreational use.
- Coordinate with other Fond du Lac Divisions and Resource Management Division programs and other public and private landowners and agencies to ensure that the quality and quantity of wildlife habitat and wildlife populations are not depleted.

- Promote opportunities to recruit and retain tribal youth into hunting, trapping and other wildlife related activities.

H. Air Quality

H1. Description of the affected resource

The Fond du Lac Air Quality Program protects Reservation air resources and the health and well being of Band members living on the Reservation. The heart of the ambient air program is Fond du Lac's monitoring program, which monitors four pollutants: ambient levels of ozone, nitrogen oxides, fine particulates, and deposition levels of mercury in precipitation. All monitoring is done in cooperation with the Minnesota Pollution Control Agency and/or the U.S. Environmental Protection Agency. All Environmental Protection Agency-funded monitoring data is made available to the scientific community to aid in research and pollution forecasting.

In January 2004, Fond du Lac was granted status as the air quality regulatory authority on the Reservation. This was accomplished under the Environmental Protection Agency's Tribal Authority Rule, through the submittal of an application demonstrating Fond du Lac's authority and ability to adequately manage such a program. Fond du Lac has submitted a draft Tribal Implementation Plan to the Environmental Protection Agency describing air quality objectives on the Reservation and how they will be addressed. Under the Tribal Authority Rule, Fond du Lac may apply to administrate any "severable" section of the Clean Air Act it chooses, as long as it can demonstrate that it has the capability and funding to do so.

In 2003, an air emission inventory was completed, summarizing emissions both on-Reservation and up to five miles off-Reservation. This inventory will be useful in completing a Tribal Implementation Plan. It shows from what facilities and source categories most local emissions are coming and will show Fond du Lac where to focus future regulatory activities. The main challenge the Air Program will face in finalizing a Tribal Implementation Plan will be presented by the fact that 90% of on-Reservation emissions come from off-Reservation sources, which are not under tribal control.

H2. Background on the Resource

Sources of air pollution of concern to Fond du Lac come both from on and off the Reservation. On-Reservation sources consist of four natural gas pipelines and one associated pumping station, dirt and gravel roads, gas stations, and construction equipment. Highway I-35 also runs adjacent to the Reservation. Off-Reservation sources include a nearby pulp and paper mill and a ceiling tile manufacturing facility. Several taconite mines are located within 100 miles of the Reservation and the cities of Duluth and Minneapolis/St. Paul have many industrial facilities.

Of particular concern to Fond du Lac are the “mercury in fish” consumption advisories common in the area. Research indicates that the primary source of mercury in the aquatic environment is atmospheric deposition. Acid precipitation may contribute to the release of mercury from soils and sediments, in addition to significantly changing the pH of Reservation lakes and rivers and creating conditions that make it easier for mercury to bioaccumulate in fish tissues. Since fish is an important food source for many people residing on the Reservation, mercury contamination is a public health concern. Protection of wild rice and other food sources from mercury uptake is also a health and cultural concern.

Monitoring

In order to quantify mercury and acid deposition on the Reservation, Fond du Lac currently measures mercury levels found in precipitation. Fine particulate matter (particles below 2.5 micrograms in diameter) from combustion sources and operate ozone and nitrogen oxide monitors are also monitored. Fine particulate matter is a health concern because it lodges in the lungs and may cause respiratory problems. Nitrogen oxide contributes to smog and is a precursor to ozone formation. Although not many sources of ozone precursors are currently found on the Reservation, ozone has been shown to drift northward from Minneapolis and St. Paul. In addition, both ozone and nitrogen oxide may cause respiratory problems and diminished lung function.

All of the data collected through monitoring will help Fond du Lac set a baseline for existing air quality and help prevent unhealthy levels of pollution in the future.

Regulations and Policy Participation

Another important part of the Fond du Lac Air Program is policy participation. The Environmental Protection Agency policy of tribal self-governance allows tribes to apply under the Tribal Authority Rule to be considered the primary air quality authority in areas where the tribe exercises jurisdiction and wishes to administer an air quality program. A tribe must apply for authority over each separable section of the Clean Air Act.

Fond du Lac has recently received authority for Treatment as an Affected State under the Tribal Authority Rule. As a result, Fond du Lac has the right to be consulted on the issuance of state and federal permits to local off-Reservation sources of air contaminants. Any comments that Fond du Lac makes on these permits must be considered in the review process.

Now that Treatment as an Affected State status has been granted, the Fond du Lac Environmental Program is in the process of drafting a Tribal Implementation Plan describing how the Fond du Lac Air Program plans to quantify and maintain good air quality on the Reservation. The Tribal Implementation Plan may include additional

monitoring activities, drafting Reservation air quality regulations, modeling activities, a permitting program, and enforcement activities. Besides human health protection, the Tribal Implementation Plan may also address well-being issues such as visibility, odor control, and the protection of aquatic and terrestrial resources.

One purpose of expanding Fond du Lac's air program is to study whether reclassification is an option the Band wants to pursue. Reclassification of tribal lands from Class II to Class I air quality includes the need to identify Air Quality Related Values and the Prevention of Significant Deterioration program. For instance, Fond du Lac may want to protect fish from harmful levels of mercury bio-accumulation, protect wild rice and fishing waters from acid deposition, or safeguard cultural resources. Air Program staff will soon make a presentation to the Reservation Business Committee on this option.

Finally, Fond du Lac reads Federal Register listings and reviews and comments on any relevant rulemaking issues. Staff members participate in conference calls related to these issues. Staff also comment on state policy issues and permits for local facilities. Fond du Lac also participates in the Central Regional Air Planning Association, a regional haze organization, and the National Tribal Air Association.

Outreach

Another focus of the Fond du Lac air program is to conduct tribal outreach activities. This includes activities at the Fond du Lac Ojibwe School, newspaper articles, and participation in community events such as health fairs. Future efforts will focus on the health and climate effects of pollution and on what people can do as part of their everyday routines to help reduce pollution. Popular programs in the past have included giving away tree or shrub seedlings to fight the effects of climate change and to educate the public. Compact fluorescent bulbs may be given away at a future event with the same goal in mind.

