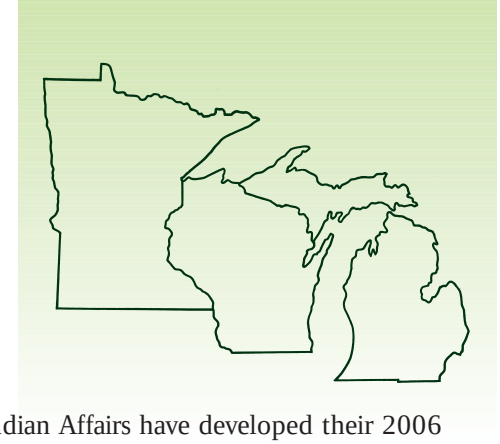
Executive Summary



Midwest region reservations, inter-tribal organizations and the Bureau of Indian Affairs have developed their 2006 wetland and waterfowl enhancement initiative and accomplishment report.

The Circle of Flight program was initially funded in FY 1991 and has since distributed 9.1 million dollars to 31 reservations and three inter-tribal organizations for waterfowl and wetland enhancement projects.

The Circle of Flight program in 2005 enhanced or maintained 21,787 wetland acres, restored and re-seeded 2,045 acres of wild rice, established 494 acres of upland nesting cover and prairie grassland and constructed and installed 103 nesting structures.

This publication features 25 tribal and inter-tribal success stories. Circle of Flight continues to be the national tribal model for wetland / waterfowl enhancement, especially in wild rice restoration.

Anticipated accomplishments in 2006 will include the enhancement and maintenance of 21,406 wetland acres, restoration and re-seeding of 1,813 acres of wild rice, planting of 439 acres of upland nesting cover and construction and installation of 209 nesting structures.

These accomplishments will contribute to the **Great Lakes Regional Collaboration Strategy** wetland restoration goal.

The Great Lakes Regional Collaboration Strategy document released December 12, 2005, in Chicago, Illinois, identified the following wetland goal and milestones.

Goal: Protect existing wetlands and restore wetlands in both urban and rural areas so that rivers and streams, and lakes across the Great Lakes region function as healthy ecosystems.

Interim Milestones

- By 2010, restore, recover, and protect a net increase of 550,000 acres of wetlands within the Great Lakes basin.
- By 2015, restore, recover, and protect a net increase of 1,000,000 acres (450,000 additional) of wetlands within the Great Lakes basin.

The reservations and inter-tribal organizations are key partners with federal agencies, state and county governments, and private organizations such as Ducks Unlimited, The Nature Conservancy and the Minnesota Waterfowl Association.

Circle of Flight funds have been used as matching funds for tribes to participate in several North American Waterfowl Plan Projects. Upper and Lower Sioux Reservations are partners in the Minnesota River Watershed I, II and III projects. The Red Lake and White Earth Reservations are partners in Phase I and II of the Northern Tallgrass Prairie Restoration Project. Fond du Lac Reservation's "Rice Portage Wetland Restoration" and Red Lake Reservation's "Red Lake Farm" both have received North American Wetland Conservation Act grants. The "Superior Coastal Wetland Initiative" features participation of Bad River, Red Cliff and the Great Lakes Indian Fish and Wildlife Commission. "Michigan Upper Peninsula Coastal Wetland Project," Phase I and II, includes the Bay Mills Indian Community, the Keeweenaw Bay Indian Community and the Great Lakes Indian Fish and Wildlife Commission.

Minnesota reservations are part of the largest conservation consortium funded by the Legislative Commission on Minnesota Resources (LCMR) titled "Restoring Minnesota's Fish and Wildlife Habitat Corridors."

The Circle of Flight programs have leveraged their dollars for an additional 24 million in federal, state, private and tribal funding, yielding a match ratio of nearly 3 to 1.

Twenty-four reservations, the Great Lakes Indian Fish and Wildlife Commission, 1854 Authority and Fond du Lac Ceded Territory, with a reservation and ceded land base of almost 62 million acres, including almost five million acres of wetlands, have identified $1,103,000 in funding needs for FY 2007. These funds will be used to continue the long-term management and protection of waterfowl populations and wetland habitat throughout the Great Lakes Region.

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Introduction

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An inter-agency waterfowl management task force was formed in 1988 to annually develop waterfowl enhancement projects, initiatives and strategies in conjunction with the North American Waterfowl Management Plan and its joint venture goals and objectives. Circle of Flight programs are major partners in the Prairie Pothole and Upper Mississippi River / Great Lakes Region joint venture areas. The tribes have leveraged 9.1 million dollars in Circle of Flight funds to obtain almost 24 million dollars in NAWCA and partner dollars.

This publication features 25 tribal and inter-tribal success stories. Great Lakes tribes continue to be the national leaders in wild rice restoration and enhancement techniques. Thirty-one Circle of Flight projects occurring on 23 reservations and two treaty-ceded areas are being funded with the 600,000 appropriated in FY 2006.

Circle of Flight project activities in 2006 will contribute significant wetland enhancement acres to accomplish the Great Lakes Regional Collaboration Strategy wetland restoration goals.

Minnesota Reservations are part of the largest conservation consortium habitat restoration and management initiative funded by the Legislative Commission of Minnesota Resources (LCMR) titled "Restoring Minnesota's Fish and Wildlife Habitat Corridors."

The Great Lakes Region, of which Indian Reservation land base and treaty-ceded areas encompass a significant portion, cannot be overlooked in regard to its waterfowl production. "Breeding habitat in the Great Lakes Region is contiguous to and interrelated with western and northern production areas and southern wintering areas. Preservation of waterfowl-producing habitat in the Great Lakes Region is important because of the habitats contribution to the waterfowl resources of the Mississippi and Atlantic Flyways and the Nation."[1]

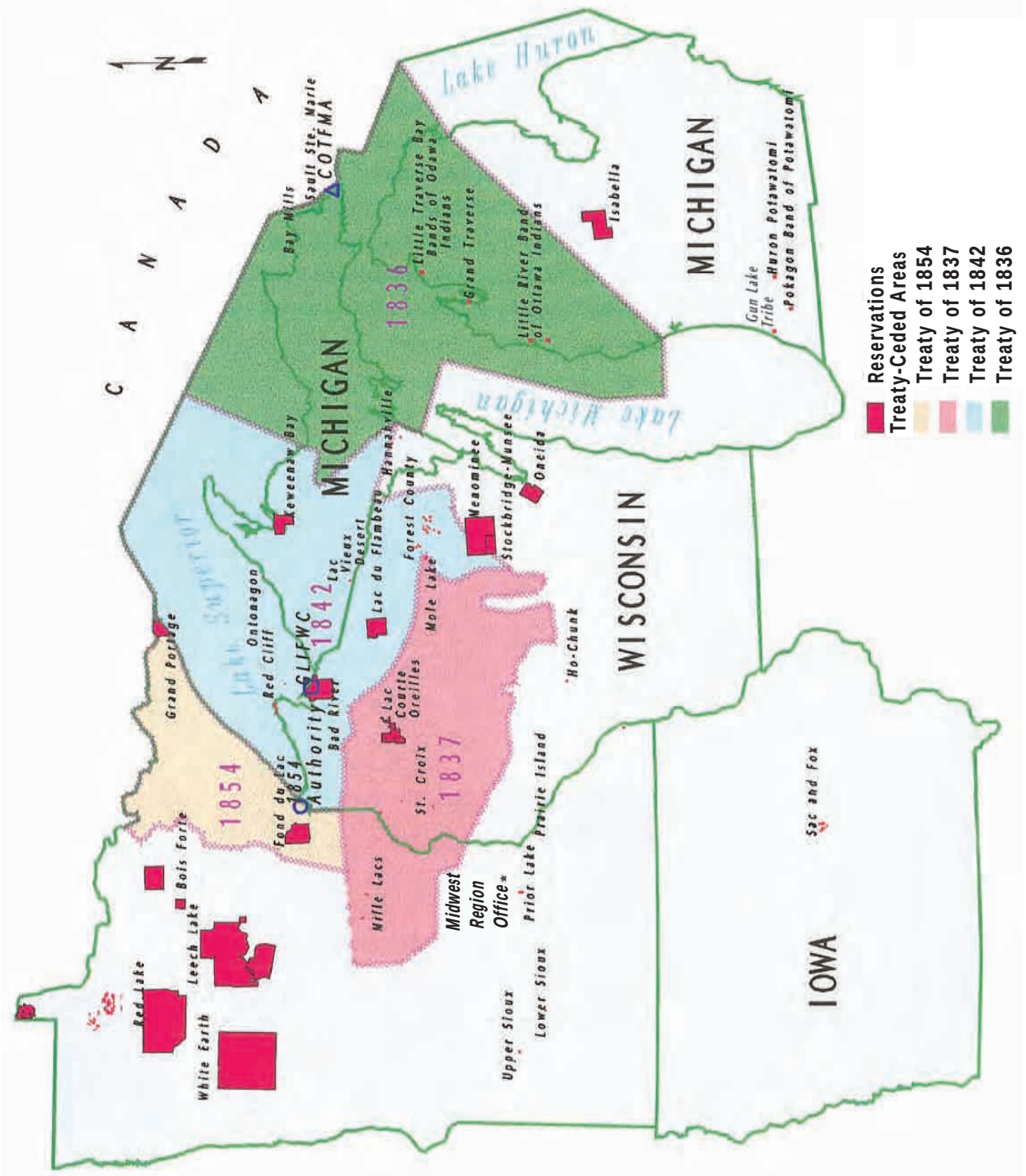
The Northern Reservation woodland habitat and the stability of watershed levels during drought periods in the prairie pothole provide a vital duck production carry-over zone. Circle of Flight programs manage over 200,000 acres of natural wild rice beds, which provide significant waterfowl feeding and nesting areas unique to the Great Lakes Region.

BIZHIBAYAASH-Circle of Flight provides the tribal and inter-tribal strategy for cooperation to preserve and enhance wetland ecosystems and associated habitats that benefit waterfowl, non-game, and threatened and endangered species.

The continued infusion of financial resources will further enhance the exemplary wetland and waterfowl enhancement accomplishments of the Midwest region reservations and inter-tribal organizations.

[1] *U.S. Fish and Wildlife Service, 1979. Breeding duck habitat in the Great Lakes Region, Category II. U.S. Fish and Wildlife Service, Twin Cities, MN. 52 pp.*

Midwest Region Reservation Map



Circle of Flight

Midwest Region Tribal Resource Base

Reservations	Total Acres	Acres of Forest	Acres of Lakes	Acres of Wetlands	Miles Rivers / Streams	Waterfowl Management Investment
MICHIGAN						
Bay Mills	3,494	1,500	64	1,014	5	$ 100,800
Grand Traverse	375	247	—	—	—	30,000
Gun Lake Tribe	—	—	—	—	—	4,000
Huron Potawatomi	—	—	—	—	—	20,000
Keweenaw Bay	69,050	12,000	15,000	3,050	80	764,700
Lac Vieux Desert	1,100	565	5	289	2	50,000
Little Traverse Bay	215,669	130,198	7,131	36,281	95	40,000
Little River Band	111,197	81,769	2,259	17,678	199	30,000
Sault Ste. Marie	391	40	—	—	—	30,000
MINNESOTA						
Bois Forte	148,000	75,470	56,479	60,000	73	17,000
Fond du Lac	97,800	54,000	3,191	43,265	66	1,400,000
Grand Portage	56,000	35,140	633	10,080	69	130,000
Leech Lake	667,099	247,000	300,000	120,078	108	955,000
Mille Lacs	137,246	7,700	132,516	3,000	15	74,900
Prairie Island	2,290	450	405	520	2	10,000
Red Lake	838,004	333,050	236,500	471,043	55	2,714,497
Upper / Lower Sioux	3,154	1,200	61	617	10	300,000
White Earth	829,440	423,840	45,720	21,920	300	1,200,000
1854 Treaty Ceded Territory	5,000,000	4,000,000	500,000	75,000	5,573	40,000
Fond du Lac Ceded Territory						60,000
1854 Authority						322,000
WISCONSIN						
Bad River	142,000	100,000	1,063	25,000	150	25,000
Forest County Potawatomi	11,650	10,866	48	608	19	50,000
Ho-Chunk	12,638	2,000	11	1,643	45	60,000
Lac Courte Oreilles	75,000	39,000	15,028	7,545	44	15,000
Lac du Flambeau	86,630	41,733	17,897	24,000	65	333,450
Menominee	235,000	202,364	8,540	24,096	300	25,000
Oneida	65,730	990	5	8,000	35	214,000
Red Cliff	14,485	13,100	—	235	40	151,400
Sokaogon Chippewa	1,800	200	287	900	15	2,000
St. Croix	4,600	2,000	4,590	800	3	102,700
Stockbridge-Munsee	16,000	10,080	23	5,440	28	7,000
GLIFWC	53,400,000	35,540,000	881,200	3,804,800	8,000	605,000
TOTAL	62,245,842	41,366,502	2,228,656	4,766,902	15,396	9,883,447

Bay Mills

Wetlands and Wild Rice Enhancement

Bay Mills is located on the eastern end of Michigan's Upper Peninsula on the shoreline of Lake Superior. There are roughly 3,500 acres of land in the Bay Mills Reservation. Approximately 1014 acres are wetland. Four hundred and sixty acres were set aside in October 1996 for a wetland preserve. Bay Mills Indian Community began receiving Circle of Flight money in 1994 and has been awarded $100,800 to date. Numerous projects have been completed to assess, monitor, and improve local wetland habitat.

Waterfowl: One of five spring waterfowl monitoring sites is located within the wetland preserve. The others are located on other Bay Mills Reservation wetlands. Most of the sites have been monitored since 1994. The most abundant species documented at the designated wetlands was the Canada goose, with the Back Bay being the site with the greatest diversity over the years.

Frog and Toad Survey: Bay Mills has been conducting a frog and toad call survey since 1995. Six species have been heard over the years. The most frequently heard species during that time was the Spring Peeper. While most of the sites fluctuated minimally from year to year, Monocle Lake has gotten steadily less diverse every year.

Wild Rice: Approximately 5,000 pounds of wild rice have been seeded at Bay Mills since 1994. Spectacle Lake has been seeded since 1994 and Waishkey / Back Bay since 1995. Wild rice was purchased from the Great Lakes Indian Fish and Wildlife Commission. Wild rice growth has been improving slowly. Spectacle Lake has had better success during the past few dry years than the beds on Waishkey / Back Bay.

Cooperative Projects: In cooperation with the U.S. Forest Service, the east side of the Hiawatha National Forest was surveyed for waterfowl and wetland types. Resulting information and maps will be used to prioritize upcoming wetland projects.

Wild Rice Lake & Stream Survey: The Wild Rice Lake & Stream Survey on Hiawatha National and State Forest Land assessed 25 lakes and streams for possible wild rice habitat. Two sites will possibly support wild rice. Two existing wild rice beds were documented in Chippewa County. It is believed these sites were planted in the 1930s by the Michigan Department of Conservation.

NAWCA Grant: In March 1999, Bay Mills Indian Community pledged to support a North American Wetland Conservation Act grant proposal titled "Michigan Upper Peninsula Coastal Wetland Project." The proposal, supported by agencies and organizations, is a multi-phase landscape scale project to protect, restore, and manage coastal wetlands and associated uplands in the Lake Superior and St. Mary's River watersheds in Michigan. Bay Mills Indian Community provided funds to assist the Michigan Department of Natural Resources with restoration of wetlands on public lands in the Eastern Upper Peninsula.

Grand Traverse

Waterfowl Habitat and Wild Rice Projects

The Grand Traverse Band of Ottawa and Chippewa Indians conducted a waterfowl habitat project on South Lake Leelanau during the past field season. The primary goal was to investigate the feasibility of establishing wild rice in the South Lake Leelanau wetland complex. Secondly, the marsh is the primary waterfowl habitat for Leelanau County near the Grand Traverse Band Reservation. Waterfowl were observed and monitored in South Lake Leelanau for seasonal migration, resident waterfowl species, pairs, broods and transient flocks for comparison to previous years based on habitat conditions and water levels. Periodically there is a shift in migration of some duck species due to conditions in the Great Plains or northern Canada, which has an effect on the species observed in our area. Although these migration pattern shifts are temporary, we are interested to observe how frequent and to what extent we may see brood production of species such as pintail or northern shoveler in the South Lake Leelanau marsh.

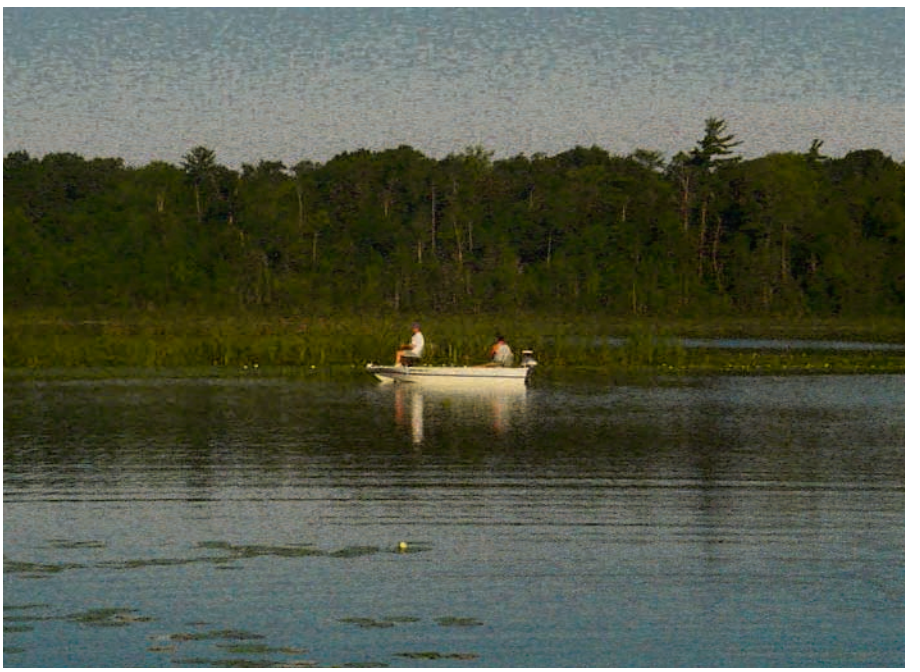
In order to determine South Lake Leelanau is suitable for wild rice production we monitored for dissolved oxygen, PH, depth, substrate composition, specific conductance, stream flow, chloride, and turbidity. Stream flow, depth, PH, and sediments were within the parameters for wild rice production indicated by the literature and guidelines received by Tribes and other sources experienced with wild rice production. The Grand Traverse Band Natural Resources Department seeded 2000 pounds of wild rice during October 2004 and we are looking forward to the results.

Due to lower levels in the Great Lakes over the past few years, many areas in Grand Traverse Bay that were previously below the ordinary high water mark have began supporting a wide variety of vegetation which has increased habitat for waterfowl, muskrat, songbirds, insects, and fisheries. With the increase of vegetation and seasonal ponds, some resort owners and residents have been lobbying the Michigan Legislature to approve beach grooming along the riparian areas in Grand Traverse Bay. The Grand Traverse Band of Ottawa and Chippewa Indians, along with state, federal, and local agencies, has been opposed to beach grooming activities along the Lake Michigan shoreline. Beach grooming disturbs bottom land substrate, interferes with native vegetation establishment and provides enough disturbance of sediments to possibly encourage invasive species such as purple loosestrife. GTB-NRD will continue to evaluate these conditions as long as the water levels remain low and provide the shoreline with desirable species, and take action if invasive species appear.

Gun Lake Tribe

Tribal Wildlife Enhancement

Above is a photo the land to be planted with native vegetation for waterfowl nesting habitat.



Above is a photo of Boot Lake in Allegan County, Michigan.

The Match-E-Be-Nash-She-Wish Band of Potawatomi Indians (*Gun Lake Tribe*) owns approximately 300 acres of private land with significant acreage adjacent to inland lakes and streams in southwest Lower Michigan. The Tribe is participating in the BIA Circle of Flight program for the first time in the 2006 funding cycle.

Native Upland Plantings

Circle of Flight funds will be used to construct upland waterfowl habitat. Native warm and cool season grasses and forbs will be planted at a former agricultural site adjacent to wetland habitat and open water. The establishment of native vegetation in these areas will provide nesting and feeding habitat for dabbling ducks and other wildlife.

Wood Duck boxes and nesting platforms

Wood Duck boxes will be constructed at the Indian Lake and Boot Lake sites. Gun Lake Tribe members will assist with the construction and placement of the boxes. The boxes will be monitored seasonally for use.

Huron Potawatomi

Chief Moguago Wetland Preserve Observation Dock

The Nottawaseppi Huron Band of Potawatomi participated in the Circle of Flight program for the first time in 2001. The tribe received funding to enhance wetland awareness and education by constructing a wetland observation dock out into the 65-acre Chief Moguago Wetland Preserve.

Overall, the tribe has approximately 100 acres of forested and marsh wetlands. Each type has its own unique connection to the tribe. The forested wetlands are valued for their black ash trees while the open marsh wetlands are valued for their beauty and aesthetics. For this project we focused on the open marsh type wetlands of the Chief Moguago Wetland Preserve. The tribe created the wetland preserve in 2000 via a tribal resolution.