Recreational Opportunities

Although clean air alone may not provide recreational opportunities, it is important when considered with other activities. People with asthma or other respiratory problems are not able to participate in physical activities to the full extent that they may wish, particularly outdoor activities. Dirty air makes such respiratory conditions worse. Visibility limitations or objectionable odors caused by polluted air may lead to a loss of enjoyment of many outdoor activities, such as hiking, picnicking, or cross-country skiing. Deposition of acid or mercury in Reservation water bodies may cause damage to fish habitat or lead to fish consumption advisories. High concentrations of some pollutants in the air may also damage plants, some of which may be important in traditional food, spiritual, and medicinal uses.

H3. Issues, Concerns, and Opportunities

- Operation of existing monitoring activities
- Tribal Air Authority/Tribal Implementation Plan
- Determine need for Class I Resignation
- Policy participation
- Outreach activities

Goals and Objectives

Goal: Air Quality Monitoring

- Continue sample collection and site maintenance
- Continue data compilation and analysis
- Decide whether to maintain monitoring level, add monitors, or remove monitors
- Make policy and permitting recommendations based on monitoring data

Goal: Tribal Authority Rule

- Provide any additional information to Environmental Protection Agency staff to aid their review of the draft Tribal Implementation Plan
- Draft tribal air quality regulations/ordinances
- Pursue tribal minor source permitting program
- Hold public hearings and obtain Reservation Business Committee approval for tribal regulations/ordinances

Goal: Class I Redesignation

- Inform Reservation Business Committee on Class I options
- Consider the adequacy of Reservation air quality standards alone to maintain good air quality
- Identify Air Quality Related Values for the Reservation (status and vulnerability) without divulging sensitive information
- Determine the exposure of Air Quality Related Values to air pollution.
- Develop criteria to evaluate the level of adverse impacts on Air Quality Related Values

Goal: Policy Participation

- Consider application to the Environmental Protection Agency to change air quality status from Class II to Class I
- Review Federal Register listings
- Participate in conference calls to obtain information on proposed rules
- Write and submit comments as needed
- Attend meetings and conference calls for other policy groups as needed

Goal: Outreach Activities

- Educate Band members about the importance of good air quality and the effects of climate change through articles in the tribal newspaper, participation in health fairs, and through programs at the tribal school
- Organize giveaways of seedlings or compact fluorescent bulbs to fight climate change and educate the public
- Other areas of special interest may include smoking cessation, good vehicle maintenance, efficient wood burning, and discouraging the use of burn barrels.

5. Socio-Economic Resources

A. Conservation/Enforcement

A1. Description of affected resource

The Fond du Lac Reservation encompasses 100,000 acres in two counties, St. Louis and Carlton. The 1854 Ceded Territory encompasses 6.2 million acres and the 1837 Ceded Territory encompasses 3.2 million acres. The vastness of these areas presents numerous challenges for the enforcement of Conservation Code regulations.

A2. Background

The Fond du Lac Reservation Conservation Officers are in charge of the regulation of On-Reservation Codes and the 1854 and 1837 Ceded Territory Codes, monitoring of game limits, seasons, and all illegal activities. Presently, there are seven full time Conservation Officers and one Chief Conservation Officer employed by the Fond du Lac Reservation. Two of these Officers work in the 1854 Ceded Territory, one Officer works in the 1837 Ceded Territory, and the remaining Officers work on the Reservation.

A3. Issues, concerns, and opportunities

- Lack of adequate space for current staff offices.
- Coordinate with state of Minnesota on enforcement for non-Indians in 1837 and 1854 Ceded Territories.
- Training of new Conservation Officers and refresher training of the Conservation Officers presently working for Fond du Lac.
- New rules and regulations proposed for the Conservation Code.
- More Conservation Enforcement Officers and equipment needs.

A4. Goals and objectives

- Develop a plan to increase the working space for Conservation Officers.
- Create one Office Administrator/Records position to improve the departments' and officers' administrative record keeping.
- Enforcement of ordinances, regulations, and rules in the 1837 and 1854 Ceded Territories, with consideration given to environmental protections such as water quality standards, wetland fill concerns, wellhead protections, pesticide use regulations, and air quality standards on the Reservation.
- Many of these rules, regulations and ordinances are currently under civil jurisdiction, but should also be enforceable in the tribal court system. Other legal questions involve jurisdiction over private land within the Reservation.

B. Recreational Resources

B1. Description of the affected resource

The major outdoor recreational attractions on the Fond du Lac Reservation are its woods, waters and wildlife. The region's large public land base enhances its potential for outdoor recreation activities. The Ditchbank area in the western portion of the Reservation, the St. Louis River valley, and many lakes provide most of the outdoor recreation areas within the Reservation boundaries.

The primary recreational activities that Band members enjoy include fishing, hunting, snowmobiling and ATV riding. Other activities include cross-country skiing, camping, canoeing, boating, horseback riding, swimming, picnicking, and hiking. Recreational activities and the associated areas that are currently managed by the Fond du Lac Band are fairly limited. The Band has several community parks in housing developments, a small nature/interpretive trail behind the Fond du Lac Ojibwe School, two beach access properties on Big Lake, and an eighteen-hole golf course that is part of the Black Bear Casino Resort complex. In addition, there are many informal trail networks that exist as a result of forestry practices and land uses across the Fond du Lac Reservation. The primary user groups for these trails are ATV and snowmobile riders.

There are also plans to create connections to state bike/hiking/walking trails near the Black Bear Casino Resort complex. Accesses to the wild rice lakes, which are used for harvesting wild rice and waterfowl hunting, are also maintained.

B3. Issues, Concerns, Opportunities

- From an economic standpoint, there is the opportunity to expand recreational trails near the casino, and perhaps in other areas, by linking

into existing state and county trail networks.

- There is concern growing over the existing informal ATV trails on tribal land. Many of these trails impact wetlands. This land use issue is a challenge that has not been addressed.
- There are opportunities to create mountain bike trails, hiking/hunting trails, cross country ski trails, etc. Aside from hunting, many of these activities are not of high importance to tribal members, but it may be wise to begin the process of developing areas in order to improve commerce, promote healthy outdoor activities, and preserve natural areas. The Cloquet District of the Reservation is the area that is best suited to this use, given its proximity to the City of Cloquet. At a minimum, it would be advisable to inventory all trails on tribally controlled property.
- The nature of land ownership on the Reservation makes trail designation a challenge, with the large amount of allotment and private lands. Much of land that the Band controls is already developed for housing.
- Fond du Lac Resource Management should become more involved with recreation area management.
- There are few developed recreational facilities on the Fond du Lac Reservation.

C. Energy Resources and Management

C1. Description of the Resource

The Fond du Lac Band of Lake Superior Chippewa has 3,905 members, approximately 2,000 employees and land holdings of 101,153 acres in northeastern Minnesota, and retains usufructuary rights in the 1854 ceded territory. The Band is located in a region of North America that has a cold, harsh climate and high energy costs. Every year, the Band and its members spend thousands of dollars on natural gas, propane gas and electricity to heat, light and power its public facilities and residences.

The Reservation also encompasses many natural energy resources. Fond du Lac lands contain high ridge lines, large forestry tracts, access to moving rivers and streams, all of which contain latent potential for renewable energy power generation. As a result, Fond du Lac is incorporating energy efficiency and renewable energy into the design and construction of all of its future buildings, which will lower life cycle maintenance and operation costs. These buildings will be used to educate the community about energy efficiency and will assist in efforts to expand sustainable development on the Fond du Lac Reservation.

C.2 Background on the Resource

Fond du Lac has a history of commitment to energy efficiency and passive solar design, as evidenced by the development of energy efficient homes. Minnesota Power partnered with Fond du Lac by reviewing plans, adding energy efficiency measures and conducting blower door tests. The company has also reviewed commercial buildings after energy audits were conducted and installed cost efficient upgrades. In addition, Fond du Lac Reservation ran a manufacturing plant for wood furnaces in the 1980s and has researched the use of wood gasification as a fuel source.

In 2005, a feasibility study on energy efficiency was inaugurated. The Fond du Lac Reservation Business Committee has signed a Tribal Environmental Agreement with the Environmental Protection Agency to conduct building energy audits, conduct alternative energy site reviews and build a new Leadership in Energy and Environmental Design (LEED) Zero-Net Energy Resource Management Building. The Fond du Lac Planning Department and the Resource Management Division are in the process of examining energy efficient building codes. In addition, the Reservation Business Committee approved a resolution in February of 2007 that ratifies the Kyoto Protocol and pledges that Fond du Lac will obtain 20 percent of its electricity from renewable energy resources by 2020.

Monitoring Renewable Study Components

Wind Assessment

Fond du Lac Environmental Program staff installed a 20-meter anemometer tower on April 8, 2004, north of the Black Bear Casino Resort. The National Renewable Energy Laboratory also suggested installing two 50-meter anemometer towers, which will provide the data necessary to determine the feasibility of a wind project. As of October 1, 2007 the two-wind speed monitoring stations had been in operation for a full two years. The data from both sites are now being analyzed and a wind resource evaluation report is being prepared for the Band. The report will characterize the quality of the wind resources at the two locations to determine if a commercial wind energy venture is feasible.

Biomass Assessment

The Fond du Lac Band has land resources of approximately 101,153 acres. The Band manages its timber land under a long-term sustainable management plan, developed through an extensive process that included broad tribal member input and support. The primary goals of this plan are sustainable timber harvesting and cultural and wildlife enhancement.

Currently, forest growth on the Band's lands has a much higher economic value for pulp and for saw logs than for biomass fuel. At the same time, management for the higher value uses identified does produce some wood waste that may serve as biomass fuel stock. Fond du Lac currently supplies Minnesota Power cogeneration power plants with a biomass supply of wood chip waste. As the economic value of fossil fuel increases in cost, a shift of designated use to biomass fuel may occur for pulp and saw logs. We currently supply Sappi Fine Paper and Minnesota Power cogeneration power plants with a biomass supply of wood chip waste.

Fond du Lac Resource Management Division staff is also working on a 20kW Demonstration Biomass Gasifier Project that will be installed by the spring of 2008. It will convert wood waste to a liquid fuel that will be utilized to power a generator that produces electricity. The 200,000 – 300,000 BTU of waste heat will heat one Tribal building. A future cogeneration central heat plant is also in the research stage.

Hydroelectric Assessment

Fond du Lac staff have toured the Fond du Lac Hydroelectric Generation Station and met with officials from Minnesota Power about the addition of a new powerhouse on the west side of the existing dam. The new plant will contain two 4.6 MW turbines for a total of 9.2 MW of additional generation capacity. Based on average flows in the period 1992 – 2001, these turbines should produce in excess of 35,000 MWH a year. The water used to power these turbines is currently spilled to maintain minimum flows required for the St. Louis River. The use of this minimum flow, along with the flexibility of operating two smaller and newer generation units, will allow the Fond du Lac station to operate much more efficiently.

Geothermal Assessment

The most likely geothermal application for Fond du Lac is the geothermal heat pump, also known as the ground source heat pump. The technology relies on the fact that the earth, beneath the surface, remains at a relatively constant temperature throughout the year, warmer than the air above it during the winter and cooler in the summer. The geothermal heat pump takes advantage of this by transferring heat stored in the earth or in ground water into a building during the winter, and transferring it out of the building and back into the ground during the summer. This is the proposed heat and cooling source for the future Resource Management building.

Passive Solar and Energy Efficient Assessments

There has been an initial solar site evaluation completed for the future Resource Management building and the future solar electric system for the Ojibwe School powwow grounds. The Fond du Lac Housing Division, the Environmental Program and Minnesota Power have been involved in solar sighting for 25 homes that were built with Minnesota Power energy efficient program standards.

Outreach

The Environmental Program Environmental Specialist is a member of the Minnesota Climate Change Advisory Group. The mission of the Climate Change Advisory Group is to develop a comprehensive mitigation action plan to reduce Minnesota's emissions of green house gas. The group is comprised of five technical work groups: Transportation and Land Use; Agricultural, Forestry and Waste; Energy Supply; Residential, Commercial and Industrial and Cross Cutting Issues.