June 2001

November 2001

In November 2001, after the proper permits were finally obtained, our contractors, Dockmaster Inc., began construction. We had them build a 210' by 4' elevated dock mounted on aluminum mud plates. Start to finish on-site construction took about two full eight-hour days. Dockmaster preconstructed the dock sections and only needed to connect the 10-foot sections on site. This saved on man-hours and on impact to the site. Shown below are some "before" and "after" pictures.

Keweenaw Bay

Wetlands and Impoundment Enhancement

The **Keweenaw Bay Indian Community (KBIC)** has been involved in the BIA Circle of Flight program since its inception in 1991. Circle of Flight has allowed us to participate in and fund a variety of projects on and off the L'Anse Indian Reservation. Circle of Flight has also enabled us to partner with many federal, state, and private agencies to promote wetland and waterfowl initiatives.

Our ongoing monitoring programs on the reservation include: **1) Artificial Nesting Structures-** we have constructed and maintained several artificial nesting structures on the reservation since 1996. Presently, we have 43 wood duck boxes at five locations; **2) Fall Waterfowl Surveys-** The U.S. Fish and Wildlife Service (USFWS) helped us establish a fall waterfowl survey at each of our reservation wetlands. That survey has been implemented and reported annually since 1994. These surveys are conducted by KBIC staff weekly for 6-10 weeks each fall; **3) Frog and Toad Surveys-** In 1994, we began working with Great Lakes Indian Fish and Wildlife Commission (GLIFWC) staff to monitor frog and toad populations at index stations. These surveys document the health of our wetlands and denote any changes in species numbers and density. KBIC staff listen for vocal signals at 10 sites in the spring and summer; **4) Wild Rice Management-** Starting in 1999, we implemented a wild rice survey to document the success of our wild rice plantings. Each year we record various parameters at each site such as crop density and competing vegetation, water chemistry, number of wild rice plants and tillers at four index stations. In addition KBIC is in the process of developing new stands of wild rice; and **5) Additional Monitoring-** In 2004 KBIC started coordinating annual Sand Hill Crane counts. In 2004 KBIC staff also initiated monitoring of an on-reservation Heron rookery.

Our recent Circle of Flight projects have focused on broader partnerships associated with the North American Wetlands Conservation Council (NAWCC). Beginning in 1998, we started a successful partnership to protect and enhance wetlands in the Lake Superior Basin of Michigan's Upper Peninsula. The Michigan Upper Peninsula Coastal Wetland Partnership has secured $1.88 million from the NAWCC for projects initiated in 1999 and 2001. Our partners include: Bay Mills Indian Community, The Nature Conservancy, Upper Peninsula Resource Conservation and Development Council, Ottawa National Forest, USFWS, Ducks Unlimited, Whitefish Point Bird Observatory, the Michigan DNR, the Village of L'Anse, Eagle Harbor Township, NRCS, and Yellow Dog Watershed Preserve. The partners have committed over four million dollars in matching funds. To date, KBIC has reserved over 836 acres for waterfowl / wildlife management. In 2002-03, we completed land transactions in the Little Carp River (280 acres) and Kelsey Creek (107 acres) watersheds. We'll continue to participate in the NAWCC programs in 2004.

Lac Vieux Desert

Wild Rice Restoration Project

Since the early part of this decade, the Lac Vieux Desert Band of Lake Superior Chippewa Indians has been attempting to reestablish rice in Lake Lac Vieux Desert. This 5,000-acre lake once supported an abundant rice crop which had provided sustenance to the members of the tribe for generations. Today, through the efforts of the tribe, the Great Lakes Indian Fish and Wildlife Commission, the Ottawa National Forest, and with partial support of the Circle of Flight program, limited amounts of wild rice can be found in small bays and fringe areas of the lake.

Since 1991, depending upon the availability of seed, the tribe has attempted to consistently plant 500 pounds of rice in Lac Vieux Desert Bays – Misery, Rice and Slaughter. Also, in cooperation with the Ottawa National Forest, rice has been planted in Crooked Lake within the boundaries of the Sylvania Wilderness. In the last three years, rice has also been planted in the Middle Branch of the Ontonagon River. It appears the rice in Crooked Lake and the Middle Branch of the Ontonagon are beginning to respond to the seeding program. However, the response to seeding in Lac Vieux Desert is less encouraging.

Misery Bay on Lac Vieux Desert.

Crooked Lake within the boundaries of the Sylvania Wilderness.

After countless hours and meetings with natural resources agencies, groups, wild rice experts, and elders, many factors have been presented to explain the demise of wild rice in Lac Vieux Desert. The factor deemed most limiting to re-establishing the rice is fluctuating water levels. During this time period, re-licensing of dam operations controlling Lac Vieux Desert lake levels was underway with the Federal Energy Regulatory Commission. (FERC). The tribe and a variety of federal, state and local agencies and groups met to develop a condition for the new license for FERC consideration. Despite the cooperation and consensus of the various groups, this condition is being challenged and may be challenged well into the future. Meanwhile, the tribe will continue to reseed Lac Vieux Desert as well as other potential rice areas.

Little River Band

Wetlands Enhancement and Research Projects

Successful wild rice re-introduction area.

The Little River Band of Ottawa Indians Natural Resource Department (LRBOI) staff has continued to inventory area lakes and streams for suitability to propagate wild rice, assess results of re-introduction efforts, and survey for the presence of the threatened of wild rice species. Surveys indicate mixed results in wild rice re-introduction efforts. Some areas did not grow wild rice while others did.

All re-introduction areas had similar habitats (shallow cattail marshes, mouths of rivers, and lake edges). Factors limiting re-introduction success seemed to be invasive species presence (carp and mute swans), natural depredation (muskrats), and adverse water levels (boat wakes and wave action). Surveys conducted to identify the presence of the threatened wild rice species resulted in the identification of small stands (under 1/2 acre each) within the 1836 Ceded Territory. The presence of the threatened species of wild rice within the 1836 Ceded Territory has triggered the development of a wild rice management plan. This management plan will develop monitoring protocols, management guidelines, protection ordinances, and propagation protocols.

A study was designed to determine whether or not excluding large herbivores (mute swans and carp) from stands of wild rice would improve the yield of wild rice seed necessary for establishment of self-sustaining crops. Exclosure cages are free-standing structures 4'x 8' long and 8' tall constructed of re-rod and weld-wire fencing. These exclosure cages were randomly placed within wild rice stands. Average number of total stems in exclosure cages was 50.5 compared with the 7.6 stem average in the reference plots. Total number of mature stems in exclosure cages was 50.5 compared with 1.6 in the reference plots. In 2005, wild rice outside exclosure cages was in significantly worse condition than inside. High numbers of mute swans have been consistently counted on Manistee Lake (often over 100) and have been witnessed grazing on the wild rice. Although the majority of damage is attributed to mute swans, predation from native animals (muskrats) and adverse water levels seemed to be limiting factors at other wild rice re-introduction areas.

Exclosure cage experiment; note the rice growing inside versus outside the wild rice exclosure cages.

The purpose of native grass and wildflower planting is to re-establish a vegetative cover of native plants that will enhance the landscape. The initiative to plant native grasses and wildflowers has been propelled by the recognition of the benefits, both economic and environmental.

Trumpeter swans released within the Tribal Reservation.

In 2005, one site was cultivated for native vegetation re-introduction. Native grass and wildflower seeds were purchased from the J.F. New Native Plant Nursery, in Grand Rapids, Michigan. Native grass and wildflower seeds included little blue stem, broom sedge, butterfly weed, arrow-leaved aster, sand coreopsis, Canada wild rye, June grass, wild lupine, horse mint, and black-eyed susan. In 2005 2.31 acres surrounding ephemeral wetlands were enhanced with native grasses and wildflowers. Since 2004, 4.31 acres have been planted with native grasses and wildflower.

Since the start of the LRBOI trumpeter swan re-introduction program, a total of 22 swans have been released. The trumpeter swans that have been released are comprised of 13 females and 9 males, ranging from 1 to 2 years old. These trumpeter swans were purchased from Michigan State University's Kellogg Bird Sanctuary. All of the trumpeter swans have been released within the 1836 Ceded Territory in hopes of establishing a breeding population. Two of the swans have died since being released, one from hitting a power line and another from unknown causes. Observations have revealed most of the swans have stayed at the release sites all summer long. Hopefully as these birds mature they will return to suitable areas within the 1836 Ceded Territory to breed.

Little Traverse

Monitoring Wetland and Waterfowl Projects

The Little Traverse Bay Band's Natural Resources Department has utilized Bureau of Indian Affairs Circle of Flight funding as a catalyst to fund projects for baseline wetland monitoring within the 1855 Reservation and 1836 Ceded Territory. These baseline wetland and waterfowl projects include: threatened & endangered species monitoring, including piping plover monitoring and aerial surveys for bald eagle / osprey nests; migratory waterfowl monitoring, including loon & waterfowl brood surveys; and cultural significant species enhancement, including wild rice seeding and sweet grass propagation.

Threatened & endangered species projects include piping plover, *Charidus melodus*, (an endangered species), and nest monitoring on High Island within the 1855 Reservation. Also, Bald Eagles (mgiizii), *Haliaeetus leucocephalus*, nests are monitored with aerial surveys. Migratory waterfowl projects include common loon (dibikgiizis), *Gavia immer*, a threatened species, and monitoring and waterfowl brood surveys on reservation lakes. Culturally significant species enhancement includes sweet grass (wiingash), *Hierochloe odorata*, propagation and wild rice (manomin), *Zizania aquatica*, experimental seeding on reservation lakes.

Bois Forte

Nett Lake Restoration Project, Phase I

2005 marks the fourth year of a 20-year reclamation program for Bois Forte's 7300 acres of wild rice on Nett Lake. Over the last century, engineering alterations of centuries-old hydrological regimes led to biological species shifts and decreased wild rice production. Control dams to migrate periodic basin flushing events were once considered central for managing wild rice production. Subsequent investigations demonstrate that rigid water level management encourages colonization by hardy perennial plants with extensive root systems. These out-compete and subsequently suppress wild rice production.

Periodic, extreme basin flushing is today considered essential to wild rice stand maintenance. Extreme hydrological events interrupt and reset colonization by aggressive perennial plants, and provide "opportunity space" for less-competitive annual wild rice seed. In 2002, prior to beginning this reclamation program, less than 2800 acres of Nett Lake's 7300 potential rice-bearing acres were in production (38%). Estimated total production was 400,000 pounds (average 143 pounds / acre). Beds were largely thin (less than 10 stems / square foot), and kernel yield was considered far below what is possible. Remaining lake surface acres were either open water, or colonized by several perennial plant species.

Phase I of the Nett Lake Restoration Program (www.boisfortednr.com) involves the physical removal of rooted emergent plant communities and restoration of opportunity space for wild rice re-colonization. This is a stabilizing measure, intended to stop or reduce the rate of wild rice production decline. Phase II of the program will be implemented starting in 2006. This phase will include more intensive land management actions to reduce beaver impoundment and stagnancy. We will also establish multiple, one-acre cultivation plots in barren sediment areas to evaluate effectiveness of the weed-cutting barge as a cultivator for dormant wild rice seed.

In 2003, after a lengthy federal permitting process, the Band used its own financial resources to purchase one vegetation-cutting barge and one vegetation harvesting barge. Federal funding in the amount of $180,000 was also received for project support. Support included construction of storage facilities, construction of barge landing areas, and ongoing operations and maintenance costs. In the foreshortened 2003 field season, barges cleared emergent plants from 15 surface area acres. Total rice bed area was approximately 3000 acres, and ratio of rice bed acres to total lake acres was 41%. Total estimated yield in 2003 was 700,000 pounds, equivalent to 233 pound / acre.

In 2004, those acres previously cleared and cultivated by the barges subsequently produced wild rice beds with higher stem densities / acre and greater kernel yield. 2004 clearing operations began in mid-May and ceased in early September, resulting in a total of 30 acres cleared of nuisance vegetation. During this time it was found that the single harvester presently on-site cannot effectively keep up with and collect all plant material produced by the AVC-cutting barge. In order to prevent uncollected plant material from dispersing within the larger lake area, the cutting barge needs to reduce its cutting speed, thus slowing the slowing rate of surface area clearing. In 2004, total estimated rice yield was 1,170,000 pounds, over a total of 3400 acres. The ratio of rice bed acres to total lake acres was 46%; average kernel weight 344 pounds / acre.

In fall 2004, Bois Forte purchased a second harvester barge. This barge was put in to service in spring 2005. During field season 2005, a total of 35 acres was cleared. Estimated rice production in 2005 has continued to increase. This is especially telling, in light of widespread rice crop failure experienced in state-managed rice lakes across the region. In 2005, ratio of rice acres to lake area acres was 48%. An estimated 1.3 million pounds of green rice was produced, yielding an average weight per acre of 371 pounds / acre.

Weed removal and sediment cultivation appears after four years to have positive effect on wild rice production. Additional plot evaluations to be carried out in phase II of the program will help to further quantify restorative effects of barge activity.

Fond du Lac

Wild Rice and Wetland Restoration Projects

Historical Perspective and Status of the Wild Rice Ecosystem on Fond du Lac

Five of the wild rice lakes on the Fond du Lac Reservation are being restored to their historical size and abundance because they were partially drained by a judicial ditch system. These wild rice lakes were important to the Fond du Lac Band of Lake Superior Ojibwe for food and for cultural and spiritual reasons. The judicial ditch system was dug between 1916 and 1921 and resulted in lower lake levels on five of the wild rice lakes on the Fond du Lac Reservation, which allowed competing vegetation, such as cattails, sedges, and pickerel weed to displace hundreds of acres of the wild rice stands on these lakes. Four water control structures have been built to properly manage the wild rice lakes and to restore historic lake elevations. Mechanical removal of competing vegetation is being used to successfully restore hundreds of acres of open water wild rice habitat.

The wild rice lakes on the Fond du Lac Reservation are being restored because wild rice is very important to the Fond du Lac Band of Lake Superior Chippewa, for cultural, spiritual and subsistence reasons, and also for its importance to waterfowl and other wildlife. The six wild rice lakes on Fond du Lac Reservation have a total acreage of 1,401 acres. The wild rice and associated wetland ecosystem provides a large contiguous fish and wildlife habitat with unique importance for waterfowl and other wildlife species. Waterfowl especially use this series of lakes during the fall migration. The Fond du Lac Natural Resources Program is restoring the wild rice lakes on the Fond du Lac Reservation to their historical size and abundance. Traditional and current scientific knowledge of wild rice ecology and a hydrological model will be used to manage the lakes, as closely as possible to a natural system of lakes and streams without the adverse impacts of a man-made drainage system.

Wild Rice Management and Restoration on Fond du Lac

Support from the BIA and the USFWS through the Circle of Flight-Tribal Wetland & Waterfowl Enhancement Initiative was essential in the planning and implementation of this project. Since its inception in 1991, the grants from Circle of Flight have provided about $660,000 to Fond du Lac for restoring this large wild rice and wetland ecosystem. The Fond du Lac Reservation has also provided several hundred thousand dollars of its own funds towards the management and restoration of their wild rice lakes.

The Fond du Lac Wild Rice Habitat Restoration Project goal is to increase and improve waterfowl migratory and production habitat by restoring Rice Portage Lake to its historical size of 634 acres and wild rice abundance, to

restore 411 acres of wild rice habitat on Perch Lake, to restore 20 acres of wild rice habitat on Jaskari, and to improve an access road for wild rice restoration equipment on Miller Lake. The first phase of this multi-year project was completed with the construction of four water control structures on the wild rice lake system. The water control structure built on Rice Portage Lake has managed to restore the lake from its previous diminished area of 114 acres to its historical size of 634 acres. The other water control structures improve the management and restoration of Perch Lake and Deadfish Lake. The second phase of the project is the mechanical conversion of the extensive areas of competing vegetation to restore the areas to productive wild rice habitat conditions. Areas cleared will be seeded with wild rice to restore the wild rice stands. The long term goal is to restore and manage a total of about 500 acres of wild rice on Rice Portage Lake. The wild rice habitat on Perch Lake is being restored by the removal of the pickerel weed and water lilies that have displaced much of the wild rice which used to cover this 411 acre lake. The reservation's cookie cutter (sedge mat cutter) and two aquatic plant harvesters are used to cut up and remove the thick floating monoculture cattail mat on Rice Portage Lake and the pickerel weed and water lilies on Perch Lake. Dense stands of wild rice have grown on restored areas on this lake.

Fond du Lac has been awarded a grant from the Minnesota Environment and Natural Resources Trust Fund to restore wild rice on Rice Portage Lake. A grant from the USFWS-Tribal Landowner Incentive Program has also been awarded. In combination with the Circle of Flight funds, and funds from the Fond du Lac Reservation, the restoration of these wild rice lakes will be possible. This wild rice restoration project will result in a significant increase in the wild rice stands on Rice Portage Lake and Perch Lake, and thereby improve wildlife habitat and forage for migratory waterfowl. Waterfowl nesting habitat will also be enhanced by these restoration activities.

Fond du Lac Ceded Territory

Waterfowl Enhancement Projects

The Ceded Territory Program of the Fond du Lac Band has been involved in the Circle of Flight Program since 1994. Projects have sought to benefit wild rice stands, waterfowl nesting and brood-rearing habitat, and moose forage. Partners have included the Minnesota Department of Natural Resources, the Minnesota Department of Transportation, Potlach Corporation, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Natural Resource Conservation Service, Ducks Unlimited, Fond du Lac Forestry and Environmental programs and private landowners. Work has included the purchase and seeding of wild rice, impoundment construction, prescribed burning, brush mowing and the installation of beaver control structures.

Circle of Flight

Grand Portage

Wild Rice Restoration

With worn through and plugged culverts, backed up pools and a washed out road and snowmobile trail, North Lake needed a new outlet structure. In October 2004, a local contractor installed a new culvert with an attached Clemson Leveler for beaver control. North Lake (35 acres) water levels will return to normal and adjacent underground bog seeps will all be channeled directly through this culvert instead of around and into the outlying area. The culvert will reduce the impact of seasonal flooding and beaver activity. North Lake water levels are expected to remain stable for years to come. This multi-funded project maintains a very unique wetland system on the Grand Portage Indian Reservation. North Lake water quality and quantity have been intriguing Grand Portage residents for many years. Its waters are calcium rich and, by wetlands nomenclature, it is classified as a boreal fen. Unique wetland plants include white beaked rush, bog rosemary, sundew species, pitcher plants, and the dragons mouth orchid. Fractured bedrock underlies the area and groundwater gurgles through to provide most of the nutrient-rich waters. Native minnow species are very abundant, including the northern red-belly dace, brook stickleback, and fine-scale dace. Waterfowl frequent the area for nesting and layover.

For the first time in Grand Portage history, several hundred pounds of wild rice were harvested from Swamp Lake. Through USEPA funding, Swamp Lake (650 acres) received rice seed during the mid-1990s and has been seeded intermittently since. A full harvest occurred in 2004, with band members harvesting over 700 pounds of rice. This rice, in turn, was planted into Mt. Maude Dam (79 acres), a COF funded project completed and functional in 2003 (See the January 2004 COF summary). Approximately 300 pounds of green rice was also planted into Helmer Nelson Dam (30 acres), a locally notorious, migratory waterfowl layover and nesting area. In the past, GP personnel have seeded green rice into Helmer Nelson dam. Mature plants occur sporadically; rice beds never became established.