C3. Issues, Concerns and Opportunities

- Energy audits
- Cost of energy efficient upgrades
- Tribal utility feasibility
- Future energy and liquid fuel supply
- Utilize access to the petroleum pipelines on the Fond du Lac Reservation

Goals and Objectives

Goal: Develop a Strategic Energy Plan

- Draft a Tribal energy vision, mission and goals
- Survey existing energy use and the potential for resource development
- Develop an action plan to achieve the energy goals

Goal: Develop a Vehicle Fleet Management Plan

- Inventory vehicle fleet
- Current miles per gallon and potential fleet options to increase miles per gallon
- Alternative fleet options
- Action Plan to achieve the goal

Goal: Establish Fond du Lac Electric Distribution Utility

- Hire full time Energy Project Manager
- Form an Energy Committee
- Analyze energy regulatory capacity

- Establish a Fond du Lac-owned distribution utility

Goal: Wind Feasibility Development
- Identify potential wind turbine sites and suppliers
- Wind turbine production estimates
- Identify permits and requirements for wind turbine construction
- Identify wind energy disposition options
- Wind energy project development economic analysis

Goal: Solar Analysis of Resource Management Building
- Site analysis for potential solar photovoltaic and thermal systems
- Develop recommendations for building

Goal: Future Resource Management Building
- Develop a capital development plan
- Procure funding for a new Resource Management Building

Goal: Load Assessment of Buildings
- Work with Minnesota Power and natural gas vendor to collect baseline billing profiles
- Conduct site visits to gather electricity, heating and water heating information on each building
- Enter and analyze data for model buildings load and peak demand
- Meet with Tribal representatives about building efficiency and utility needs

Goal: Biomass 20 KW Unit
- Evaluate equipment needs for chipping and hauling of biomass slash
- Commission and monitor of biogas installation
- Provide a report to the Reservation Business Committee detailing installation and operating concerns

C. Waste Management and Hazardous Substances

C1. Description of the affected resource

In recent years, the Fond du Lac Reservation has seen rapid growth in population and economic development. With this increase, efficient and environmentally sound management of solid waste has become a challenge.

Problems associated with solid waste disposal on the Reservation are improper handling of solid waste, illegal dumping, hazardous waste management, limited recycling efforts by both residential and commercial sectors, abandoned vehicles and mobile homes, unregulated salvage yard operations, and management of various specialty wastes.

Fond du Lac has transported solid waste from the Reservation utilizing local haulers since the St. Louis County dump and the Perch Lake Township (Carlton County) dump were mandated to close in 1972. There are no open dumps or active landfills within the exterior boundaries of the Reservation at this time. In the past, hauling companies were small, family-owned and operated businesses with one to five trucks. Today, larger operations, notably Cloquet Sanitary Service, North Country Waste and Recycling, Waste Management Inc., A-1 Disposal, Affordable Garbage Service Inc., and a couple of smaller businesses, operate under an open haul collection system and are free to compete for business. None of the haulers has a contractual agreement with the Reservation Business Committee. It is the responsibility of each household, business, tribal enterprise and entity to arrange for its own waste collection and transportation. Local haulers transport waste to the North Carlton County (Highway 210) transfer station, the St. Louis County (Brookston) transfer station, and the Western Lake Superior Sanitary District transfer station (Duluth, Minnesota).

C2. Background on the Resource

Geographically, the Fond du Lac Reservation divided roughly in half between St. Louis County to the north and Carlton County to the south. Demographically, the majority of the Reservation's population resides in Carlton County. In Carlton County, solid waste collection is not mandatory for residents, but those who have the service pay a solid waste management fee on their tax statements. Solid waste haulers have to be licensed by the county and also have to pay a license fee. There is a tipping charge for the collection of solid waste. In St. Louis County, service charges for solid waste management services can be imposed by the county or by others under contract with the county. The county may also levy a tax on all property in the service area or designate any combination of taxes and service charges. Independent hauling contractors are licensed by the county.

The Fond du Lac Reservation Environmental Program's waste management projects and programs have been relatively successful in dealing with the concerns of improper handling of solid and hazardous waste, illegal dumping, and limited recycling. The project's successes have been built on the program's objectives of pollution prevention, waste reduction, and providing community education. There are clean up crews in each district of the Reservation employed from April - October. There is also ongoing collection of white goods, waste tires, household hazardous waste and electronic waste, and mercury thermometer collections. Waste audits of tribal entities and enterprises have been conducted. There is an established tribal school food waste vermi-composting program, and there are drop-off recycling sheds in each of the three districts on the Reservation. The Reservation has developed a waste oil collection facility and adopted a revised Waste Management and Recycling Ordinance with increased enforcement to combat the problems of illegal dumping, junk vehicles, and open burning.

The Reservation's existing management system is an integrated solid waste management systems that includes:

- One transfer station/waste collection site;
- Waste reduction and education programs;
- Curbside recycling and garbage collection offered to residential and commercial sectors by private waste haulers;
- Year-round household hazardous waste facility;
- Household composting and school vermi-composting program.

The Reservation will continue to evaluate existing programs based on environmental, economic, legal, and geographic criteria.

The Reservation constructed a new recycling/household hazardous waste collection facility in 2002. The Reservation will continue to pursue the development of expanded solid waste processing facilities. There is also a need to provide monitoring of business and non-Tribal wastes generated within the exterior boundaries of the Reservation. The existing Waste Collection Site is cramped and outdated for effective waste management handling. An expanded facility and site would be better equipped to process Reservation business waste and create expanding recycling programs.

C3. Issues, concerns and opportunities

The Fond du Lac Reservation enacted a Solid Waste Disposal and Recycling Ordinance (#06/93) to address waste issues. A new ordinance was enacted on March 4, 2003 (#1040/03). It covers:

- Solid waste storage: who is responsible for the storage of solid waste, what types of containers are to be used, and establishes that the transfer of waste should be done in a timely manner.
- Solid waste disposal
- Recycling
- Transport: Addresses the proper way to transport solid waste
- Abandoned and decrepit mobile trailer homes
- Open burning of trash
- Demolition debris management
- Hazardous waste management
- Illegal dumping
- Storage of junk vehicles
- Disposal of medical waste
- Salvage yard operations
- Managing problem/specialty waste items

- Enforcement

Goals and objectives

Waste Reduction:

Currently, the Reservation has an educational food waste vermi-composting project at the tribal school, but would like to expand into yard waste composting as a way to provide a nutritional soil supplement for gardeners, and as a way to help the environment. Other waste reduction efforts include reduced packaging, increased reuse of materials and outreach efforts.

Waste Education:

Public education is a vital component in the strategy to achieve waste abatement goals on the Reservation. Community education will have a prominent role in the Fond du Lac Reservation's waste reduction, recycling, composting, household hazardous waste, solid waste processing, and other waste programs.

Waste Recycling:

The Fond du Lac Reservation has adopted and endorses state recycling goals and policies. Future plans call for the continuation of the recycling programs begun in 1995 and continued relationships with private waste haulers that service the residents and businesses on the Reservation. One major objective is to increase recycling participation among members.