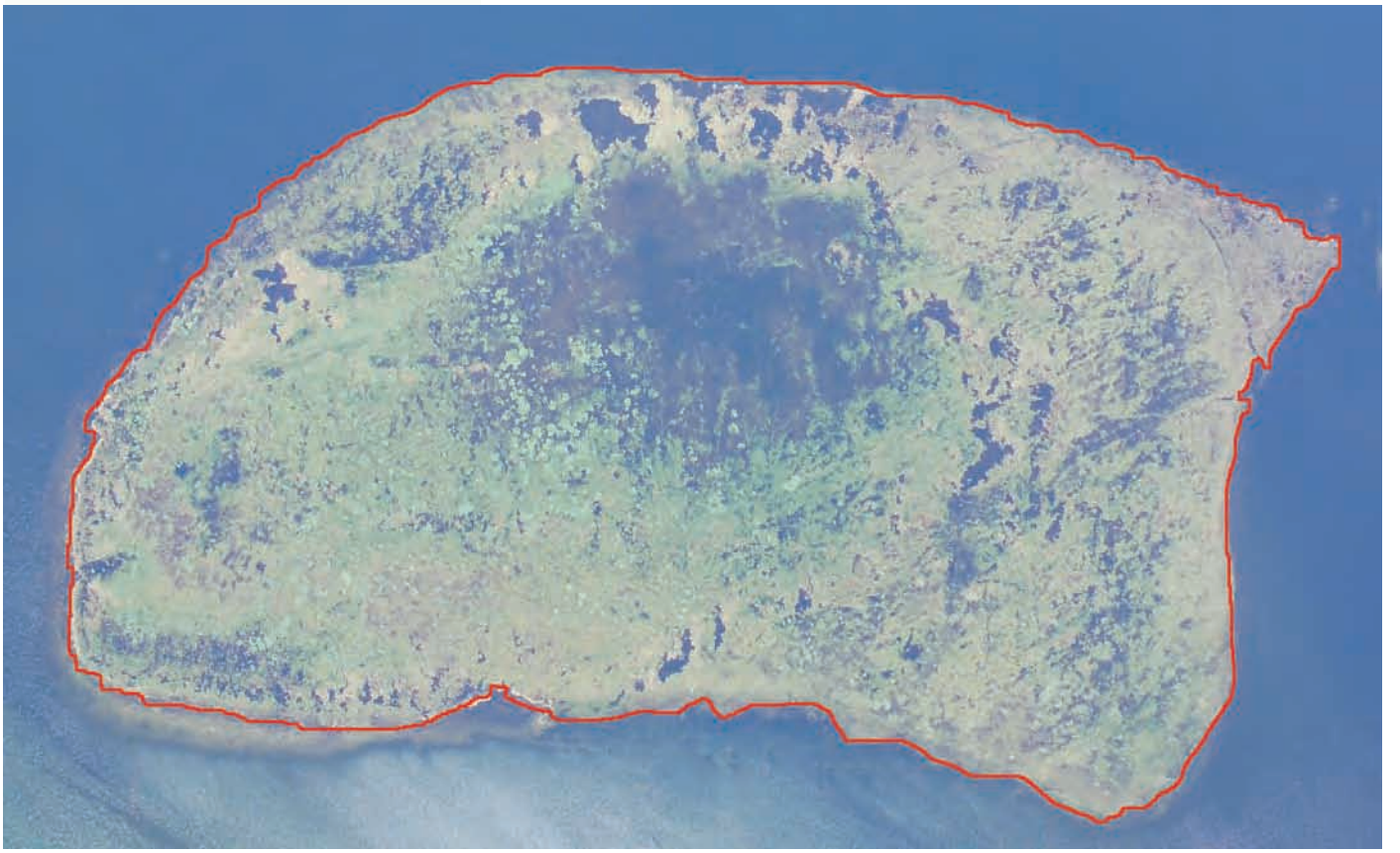
Importantly, Grand Portage Natural Resources Management (GPNRM) will continue to plant wild rice each year thereafter until rice beds become established. Again, a renewed local subsistence harvest has been a long-time dream for many Grand Portage Band members. This project gives encouragement, particularly to elders who have witnessed the disappearance of many traditional cultural practices such as wild rice harvesting and processing. The project has not only restored the natural environment but also, by providing opportunity for a rice harvest, contributes to the restoration of the people's spirits as well.

For more than a decade, GPNRM program personnel have continued to pursue multiple agencies for sources of funding and technical assistance for wetland rehabilitation and wild rice restoration projects. Funding for the North Lake culvert project and wild rice seeding effort include not only the BIA-Midwest Office Circle of Flight (COF) Program but also the recently legislated USFWS Tribal Landowner Incentive Program (TLIP). Under a competitive grants program administered by the USFWS, the latter program distributes federally appropriated dollars to tribes through the Conservation and Recovery Act II (CARA Lite II). Tribes lobbied for and finally received these monies that had previously been awarded only to states. These CARA funds have been appropriated to tribes since 2003.

In 2005, GPNRM personnel plan to construct a six-acre dam adjacent to its Trust Lands office building for public environmental education and outreach. Interpretive signs will be erected at this capstone project to showcase all past and existing COF funded efforts. Signs will also recognize each agency for their efforts.

Leech Lake

Tribal Land and Wild Rice Bed Surveys



Tribal land and rice bed survey used to identify, protect, and enhance plant and wildlife resources.

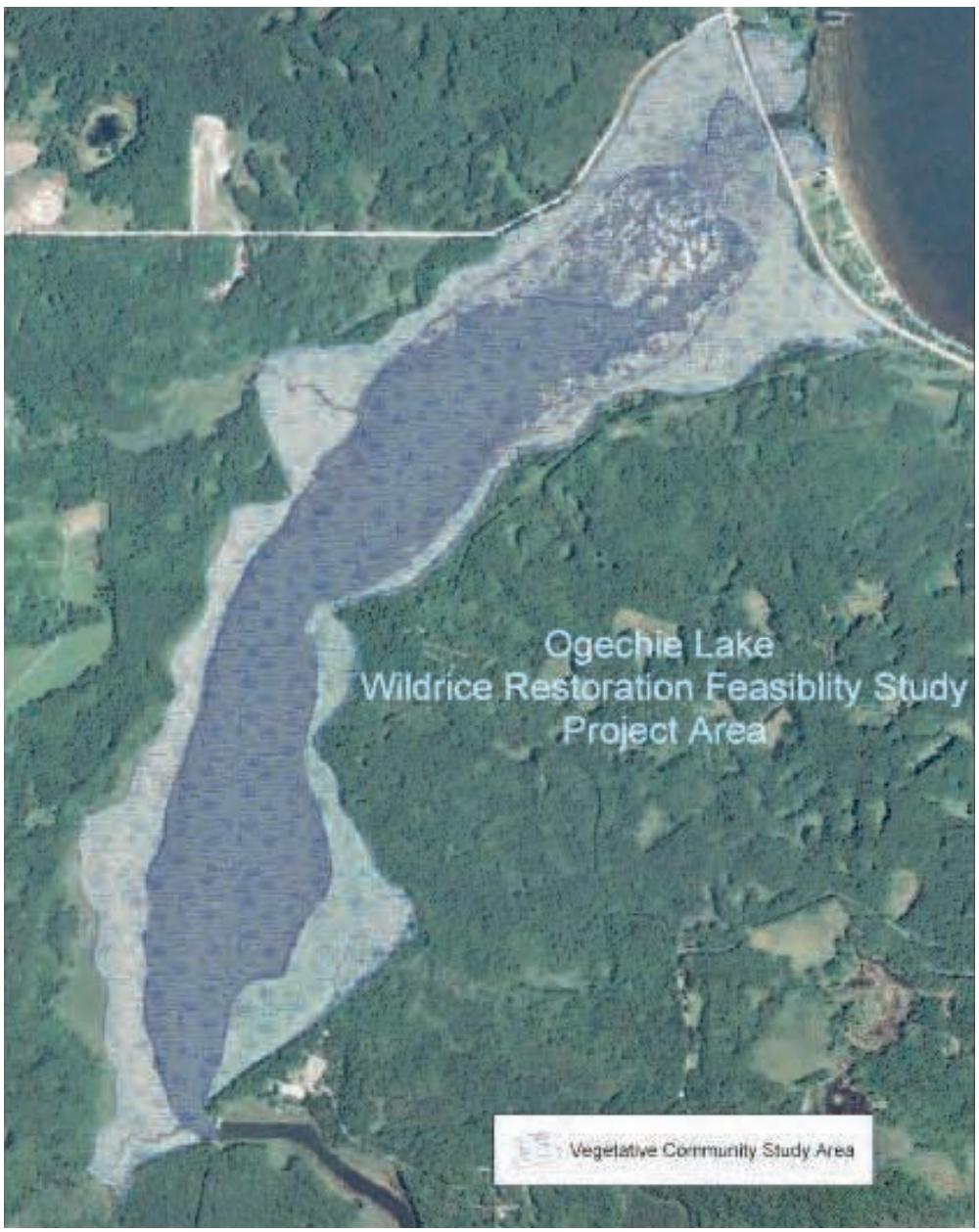
Matching funds from the Circle of Flight Program are being used in conjunction with a U.S. Fish and Wildlife Tribal Wildlife Grant and Tribal Land Owner Incentive grants to identify, protect, and enhance plant and animal habitats on the Leech Lake Reservation. Under this project, personnel from the Fish, Wildlife, and Plant Resources Program will survey tribal lands in an effort to identify those that have high value for wildlife and rare resources and then work to protect and enhance them for future generations. A systematic survey and mapping of wild rice beds will also be completed that will enable us to better monitor and enhance wild rice beds on the reservation.

Mille Lacs Band

Restoring Wild Rice on Ogechie Lake

Culturally, spiritually and ecologically the protection and restoration of *"manoomin"* is important to the Ojibwe nation. Prior to the latest dam construction around 1950, the 400-acre Lake Ogechie was covered with wild rice. Historically, this lake and the shores around it are known to have some of the earliest ricing sites in Minnesota. The Circle of Flight funding has allowed the opportunity for a Feasibility Study of Wild Rice Restoration at Lake Ogechie by the Mille Lacs Band of Ojibwe Department of Natural Resources and Environment (DNR/E).

Lake Ogechie is within the Mille Lacs Band of Ojibwe Reservation, consisting of 61,000 acres as established in the Treaty of 1855. Land ownership around the shores of Lake Ogechie consists of Tribal Trust, Kathio Park and Department of Natural Resources (state of Minnesota).



Although the Mille Lacs Band of Ojibwe DNR/E and the state of Minnesota have discussed the restoration of wild rice on Lake Ogechie over the years, the Circle of Flight funding has really allowed the Mille Lacs Band of Ojibwe DNR/E to take the lead and proceed with this important project.

In FY2004 there was two planning meetings with Tribal DNR/E staff and the State DNR. The Band has developed an outline with the assistance of an environmental consulting firm to comprehensively address criteria that will be included in the feasibility study. The feasibility study was started in January 2005.

Prairie Island

Multi-Year Prairie Restoration Project

Prairie grass restored.

The Prairie Island Indian Community has 1800 acres of trust land on Prairie Island. Since 2002, with the support of the Tribal Council, Circle of Flight and the U.S. Fish & Wildlife Partner's Program, almost 150 acres of former agricultural land has been seeded with native prairie grasses and forbs.

Prairie Island is located within the Mississippi River Valley, one of the most important migration routes for waterfowl in North America. There are thousands and thousands of acres of lakes and wetlands that surround Prairie Island that, combined with the large contiguous blocks of native grasses, will provide ideal nesting habitat for waterfowl. In addition to providing excellent wildlife habitat the restored prairie is a source of cultural and medicinal plants used by Community members.

It is expected that an additional 100 acres would be planted in the next two years. Management for the restored prairie is ongoing. Mechanical clipping has provided the control of non-native forbs and grasses and undesirable woody species. The plantings really took off in 2005 with almost all of the areas installed in 2003 and 2004 going to seed.

With almost all of the original native prairie lost on Prairie Island, the restored acreage is especially significant to the Prairie Island Indian Community.

Prairie grass seeded.

Red Lake

Waterfowl Enhancements at Good Lake, Phase II

Continuing successful enhancements begun in 2001, work within the Good Lake impoundment (in the northwest portion of the Red Lake Reservation) has focused on an island where a large (65 acres) area was cleared of trees during Phase I. The piles of debris left over from activities in Phase I were re-pushed and will be burned again during the winter of 2005-2006. Following an aerial herbicide treatment to remove the last of the aspen regeneration, the 65-acre clearing was planted into native grassland, and nesting cover. A boat landing was constructed on the large island to facilitate work during the open water season, and the six nesting island / hunter blinds, constructed during Phase I, were reworked to replace material lost to settling and wave action. The food plots were continued from last year with 40 acres of barley, and 30 acres of mixed seeds planted adjacent to the impoundment. The 2005 waterfowl migration was up from 2004 and numbers were reported as good by hunters during the hunting season, with waterfowl using the available food throughout the fall. Once again it was a very poor harvest year for native rice from the lake and rivers in the area, and regular sources of wild-harvest rice were unable to provide the quantities needed to fulfill project objectives. A less local source was found, and 3,000 pounds of rice were seeded into the impoundment to supplement established stands and seed new areas in 2005. Use of the area by waterfowl hunters and other groups has steadily increased as work has continued, and the enhancements completed have greatly benefited wildlife beyond the project's main focus, including marsh birds, which were heard in great numbers during spring surveys. The benefits to waterfowl and other wildlife species in the Good Lake area would not have been possible without the continued support of the Bureau of Indian Affairs' Circle of Flight Program.

Shakopee Mdewakanton Sioux Community

Wetland Enhancement

May 2001 photo of S-5 during the first season of flooding after installation of the dike and water control structure.

July 2003 photo of S-5 during the third season of deep water flooding to control reed canary grass.

July 2005 photo of S-5 during the fifth growing season. Wild rice germinated and seed heads had started to develop.

1. Wetland S-5 was a degraded 16-acre wetland located in the SW1/4 of the NE1/4 Section 33, T 115 N, R 22 W. The wetland was degraded by partial drainage that created favorable water conditions for a monoculture of reed canary grass (Phalaris arundinacea) that out-competed native species in the wetland. The main goals of this restoration were to restore hydrology and reduce the areal cover of reed canary grass. In order to accomplish our goals, we constructed a dike with a stop-log water control structure to block the surface drainage ditch. Shakopee Mdewakanton Sioux Community (SMSC) spent $2,373 of Circle of Flight money on the supplies for this project and Land and Public Works staff completed the dike and water control installation. This wetland has provided habitat for wildlife, including nesting habitat for Black Tern, a species that ornithologists consider to be an area-dependant, conservative breeding bird. SMSC also installed a 75-foot mesic prairie buffer on the west and south sides of the wetland to provide additional habitat for wildlife, including upland nesting waterfowl such as Mallard. In 2004, SMSC planted 275 pounds of wild rice in order to further enhance the shallow-water-emergent plant community. The seeding did exceptionally well and we plan to sow seed in 2006 and 2007. SMSC has repaired two dike failures but the wetland continues to be a highly functioning wetland for the area. SMSC will be reconstructing the entire dike to accommodate increased water input from a sewage treatment plant on the east side of the wetland. The wetland will serve as the receiving body for treated water.

2. The Demonstration Project was an area immediately adjacent to the Little Six Casino along an existing wetland. We used $2,809 of Circle of Flight grant money to restore a wetland and upland area with native plants. We purchased several hundred wetland and prairie wildflower plant plugs of eight species that we raised in a greenhouse until June 2000. SMSC Land Department staff organized a planting day in which staff and community member children helped install the plants.

3. Wetlands C-9 and C-10 were connected, drained, and farmed wetland areas that SMSC restored. SMSC utilized $10,124 of Circle of Flight grant money to construct two dikes with two water control structures. The wetlands average approximately two feet deep and Land Department staff have used the watershed to collect intensive water quality and quantity data.

July 2003 photo of C-9 with a portion of the upland mesic prairie buffer in the foreground. The dike and water control structure are to the left side of the view.

Circle of Flight

Upper/Lower Sioux

Upper Sioux Reservation

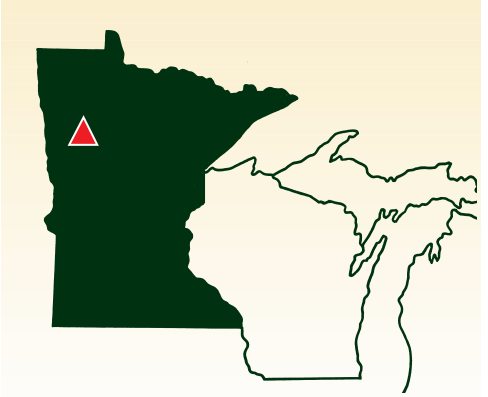
The Upper Sioux Community successfully returned 227 acres of agricultural fields back to floodplain wetlands and entered the acreage in the Emergency Wetland Reserve Program (EWRP) to provide permanent protection to the area. An additional 240 acres of floodplain wetlands are expected to be entered into the Wetlands Reserve Program (WRP).

Establishment of the largest contiguous wetland area–nearly 400 acres–allows work to continue on the Upper Sioux Interpretive Trail System.

Lower Sioux Reservation

The Pendleton Wetlands Enhancement Project has been successfully completed. A 1.6-acre prairie pothole wetland was partially dredged of accumulated organic matter and the uplands were seeded with native seed. Low water conditions allowed for additional dredging of the center of the wetland. The connection of four homes surrounding the wetland to the community wastewater system will prevent future bioloading from the failing septic systems. Wildlife enhancement activities are ongoing.

The tribal GIS was updated to reflect the wetland changes that have occurred in the recent past and will allow for analysis of future activities and effects on the wetland.



White Earth

Prairie/Wetland and Waterfowl Projects

From 1991 to 2005, the White Earth Reservation, Natural Resource Department, Wildlife and Agricultural Programs evaluated marginal and sub-marginal crop land to determine if the land could be returned to its natural conditions.

Through engineering of drained wetlands, wetlands and prairie restoration projects provide a water bank–a nesting habitat feeding area for local and migrating waterfowl and other wildlife species. All seeded areas were maintained to promote the prairie ecosystem and the eradication of noxious weeds.

Prairie Restoration and Upland Habitat – 250 acres were restored or enhanced for prairie / wetland restoration and upland habitat.

Work was conducted by the U.S. Fish and Wildlife Service, USDA – Natural Resource Conservation Service, National Fish and Wildlife Foundation, and private contractors on four drained wetlands that were restored with three water control structures.

Native Grasses – 1,380 total acres were seeded to native grasses.

Noxious Weed – 820 acres were treated for noxious weed growth; chemical application was limited only to small areas.

Waterfowl Survey – Wildlife division catured and banded 966 Canada geese by use of a method called drive-trapping. There were also 540 ducks captured and banded by night lighting, mostly mallards, canvasbacks, blue-winged teal and ring-necked ducks. This banding information is used to formulate an estimate of local waterfowl production and mortality from local hunting seasons, and to conduct a larger study to estimate Tribal versus Non-Tribal harvest within the boundaries of the Reservation. A total of 44 wood duck nest boxes were located and maintained throughout the Reservation with a success ratio of about 40%. Another 11 wood duck nest boxes were built and placed in several wetlands.

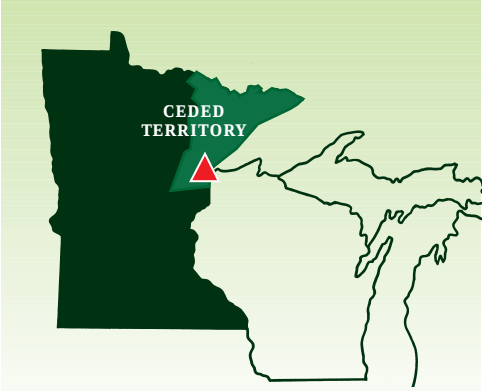
Beaver Control on Tamarack National Wildlife Refuge – Contracted existing permitted tribal trappers to maintain beaver control on outlets of six known wild rice lakes.

Management and Maintenance – Management strategies consist of prescribed burning, maintaining and clipping of upland grass and brush habitat. Upland enhancement, repair and maintenance of existing dike and spillways, mechanical clipping and herbicide usage that included:

- 280 acres were prescribed burns for promotion of native plant species.
- Established a five-acre wildlife food plot.
- Dike bank stabilization influencing the water quality of the wetland and stream.
- Restored two wetlands, repaired one water spillway.
- Maintenance and repair of control structures, water spillways and beaver control.
- Brushing and posting signs on corners and lines on tribal boundaries, prepared seedbeds and fallowed cropland.

1854 Authority

2005 Circle of Flight Accomplishments



In 2005, the 1854 Authority and its partners accomplished several objectives. Much of the work focused on enhancing waterfowl habitat through wild rice management. Water level management (through beaver control activities) was implemented on four lakes within the Boundary Waters Canoe Area Wilderness totaling 808 acres. Improved growth of a number of desirable aquatics was observed, including a resurgence of rice in two of the lakes. Similar activities will be conducted on five other lakes (about 1,500 acres) within the BWCAW in 2006 now that preliminary data has been gathered.

Efforts to enhance grassy nesting cover were also successful in 2005. Through good fortune and judicious use of funds, our partners (MNDNR) were able to extend the use of FY05 funds and more than double our original enhanced acreage goal. A total of 24.5 acres of previously sheared spruce-ericaceous bog mat was burned at Big Rice Lake. In addition, 40.1 acres were burned surrounding Anchor Lake, another local rice lake where we had previously invested COF funds. Another 20 acres are slated for burning at Anchor Lake in 2006.

A view of Zakovec Impoundment prior to rice seeding efforts.

A chain of five lakes, downstream of a rice lake, was surveyed to determine if suitable conditions exist for establishment of wild rice. Although the lakes were determined to be unsuitable for rice due to greater than expected depths and sediment composition, a diversity of desirable aquatics were found within the system.

Finally, we met with partners that collaborated on previous Circle of Flight projects and evaluated the status of several existing impoundments. Discussions on what improvements could be made at each site were held, resulting in several good ideas for rehabilitation work at the sites with an emphasis on increasing visitor use and awareness of the Circle of Flight program. We'll be focusing on those goals for the coming year.

Success!

Bad River

Ecological monitoring of Bad River Reservation wetlands

The 16,000-acre Kakagon Bad River Wetland complex is considered to be one of the largest and the most pristine of Great Lakes wetlands. Our aerial law enforcement efforts continued to abate introductions of exotics and protection of the expansive rice fields. Starting in 2006, per the ten-year Lake Superior Commercial Fishing Agreement with the State of Wisconsin, the Bad River Tribe will monitor Lake Superior sports fishing boating pressure off the eastern shores of Madeline Island in Lake Superior and waters adjacent to the coastal wetlands to assess commercial and sports fishing user conflicts. These surveys will also assist the National Park Service and the Tribe in controlling boat traffic and conflicts with nesting federally endangered piping plovers. In 2005, Wisconsin's only successfully piping plover nest was on the border of the reservation and National Park Service property. Park, State and Tribal Staff banded one youngster. Aircraft crew members noting boating and fishing pressure in communications with ground crews were effective in enforcement of wetland protection ordinances and protection of critical resources. Flyovers were also effective in noting sources of sedimentation and nutrient loading. Aerial photography was used to document sedimentation and nutrient sources and encouraged enforcement and remedial actions for the Bear Trap Creek watershed, which flows into the Kakagon Sloughs. Additional nuisance species monitoring targeted narrowleaf cattail in 2005. A 25% increase was noted in this exotic species since 1998 in the Kakagon Sloughs. The findings of the monitoring project was especially disturbing, since the noted increase in narrowleaf cattail was starting to encroach into the rice fields. As in 2004, two pairs of trumpeter swans had active nests, but both nests produced four young each. Seventeen eagle territories were flown to determine breeding activity; eight were active and five successful nests produced seven young.