Waste Planning:

Continue participation in federal, regional, local and Tribal planning efforts.

6. Alternatives for Resource Programs

Alternative 1 (Considered a no action or status quo alternative).

This alternative will continue to meet the current level of activity on the Reservation. However, it falls short of the goals and objectives that were identified in the planning process. The Band does not have programs in place that meet the current needs of some resources. Therefore, the long-term management efforts include programs not currently in place.

Impacts from this alternative:

There would likely be a shortfall in management needs. Some resources are not funded or are funded well below the level needed to meet objectives.

Air Quality: Continue program current program activities including:

1. Continue sample collection and site maintenance
2. Continue data compilation and analysis

Fisheries: There has not been a program with a defined strategy for population assessment within Reservation boundaries, where assessment activities have been sporadic. Work has focused on special projects, e.g. channel catfish surveys, and stocking of lake sturgeon and brook trout eggs. The goals of increased harvest opportunities for Band members on the Reservation and within the 1854 Ceded Territory may not be met.

Forestry: Forest development projects would be limited and harvest levels would remain at 4,500 cords per year. The goal of implementing ecological forestry would also be adversely affected, as would support for the Fond du Lac Logging and Timber (See full details in forestry section).

Wild Rice: Monitoring and restoration projects in the Ceded territories will not be possible.

Water & Wetlands: Monitoring of water quality and wetland issues in the Ceded Territory is lacking. Wastewater treatment project for Big Lake community will be significantly slowed.

Wildlife: The Wildlife Program is critically understaffed as compared to other natural resource agencies with similar responsibilities and land area in northeast Minnesota. Many wildlife resource issues and opportunities will remain unaddressed on the Reservation and in the Ceded Territories. Wildlife 2008 Operating budget = $100,738

Conservation/ Enforcement: Current working quarters do not allow

desk space for all officers, nor is there an office manager for all the administration requirements and paperwork. Enforcement in Ceded Territories is limited, particularly for non-tribal members.

Cultural/Traditional: Continue program as currently run with 1 employee working on :

1. Cemetery maintenance and improvements
2. Completing Section 106 walkovers for Projects (housing, roads, natural resources, forestry)
3. Cultural office serves as a communication link with the State Historical Preservation Office

Energy Resources: Continue current operations with existing level of employees.

Recreation: Active management is implemented by other programs on a as needed basis.

Waste Management: Continue current operations with existing level of employees

Approximate costs to implement this alternative:

This alternative allows for the continuation of current management activity. The cost would be the current budget. If the current program is under funded, with additional funding, the management activity could expand to the level prescribed in this alternative's objectives.

Personnel to implement this alternative:

Resource	Number of Employees	Resource	Number of Employees
Air Quality	2	Cultural/Traditional	1
Fisheries	3.25	Conservation/Enforcement	8
Forestry	8.75	Energy	0.5
Water/Wetlands	3	Recreational	0
Wildlife	1.25	Waste Management	6
Wild Rice	4.75		

Alternative 2 : Expansion & Improvement of Current Programs

Generally expand program to accommodate greater opportunities. Management activity in the ceded territories will increase and require more workers.

Impacts from this alternative:

Air Quality: Add toxics monitoring and additional stations to better monitor air quality for members' health. **This is the preferred alternative.**

Fisheries: Improve and increase fish population assessments both on the Reservation and within both the 1854 and 1837 Ceded Territories, with the goal of additional harvest opportunities. **This is the preferred alternative.**

Forestry: Ecological forestry will be more widely implemented. Birch management and forest development projects will increase significantly. **This is the preferred alternative.**

Water & Wetlands: Pursue additional regulatory authority under the Clean Water Act to assert tribal sovereignty on Reservation. Prioritize Big Lake community wastewater project for funding. **This is the preferred alternative.**

Wildlife: Add a FT wildlife biologist to permit focus on Reservation wildlife issues and land use planning.

Wild Rice: Improve wild rice harvest by conducting monitoring and restoration projects in the Ceded territories. **This is the preferred alternative.**

Cultural/Traditional: In addition to the current program Fond du Lac will take on responsibility for Section 106 as a Tribal Historical Preservation Office (THPO). Employees will increase from 1 to 2. **This is the preferred alternative.**

Conservation/ Enforcement: Enhance work space to improve efficiency and morale of staff. Enforcement in Ceded Territorites would also be expanded. An Administrative Assistant would be hired to track officers activities and budgets. **This is the preferred alternative.**

Energy Resources: Expedite the Strategic Energy Plan and capital development project. **This is the preferred alternative.**

Recreation: establish a recreation program with emphasis on motorized and non-motorized trails. Establish regulations for motorized trail use. **This is the preferred alternative.**

Waste Management: Develop a new waste facility on or off-Reservation and implement curbside pickup for Fond du Lac households. The new facility will help with increased utilization of waste for energy and recycling. **This is the preferred alternative.**

Personnel to implement this alternative:

Resource	Number of Employees	Resource	Number of Employees
Air Quality	3	Cultural/Traditional	2
Fisheries	4.25	Conservation/Enforcement	9
Forestry	10.0	Energy	1
Water/Wetlands	4	Recreational	2
Wildlife	2.25	Waste Management	10
Wild Rice	5.75		

Alternative 3: Reprioritize Program Directives

In certain programs, there is the opportunity to develop new strategic directions for the managers. Those programs with clearly defined alternative strategies are outlined below.

Impacts from this alternative:

Air Quality Pursue carbon neutral development and transportation policies to reduce on Reservation emissions and to demonstrate carbon neutral technology

Fisheries: Consider development of a hatchery program with facilities and staffing.

Forestry: Significantly increase harvesting activities in aspen cover types. This will increase Band revenues and provide opportunities for Fond du Lac Logging and Timber Band Lands.

Water & Wetlands: Expand water quality and wetland monitoring and protection into the Ceded Territories

Wildlife: Development of a dedicated funding source will allow the program to have stability and freedom from budget changes at the federal government level. Staff could increase to a FT technician, a FT wildlife manager for both the Ceded Territories and the Reservation and a FT wildlife research position to address questions important to Fond du Lac. This alternative would bring FDL's Wildlife Program more in line with staffing levels for other wildlife programs in Minnesota and enable the program to better meet the wildlife management needs in the face of increased pressure on natural resources

Alternative 3 is the preferred alternative for the Wildlife Program. Increased staffing with additional skill positions will allow the Program to address more of the needs and opportunities for wildlife in the 2 Ceded Territories and on the Reservation. This is needed due to the size of Fond du Lac's land area with wildlife interests – 8,000,000 acres – and increasing pressures and changes on wildlife resources. A larger staff will allow greater independence from other agencies for completing workloads. Dedicating funding will allow for improved planning and stability and independence from federal budgets. **This is the preferred alternative.**

Wildrice: A third alternative was not developed for wildrice.