The continuation of the monitoring of the faunal and vegetative elements in reservation coastal and interior wetlands maintains the ecological quality of these jewels in the western Great Lakes. The Circle of Flight Wetland Initiative has been instrumental in the maintenance of this critical cooperative wetland and resource management program on the Bad River Reservation.

Piping Plover chick carefully held in the hands of Tribal Warden Robert Wilmer.
Image credit: T. Gostomski, WDNR

Forest County Potawatomi

Habitat Restoration

Habitat restoration was completed in the summer of 2005 in and around one pond located off U.S. Highway 8 in Crandon, Wis. Historically, the pond was habitat for a number of waterfowl, including mallards, wood ducks, teal, and buffleheads.

The pond and the surrounding ecosystem, however, had been degraded over the years by the construction of the highway and baseball field adjacent to the pond. The construction of the highway has diverted water away from the pond during the spring runoff and rainfall events. The shallow depth had stimulated an environment of increased vegetation in and around the pond.

The second major impact was the construction of the baseball field. The brush and debris that was created from the construction was dumped into the south side of the pond. This activity further altered the ecosystem by decreasing the depth and surface area of the pond.

Furthermore, during the initial testing of the bottom of the pond, it was discovered that the sediments contain elevated levels of cadmium. The levels of cadmium found in the pond were not above EPA health standards; however the levels were a concern because of the close proximity of the ball field and the subsequent potential for children to be exposed. Because of the concern with the cadmium, it was decided that the excavated soil would be hauled to an abandoned gravel pit at the Forest County Potawatomi solid waste transfer station.

Approximately 1500 tons of soil were removed from the pond and hauled to the solid waste transfer station, where it was subsequently compacted and seeded. The pond was excavated to a depth of five feet, with a safety shelf of shallow water around the edges as a safety precaution incase children wander in to the pond from the ball field. Due to dry conditions this summer, the pond did not fill up with water after excavation was completed; it is assumed that the pond will fill with water during snowmelt in the spring of 2006. Native plants were planted in the pond as well as around the immediate riparian fringe. The plants in the pond were hand planted while the riparian area around the pond was hydro seeded. Wood duck houses will be built and placed around the pond.

Using 2006 Circle of Flight funds, the Tribe plans to expand on the enhancement of the riparian area of the pond with a selection of plant species that are culturally important to the Tribe. The Tribe intends to plant part of the area that was cleared in excess of the original project using a mixture of wood species that will diversify the riparian area, providing nesting for songbirds, cover for small invertebrates, and food crops for mammals and birds. A youth group, Walking in Four Directions, and its director will engage in the project as a labor force. This will involve Tribal youth in a natural area that lies adjacent to their ball field and build ownership of the area. It will also introduce them to some of their native plants.

Ho~Chunk Nation

Wetland and Habitat Restoration Projects

Phase II of this project has involved the ongoing restoration of approximately 100 acres of mesic prairie found adjacent to the wetland communities. This restoration is a cooperative effort aimed at preserving and enhancing these areas for the benefit of wildlife and water quality. The project involves the removal and treatment of unwanted vegetation and the reestablishment of native grasses and forbs once common on this site.

Additional cooperative activities at the White Otter Site include the restoration of approximately one mile of trout habitat on Lyndon Creek and the establishment of a 4000-foot interpretive educational trail that meanders throughout the various communities found on this diverse site.

The nation has continued their efforts to restore tribal lands through various programs and partnerships with local, state and federal agencies, including the Circle of Flight Program. In 2000, the Ho-Chunk Nation began restoration of the 270-acre White Otter Property (formerly known as the Hurley Property). The restoration began with the conversion of 120 acres of marginal agricultural land back to a wetland system. This phase of the project was completed by 2001 and resulted in the natural germination of an amazingly diverse wetland plant community.

Circle of Flight

Lac du Flambeau

Wetland and Waterfowl Enhancement Initiative~2005

Monitoring a loon nest.

In FY 2005, the Lac du Flambeau Band of Lake Superior Chippewa Indian's Circle of Flight Program consisted of four projects; levee and water control structure maintenance, wild rice re-seeding, repair and replacement of the water control structure and spillway on the Sugarbush Creek Impoundment and the Loon Research Project. Of all the FY 2005 Waterfowl Enhancement initiatives, the Loon Research Project was most intriguing.

The purpose of the project was to conduct a seasonal population study from May 1 through August 31, 2005, on 32 reservation lakes greater than 10 acres, to determine the number of territorial pairs, number of nesting pairs, number of successful hatches, the number of chicks that fledge and future population trends. This project was also designed to collect adults and chicks to obtain blood samples to determine mercury concentrations.

Based on initial results, 22 territorial pairs were identified, with 18 pairs attempting to nest of which 11 failed. Of the 11 failed attempts to nest, five pairs attempted to nest again. A total of 15 chicks hatched, with 10 chicks surviving to fledge. Eight pairs were successful, which indicates the highest reproduction rate that has been recorded in the area in a number of years. Adult and young loons were captured and blood was collected to determine mercury concentrations, but the results will not be available until January 2006. Loon and fish mercury data will be used to determine the amount of mercury in lakes.

Lac du Flambeau youth were also part of the project. They constructed three nesting platforms. The platforms were placed on Reservation Line, Bear and Negani Lakes and monitored by students in the Lac du Flambeau Outdoor Youth Education Program.

The management activities completed this year impacted approximately 17,450 acres of wetlands and 250 acres of wild rice areas. The projects also included the involvement of a number of other cooperating agencies such as BIA, USACE, NRCS, USFWS, Wisconsin DNR and the Tribal Forestry Program.

Monitoring loon nests to determine hatching success.

Tribal youth constructing a loon nesting platform.

Lac Courte Oreilles

Remote Sensing Technology

The LCO Conservation Department is working with the Lac Courte Oreilles Ojibwa Community College (LCOOCC) on remote sensing technology to monitor wild rice beds. Using satellite imagery and automated processes, wild rice beds can be monitored from year to year to detect changes in abundance and area over a large region. Remote sensing technology has the potential to monitor patterns in rice abundance over a period of years, changes due to disturbance, and other factors that may be affecting wild rice beds. During the first year of the project, methods were developed for step-by-step procedures used to identify vegetation on satellite imagery. Now in the second year of the project, the LCOOCC has a project leader and student interns working on identifying wild rice signatures on satellite imagery. Ground truthing and collaboration with the St. Croix Tribe will allow the methodology to account for other plants in wild rice beds and determine density. One satellite image of Northwestern Wisconsin will be studied this year, in hopes of studying more images in the future using the developed techniques.

The technology developed using remote sensing software will enable a more accurate assessment of wild rice areas. The technology has the potential to answer many research questions that would be helpful in the management and restoration of wild rice beds. The data gathered from the use of this software will enable better communication and record keeping amongst agencies. The development of remote sensing technology has the potential to be an inexpensive yet powerful tool for tribes.

Menominee

Waterfowl Management and Wild Rice Projects

MINNOW CREEK, SOUTHEAST PINE LAKE, AND CAMP 19 OLD RAILROAD GRADE WATERFOWL MANAGEMENT PROJECTS:

The projects consisted of building and gravelling a secondary woods road, construction and installation of a water control structure, building of a dike, and planting viable wild rice seed into the impoundments. 2005 program activities included monitoring wild rice stocking success and waterfowl usage. The program provided valuable breeding and migration habitat for mallards, woodducks, blue-winged teal; nesting and brooding area for sandhill cranes and numerous other species of wildlife.

WILD RICE RESTORATION

Recognizing the need to restore wild rice, the Menominee Tribe, Menominee High School culture class and Historic Preservation Department will broadcast wild rice seed with the use of canoes and / or wading into select areas. Wild rice is so important to the Menominee that they became known as the"Wild Rice People". In their oral traditions, wild rice was the gift of one of the Underneath beings, and sacrifices were necessary to insure a good harvest. When the rice was ready for harvesting, tobacco was offered to this spirit (it was put in a tiny hole dug for the purpose) and the chief asked for four days of good weather during which his people could gather the rice. The Menominee Tribe recognizes wild rice as an important wildlife food source for protein supplement for its own people, migratory and resident waterfowl, and other wildlife species. This wild rice project will require selecting approximately 15 to 30 acres per selected lake and plant a viable selected rate of pounds per acre of wild rice seed. Wild rice seed will be bought from area tribes and planted into Reservation lakes.

Oneida

Wetland Enhancement and Habitat Restoration Projects

Construction started on November 18, 2005.

The goal of the project is to restore the area as a headwater wetland to the greatest extent that is practical. Farming is still occurring upslope of the established conservation boundary and drainage needs to be maintained on this tillable acreage. Our proposed design will balance farming needs with habitat restoration.

A water and sediment control basin will act to clean the water before it flows through the restored wetlands. The settling basin will allow for sediment removal. A berm will hold water at an elevation that will create an area of water. Establishment of a shallow marsh wetland plant community behind the berm will assist with nutrient uptake. The ditch behind the berm will be filled and a series of spillways and a water elevation control structure will promote sheet flow across the wetland rather than route it through the ditch system. This will keep the water in the wetland for a longer duration. The berm will hold back approximately 21 acres of water.

Control structure installation.

A second berm will be constructed downstream of the sediment basin. This will hold water at an elevation that will flood 90 acres to an average depth of 0.5 feet. Having a vast area of shallow water provides foraging habitat for dabbling ducks and will assist with restoring the sedge meadow. To accomplish this we will put a one-foot riser pipe at a tile outlet. The riser will give us an additional foot of depth while maintaining drainage on the agricultural land. Without the riser we would not be able to hold water above the soil surface.

Reed canary grass has dominated a 45-acre portion of the site. A combination of flooding and herbicide applications is expected to remove reed canary grass. We are planning a spring application of Rodeo to be followed up with one or more applications of the grass selective herbicide Vantage. Aerial spraying will be needed after the site is flooded.