Cultural/Traditional: In addition to the goals of Alt 2. Fond du Lac will complete walkovers of all lands controlled by Fond du Lac and Develop a plan for protecting lands identified as cultural/historical significant. Staffing hire or contract with Archeologist to complete survey and develop plan.

Conservation/Enforcement: A third alternative was not developed for conservation enforcement.

Energy Resources: Conduct geothermal, wind and hydroelectric assessments to help the Band determine the optimal path to energy independence.

Recreation: A third alternative was not developed for recreation.

Waste Management: Streamline waste management for households.

Personnel to implement this alternative:

Resource	Number of Employees	Resource	Number of Employees
Air Quality	4	Cultural/Traditional	3
Fisheries	7.25	Conservation/Enforcement	n/a
Forestry	11.0	Energy	3
Land		Recreational	
Water	5	Waste Management	10
Wildlife	4.0	Emergency Response	
Wild Rice	n/a		

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7. FdL Wetlands Protection & Management Ordinance June 2006
8. MN. DNR Field Guide to Native Plant Communities
9. Sustaining MN. Forest Resources: Voluntary Site Level Guidelines
10. FdL Fire Management Plan
11. FdL Forest Management Plan

Appendices

Appendix A

Resource Management Division Internal Project Review Process

I. Scope

a. This internal project review process shall apply to qualifying projects conducted by Resource Management Division programs within the boundaries of the Reservation and to qualifying projects outside the Reservation where a Division program has a major role in providing financing, planning and execution of a project.
b. This is an internal Resource Management Division process only and is not intended to substitute for reviews required by federal agencies or by other divisions, programs or committees as established by the Reservation Business Committee.

II. Projects qualifying for an internal review.

a. Projects that have the potential to disturb known or suspected cultural resources.
b. Projects with the potential to significantly alter current or future plant and animal communities on more than 1 acre of land or in any water body.
c. Previously reviewed projects where the objectives, methods, location or amount of area impacted have substantially changed since the initial comment period.
d. Projects requiring a permit under the land use, wetlands or other ordinance established by the RBC.
e. Projects requiring an Army Corps of Engineers permit or an EA or EIS under federal NEPA requirements.
f. Every 5 years for ongoing projects that met any of the initial criteria for review. Examples of these would include blueberry burns, rice lake vegetation control, beaver dam removals on drainage ditches.
g. Projects that the division director determines that need a review.

III. Projects generally not qualifying for an internal review.

a. Survey, inventory, research and monitoring activities unless they otherwise meet the criteria for projects requiring a review.
b. Prescribed fire or timber operations conducted around residential and commercial areas for the primary purpose of protecting life and property unless they have the potential to impact cultural resources. However, advance notice of these projects will be given to other

Division programs and to the Conservation Committee in a timely fashion.

c. Annual determinations of rice lake openings, hunting and fishing season and bag limits and methods of take.
d. Individual harvest of forest products for personal, non-commercial use where the vegetative cover is not significantly altered. Examples of this are cutting deadwood for firewood and gathering birchbark.
e. Burning permits for individuals on private property.
f. Roadside ditch mowing, and similar routine maintenance of right aways of established roads and trails.

IV. Reviewing Programs

a. The following programs will be given notification of projects meeting the criteria for review. Notification will be in writing via email or inter-office mail.
    i. Conservation
    ii. Cultural Resources
    iii. Environmental
    iv. Fisheries
    v. Forestry
    vi. Natural Resources
    vii. Waters
    viii. Wildlife

V. Details Required for Review

a. Project proposals must be in writing and contain the following information.
b. Lead Division program(s) and Project Leader(s)
c. Objectives
d. Methods used to accomplish the objectives.
e. Identification of whether project work will be done by Division staff, private contractor or an outside agency.
f. Project timeline.
g. Anticipated results and benefits
h. Detailed project map
i. Project proposals shall be posted online in the Company folder with the necessary link provided to all reviewing programs.

VI. Timeline for Review

a. *Following notification and posting of the written project proposal, there shall be a 30 day comment period for all projects unless all programs involved in the review process consent to a shorter time period for an individual project. The comment period for an*

individual project also may be shortened or extended at the discretion of the Division Director.

b. A site visit with the lead program(s) may be requested by reviewing programs during the comment period.
c. Programs failing to make comments within the 30 day review period or failing to request an extension of the comment period shall be considered to have no objection to the project proceeding as proposed.
d. If there are no unresolved issues following the conclusion of the comment period, projects will be presented to the Conservation Committee for review and comment.
e. Following review and comment by the Conservation Committee, the Division Director shall determine if a project may proceed as described or if it requires further review and approval from other divisions, programs or committees or the Reservation Business Committee.

VII. Requirements for Comments

a. Formal comments by reviewing programs must be made in writing and posted in the same Company folder as the project proposal before the conclusion of the 30 day review period.
b. The Project Leader(s) for each proposed project shall be required to keep all formal comments on file for future reference.
c. The Project Leader(s) is not required to address comments not made in writing within the 30 day review period. The Project Leader(s) is not required to address formal comments made by a reviewing program that are clearly outside the generally recognized jurisdiction of that program.

VIII. Dispute Resolution Process

a. In the event of a disagreement over a project proposal, programs shall attempt to reach an acceptable compromise during the 30 day comment period or within 5 working days following the conclusion of the comment period. This shall include at least one formal meeting chaired by the Division Director.
b. If a mutually agreeable compromise cannot be reached between programs, the advice and comment of the Conservation Committee will be sought at their first available monthly meeting.
c. Following the input of the Conservation Committee, the Division Director shall make the final determination of how to resolve differences and proceed with a proposed project.

IX. Exceptions to the Internal Review Process

a. In exceptional circumstances where initiation of a project is time sensitive, the Division Director may determine to bypass all or part of this internal review process. However, all programs listed in

section IV will immediately be notified of this decision and provided with the project proposal information as described in section V. The project, the decision and the reasons for bypassing all or part of the review process will be presented to the Conservation Committee at their next monthly meeting.

X. Revisions to Review Process

a. In recognition that a formal internal review process is a new process for the Division, experience in its implementation may dictate a need to make revisions to the above process. These revisions should be undertaken as needed with the input of program staff, the Division Director and any appropriate natural resource advisory committees.

Appendix B

Questions & Comments from Public Meetings

IRMP Input Meeting — December 13, 2007 4:00-7:00pm
FDL Community Center — Open meeting with presentations
Notes by Peter

Questions/Concerns:
Environmental

- Has our drinking water been tested?
- How often is it tested?
- Where is the aggregate section of plan? (ie minerals)
- Minerals affects water, air, wildlife etc don't they?
- Mining concerns: Can treaty rights be sold off?
- Does MPCA allow contamination of waters?

Lands

- Are we trying to manage this resource for band members or for the tribe?
- Has SAPPI sold land to the reservation?
- What land along the river is the band adding?
- What negotiations take place with Mn. Power for land along river?

Water

- What is being done about the mining tailings dumped into the St. Louis river?
- Does FDL have any say on these tailings and dumping?

Fisheries

- Does electrofishing cause mortality in fish?
- Are muskies in Mille Lacs damaging the walleye population?
- What does the DNR do to verify muskie damage?
- Do trophy northerns damage walleye?
- Does ceded territory designation permit DNR to do "anything it wants"
- Is some of our data weighing in of these issues?

Forestry

- What comes back after harvesting?
- What about medicines in the woods? Are they protected?
- Does anyone do plant surveys?
- Are they good enough surveys for alternative management (of medicinals)
- Is forestry primarily done to make money?
- How do we make forest resources more available to band members?
- What can you do to mimic old growth forests?
- Do presettlement charts make aspen acreage look larger than it was?
- Non monoculture forestry is preferable to monoculture aspen
- What is gong to be pushing the new forest harvest enterprise- $$ or forest enhancement?
- How many acres of cranberry bogs are on FDL?
- Where are our sustainable cedar and oak groves for wildlife?
- A dead tree is worth a lot to a woodpecker.
- Is alternative 4 harvest level really the most economical option?
- Is maple syruping sustainable on the reservation?
- Due to up front costs is it really sustainable to cut, plant and protect stands?
- Can the IRMP be rewritten in “apples and bananas” language. (that is easy to understand)
- Should there be larger cultural resource areas?
- Will reservation forestry enterprise go off rez for wood?
- If I want to buy logs from FDL forestry enterprise, what will it cost?
- Is air quality affected by heating with wood?
- Are any technicians working on maple sugar forest enhancement?

Wild Rice resource management

- Why is our rice only 3 feet tall these days? (it used to be taller)
- Why is there “dark residue” from knocking the rice?
- Why is rice coming into processing have more hollow heads?
- what is the status of purple loosestrife on wetlands?
- Do we do rice research?
- Are there too many boats harvesting - harming the resource?
- Have you considered boat limits on rice harvesting?
- Can you burn moose ear (pickerel weed) to control it?

Cultural Resources

- Does the cultural manager watch for medicinal plants?

Socio Economic Resources

- How many acres in the ceded territory is accessible to Band members?
- Should band consider a ceded territory land exchange tax?
- What is a band member considered trespassing on private land on the reservation when the reverse isn't true?
- Should ATV use be restricted? Road shoulders are being harmed by current use.
- Is there a public place for kids to ride ATVs.

IRMP Input Meeting December 12, 2007 5:00-8:30
52 And Older Committee
Notes by Ellen

Questions/Concerns:

- Environmental

  - Is each R/M program managed separately?
  - Is IRMP a pilot program?
  - Is R/M getting a new building?
  - Do you write grants for funding?
  - What about air quality and its impact on health.
  - Do you do air quality testing?- How is it looking?
  - What is the cancer rate in Indian Country.
  - I'm building "green"; can I bring my architectural drawings to R/M?
  - Are you still planning on using wind as a source of energy?
  - Can a person get days as public info? (wind turbines)
  - Do we tie in with other entities such as Lake Superior and do we interact with other programs?
  - Are we looking to wind power for the reservation and the community?
  - Would the tribe promote the use of private wind power?
  - Is there a plan in place?
  - How many turbines are in use now?
  - Does the noise from the turbines affect the animals?
  - Global Warming and its impact.
  - Ceded Territory – mining – who has input?
  - Are there info packets available?
  - Do you have surveyors?
  - Are there geological people present when building takes place?
  - Do you ever incorporate the Ojibwe School students in what you do?

Fisheries

- Any warnings about mercury levels in lakes? (Ceded Territory)

Forestry

- Does FDL have fire protection?
- What does "harvesting timber to meet land owners objectives" mean?
- Where does the $ go?
- Who runs the Timber Logging and who are the employees?
- Will there be enough long standing timber to harvest?
- Any old growth timber stands today ?

- Any cultural stands of trees and is it part of the plan to give member access?
- Are you planting more birch and maple for the future?
- Can you do a control burn for privates home? If so, is there a list to be put on?
- Where is the healthy birch and cedar? Can it be brought back?
- What about popple trees and the tent worms?
- Are the trees healthier after the worms go through?
- What does "fire wise" mean?
- Is fire wise part of keeping the brush down around homes?
- Do you do hazardous tree removal?
- The 4,500 cords per year, is that for fire wood?
- What are you preserving?
- Is forest management dependent on the big picture?
- Do the "other" groups have regulations to follow too?
- Do you work with (Cloquet) university forestry?
- What happens with the berry bushes, are they being considered?
- Will we ever run into a catch 22 regarding building houses and preserving?
- If you cut so many trees, how long will it take for them to come back?
- Any plans for hybrids?

Cultural Resources

- Do you check building sites?
- Mapped out for burial and cultural sites?
- Are you involved with the graves that are slipping in to the water? Can they be protected?

Conservation Enforcement

- Is Tribal Court for fish and wildlife violations?

- Is there a poacher problem?
- Is there double jeopardy?
- Where do “other Indians” who live within reservation boundaries go for violations?
- Is there deer herd control?
- Are you state?
- Is there a rabbit population problem?

Natural Resources

- What is that big machine used for? (harvester)
- Has the project helped? (Wild Rice Management & Restoration)
- Has the drought affected the rice crop?

- How much rice was harvested in years past?
- Are there water controls for rice lakes?
- There’s more snow now. Will that help future rice crops?
- Is wild rice a cash crop?
- Do other reservations have what we have?
- Do you use it (harvester) for other than rice lakes?
- Do you contract it (harvester) out to other reservations?

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IRMP Input Meeting December 12, 2007 10:00-1:00
FDL Dining Hall 62 And Older Committee
Notes by Ellen

Questions/Concerns:

FDL ENP Dining Hall
10:00-1:00

- Have all the burial sites on the FDL Reservation been identified?
- Fish shocking – does it hurt the fish?
- Clean fresh spring water for future use
- Are areas re-planted after a timber sale (cut)?
- Why bid out the timber sales if T/L “has that expensive machine?”
- Is there Yellow Birch on the reservation?
- Styrofoam container usage at FDL ENP Dining Hall
- Non-band members using FDL Waste Site
- Fiber glass (such as in insulation) dangers

- Permit needed for birch bark gathering? (on/off reservation)
- Birch bark compounds for pharmaceutical use (UMD & Russia)
- Are there wild turkeys on the reservation?
- Where are the Lynx and Bobcats?
- Are there Timber Wolves on the reservation?
- Are there wild dogs around?
- Can you shoot a domestic dog if chasing deer?
- Is there an animal control person?
- What can the Elders Concern Group do to be helpful to what R/M does?
- Road salt contamination impact to trees
- Ditchbank boundaries. Is Berthiaume Road in the reservation boundaries?
- Uranium drilling in Cromwell
- Is FDL Forestry cutting down the big trees that are left lying in the ditch? Will the swamps be affected?
- Genetically engineered trees?
- Paper Birch trees – where are they?
- Where does R/M Division funding come from?
- Is FDL doing anything about the graves sliding into the Nemadji River in Superior, WI? (by St. Francis church)
- Will there be a 2008 moose season?
- Are there any porcupines available?
- Is there a permit needed to pick agates?

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Appendix C

Capital Project Development

Needs and Feasibility Assessment
The development of a new Resource Management building is driven by the needs of the Resource Division to provide space for the current staffing levels. The building will be a LEED certified facility that meets the space needs and equipment storage area for the employees of the Resource Management Division

- It is anticipated there will be 32,000 square feet of building space to accommodate the sixty employees of the Resource Division
- There will also be a Tribal Court Room, Attorney and Judge Chambers, which will double for an Emergency Headquarters.
- The Resource Management Building will be located south of the convenience store.

Design Approval
Design Approval, which includes environmental approval, takes place after completion of preliminary planning) and before the initiation of working drawings.

Construction Documents
Construction documents will be drafted that consist of drawings and specifications that describe the quality, configuration, size, and relationship of all components to be incorporated into the project. Specifications will be drafted with a description of the construction materials and processes required to complete the project with the drawings serving as the visual complement.

The documents must be consistent with the project program, the construction budget, and the project schedule. To ensure this objective, the documents are reviewed by numerous internal and external entities: Krause Anderson for budget control, FdL Planning for land use compliance, FdL Resource Management for storm water/environmental compliance/quality inspections, Indian Health Service/FdL Planning sewer and water infrastructure, BIA roads and weekly Architect inspection and meetings. The construction documents, which are part of the contract package, serve as a basis for obtaining bids from contractors in the bid/award process.

Bid/Award Process

Facilities Design & Construction makes project specifications and drawings available to the public with contractors submitting bids for construction work based on the construction documents. A pre-selected group of contractors who are familiar with LEED buildings and have experience building LEED qualified buildings will bid the project. Competitively bid contracts must be awarded to the lowest responsible bidder, i.e., the bidder able to satisfactorily perform the work at the lowest cost.

Construction Process

The Project Manager and Inspector are charged with the following responsibilities: ensuring the project adheres to the scope of work; monitoring the project budget and schedule; serving as the primary Reservation liaison with the contractors, and design professionals; ensuring the project is built according to applicable building codes and is appropriately inspected; and, issuing paperwork such as the "Notice to Proceed," change orders, equipment orders, and the "Notice of Substantial Completion."

In addition to the above and before the occupancy of a new building, the Architect is responsible for inspecting the building. A commissioning agent will be hired to test performance of the mechanical systems in the building in conformance with the construction documents and specifications.

Funding, Planning, and Analysis
Cost Estimates

Fond du Lac Resource Management Building
5/14/07 - Preliminary Project Cost Estimate **32,000 square feet**
building

Site Improvements		$1,018,066
Excavation & backfill		$91,733
Structure		$1,120,000
Exterior Enclosure		$647,111
Roofing System		$210,667
Interior Construction		$1,521,333
Conveying System		$75,000
Mechanical		$1,054,222
Fire Protection		$72,000
Electrical		$640,000
Insurance & Permits		$100,000
Construction Contingency @ 7 %		$529,644
General Conditions		$530,268
Total Construction Subtotal	**$7,610,044**	
Architectural/Engineering/LEED Fees @ 8 %		$608,804

Commissioning LEED Application Fees .87883 %		$66,880
Reproductions		$50,000
Furniture/Fixtures/Equipment (3.49243 % Allowance)		$265,776
Total Project Cost	**$8,601,504**	

Appendix D

Definitions: Acronyms in Document

AQRV's	Air Quality Related Values
ATV	All Terrain Vehicles
BIA	Bureau of Indian Affairs
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Requirements
CWA:	Clean Water Act
CWAMP	Comprehensive Wetlands Assessment & Monitoring
ECS	Ecological Classification Systems
EPA	Environmental Protection Agency
FDL	Fond du Lac Band
GWPP	Ground Water Protection Plan
IRMP	Integrated Resource Management Plan
ILCA	Indian Lands Consolidation Act
NEPA	National Environmental Policy Act
NPC	Native Plant Community
NWI	National Wetlands Inventory
NRCS	Natural Resources Conservation Service
ORR	Outstanding Reservation Resource Waters
OWP	Office of Water Protection
RBC	Reservation Business Committee
SWPP	Source Water Protection Plan
TAS	Treatment as State
TAR	Tribal Authority Rule
TIP	Tribal Implementation Plan
USGS	United States Geological Survey
USDA	United States Dept. of Agriculture
VHS	Viral Hemerrhagic Septicernia
WQMP	Water Quality Monitoring Program