Eighty acres of reforestation will occur in 2007. A combination of white cedar, tamarack and black spruce will be planted. During the construction phase in 2006, eight acres of cradle knoll topography will be created for planting the cedars. The cedars will be planted on the tops of the knolls. This forestry practice replicates the conditions typically found in cedar swamps and creates a favorable environment for the seedlings to become established. In addition to the forestry work, 20 acres of native wetland seeding will occur upslope from the recovering sedge meadow in the vicinity of the northern berm.

Mulching and cultipacking the berm.

Sokaogon Chippewa

Rice Lake Restoration and Management Plan

Air photo taken the first day of dye dispersion study.

Rice Lake, a 208-acre deep water marsh, is the only water body fully enclosed within the Sokaogon Reservation. Anecdotal evidence obtained from Tribal Rice Chiefs indicated a historical decline of wild rice in Rice Lake. Approximately one third of the lake has not produced wild rice for the past several years. This area is dominated by bullhead pond lily. Funding from the BIA-Circle of Flight, NRCS-WHIP and EQIP, the Sokaogon Chippewa Community were combined to establish the Rice Lake Restoration and Management Plan.

The goals of this project are to determine the extent and cause(s) of the decline of wild rice in Rice Lake, including interspecific and indirect factors, and todetermine the best management practices to restore and sustain rice in the areas of Rice Lake currently void of wild rice.

Historical aerial photographs spanning the past several decades confirmed the decline of the wild rice on Rice Lake. It was also noted that the area dominated by lilies historically produced wild rice and that the cattail stand on Swamp Creek at the inlet to Rice Lake had significantly increased in size after a concrete weir was inserted in Swamp Creek in 1977.

A dye dispersion study was conducted to determine if the cattail stand had altered the flow of water from Swamp Creek into Rice Lake. The results were compared to a dye study conducted in 1977. Historical photographs confirmed the cattail stand was not blocking the inlet at the time of the study. Results from the study confirmed the cattail stand had altered the flow into Rice Lake.

To determine if interspecific competition for available light between pond lilies and wild rice may be contributing to the decline, experimental rice plots were placed in the area of the lake dominated by lilies. The treatments were five meters by five meters and consisted of a control, no removal of pads, 50% removal of pads, and 100% removal of pads, with wild rice seeding densities of 20 and 100 IBS/ acre. Pads were removed every seven to 10 days until the rice reached the emergent stage. All plots in areas that did not have dye readings from Swamp Creek had extremely poor recruitment and survival of wild rice. No significant difference in survival was identified between the treatments.

Wild rice floating leaf, emergent, and productivity surveys were completed in Rice Lake. Rice densities from areas that had dye readings were compared to densities that did not have dye readings. The wild rice densities in areas that had dye readings were significantly higher than in areas that did not have dye readings. Results suggest that water flow may have more influence in the wild rice decline in Rice Lake than interspecific competition between bullhead pond lilies and wild rice.

Removing concrete weir from Swamp Creek.

In fall 2003, a channel was cut through the cattail stand and the concrete weir was removed in an effort to restore the natural flow of Swamp Creek into Rice Lake.

The dye study was repeated in 2004 to determine if efforts to restore the flow of Swamp Creek were successful. An electric aquatic vegetation cutter was used to remove lilies in the areas not producing rice. The area cleared of lilies was seeded with rice in the fall 2004. This process will continue until the rice bed increases to historic levels.

The PBS program "In Wisconsin" filmed a short story on the project in the summer of 2004. The tribe made a documentary about the loss of Wisconsin's historic rice beds and highlighted tribal efforts to protect and restore wild rice. The documentary was intended to air on a national platform, with a shorter version made for use in Wisconsin classrooms.

Stockbridge~Munsee Band of Mohican Indians

Waterfowl Habitat Enhancement

The Stockbridge-Munsee Conservation Department, with the assistance of Central Wisconsin Electric Cooperative (CWEC), installed artificial nesting platforms for Bald Eagles and Osprey on the Stockbridge-Munsee Indian Reservation in 2005. Labor, equipment, and the setting of poles were all donated by the CWEC. The conservation department also constructed and placed 50 artificial nesting boxes in wetland areas to promote and enhance woodduck production.

The Stockbridge-Munsee Communities' Environmental Department restored and enhanced 117 acres of upland waterfowl and grassland bird habitat in 2004 using Circle of Flight monies.

High spring water levels, resulting from beaver activity, caused a breach in the Circle of Flight impoundment #2 dam. The projects spillway was reconstructed to mitigate for high water levels. Water level gauges were installed in the two existing Circle of Flight water control structures to aid in water level management. Remaining Circle of Flight monies are being used as a match for NRCS WHIP and EQIP grants for the control of buckthorn.

St. Croix Chippewa

Wild Rice Restoration

The St. Croix Tribe has been working to restore wild rice on Spring Lake, Washburn County, Wis. since 1998. The wild rice stand, according to tribal elders, once covered the entire 54-acre lake. It the 1960s, the Wisconsin Department of Natural Resources dammed the lake's natural outlet. They constructed a new outlet closer to the inlet in order to improve the water quality in 5-Mile Creek, a trout stream originating in Spring Lake. Beaver have been active on the lake for years. Wild rice had declined to about 10 moderately dense acres. There is no development in the lake and most of the land is owned by a paper company.

St. Croix conducted water quality, aquatic plant, and waterfowl surveys in 1998. In cooperation with the Natural Resources Conservation Service, Mosinee Paper Corporation, and the Department of Natural Resources, St. Croix restored the original outlet and filled the constructed ditch in 2000 in order to restore original water circulation patterns.

Comparison of wild rice growth on Spring Lake from 2003 to 2005.

In 2002 and 2003 St. Croix treated a total of 35 acres with granular 2.4-D, (2.4-Dichlorophenoxyacetic acid, butoxyethyl ester 27.6%) to eliminate water lily, spatterdock, bladder wart, pickerel weed, and water shield that had moved into former wild rice habitat. An aquatic plant survey in 2003 showed that the adult broadleaf monocots in the 2002 2.4-D treatment area had been nearly destroyed. However, water lily, spatterdock, and water shield seedlings were found throughout the treatment zone. Wild rice did not reseed itself. Waterfowl surveys were again conducted in 2004 from spring migration to the end of fall migration. The purpose of the surveys was to establish baseline waterfowl use of Spring Lake at the completion of efforts to encourage wild rice growth. Fifteen species of waterfowl were observed, with the greatest number of species observed during spring migration. Six species–wood duck, mallard, blue-winged teal, green-winged teal, hooded merganser, and Canada goose-were observed from spring through ice-up. Ducks made most use of the lake during spring migration, with an average of 96 ducks per day. American black ducks were observed on the lake during the 1998 and 2004 spring migration. During the breeding season, the average number of ducks using the lake was 24 per day and the average number of Canada geese was six per day. The daily of the lake by waterfowl continued to drop during the summer when a daily average of 8.5 ducks and 0.5 Canada geese were observed. No duck broods were observed in 2004. In the fall, the duck population averaged half that of the spring migration. Fall duck populations were low throughout northern Wisconsin in 2004. Many other birds, including osprey and bald eagles use the lake for fishing and / or nesting. Trumpeter swans were observed on the lake once, in November 2004. Ducks and geese were most commonly found in the western third of the lake, where the wild rice was most abundant in 2004.

Aquatic plant surveys in 2004 and 2005 showed an increase of wild rice coverage from 47% in 2003 to 80% of the lake. By the end of August 2005, most of Spring Lake was covered by dense wild rice stands. The competing aquatic plants have significantly diminished in density and disturbance.

The re-seeding effort we started in 2004 was successful. Due to the abundance of rice on the lake in 2005, we did not do any re-seeding.

We plan to continue monitoring aquatic plant growth in 2006 to measure the re-establishment of wild rice and re-seed as necessary. In 2007 we plan to conduct another comprehensive waterfowl survey.

Red Cliff Band

Wetland Restoration, Enhancement and Monitoring

Frog Bay wild rice stand.

Wild Rice Seeding and Monitoring

This year a quantitative monitoring system was developed for wild rice stands in the Schooner Bay estuary located on the Red Cliff Tribal Reservation. Schooner Bay is a target area for wild rice reestablishment by the Red Cliff Tribe. The bay has been seeded in the past and has shown little success, due to heavy browsing by wildlife. By establishing index stations and counting flowering wild rice stalks at each station, Red Cliff Natural Resources staff generated baseline density information of the rice stand for 2004. Schooner Bay was then heavily seeded with wild rice obtained from The Great Lakes Indian Fish and Wildlife Commission. Quantitative monitoring using the established index stations will continue to document success of the wild rice seeding. Monitoring in 2004 of all other previously seeded areas demonstrated much success, with Raspberry River and Frog Bay stands established well enough to discontinue future seeding efforts.

Waterfowl Nesting Structure Monitoring and Maintenance

The Red Cliff Natural Resources Department has purchased 20 Bellrose wood duck nesting boxes and 15 Bellrose mallard cylinders to be placed throughout the reservation. The Bellrose structures are made from recycled plastic which makes them light weight and easy to install. Monitoring of the waterfowl nesting structures will be completed each year, with the possibility of adding more of the Bellrose structures depending on waterfowl use.

Bellrose wood duck nesting boxes and mallard cylinder.

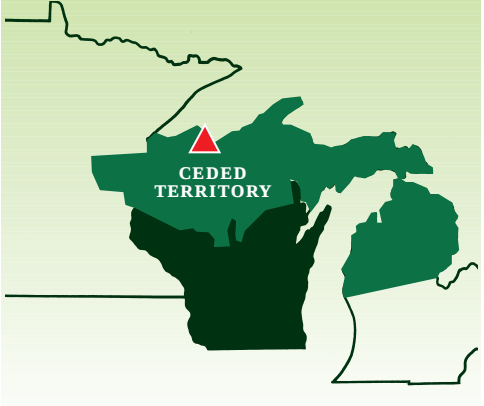
Eagle Bay Wetland Restoration

Funding obtained through the North American Wetlands Conservation Act and various in-kind funding allowed Red Cliff to restore a drained wetland complex located on the reservation. The Eagle Bay Wetland Complex was a series of old beaver dams that created a number of large ponds used by waterfowl. The dams were removed in 2001 due to constant flooding of surrounding roadways. Red Cliff's goal in 2004 was to rebuild the ponds while maintaining control of the water levels. To succeed in this goal, three aluminum water level control structures were installed to begin filling the drained ponds. In the future, the water levels in the ponds will be managed to provide excellent waterfowl habitat and wild rice stands while protecting the surrounding roadways from flooding.

Water level control structure being installed in Eagle Bay Wetland Complex.

Great Lakes Indian Fish & Wildlife Commission

And the (Wing) Beat Goes On



In 2005 the Circle of Flight program continued to do what it does best: provide solid, on-the-ground habitat improvements for waterfowl and other wetland dependant species while building strong, cooperative relationships between local natural resource agencies.

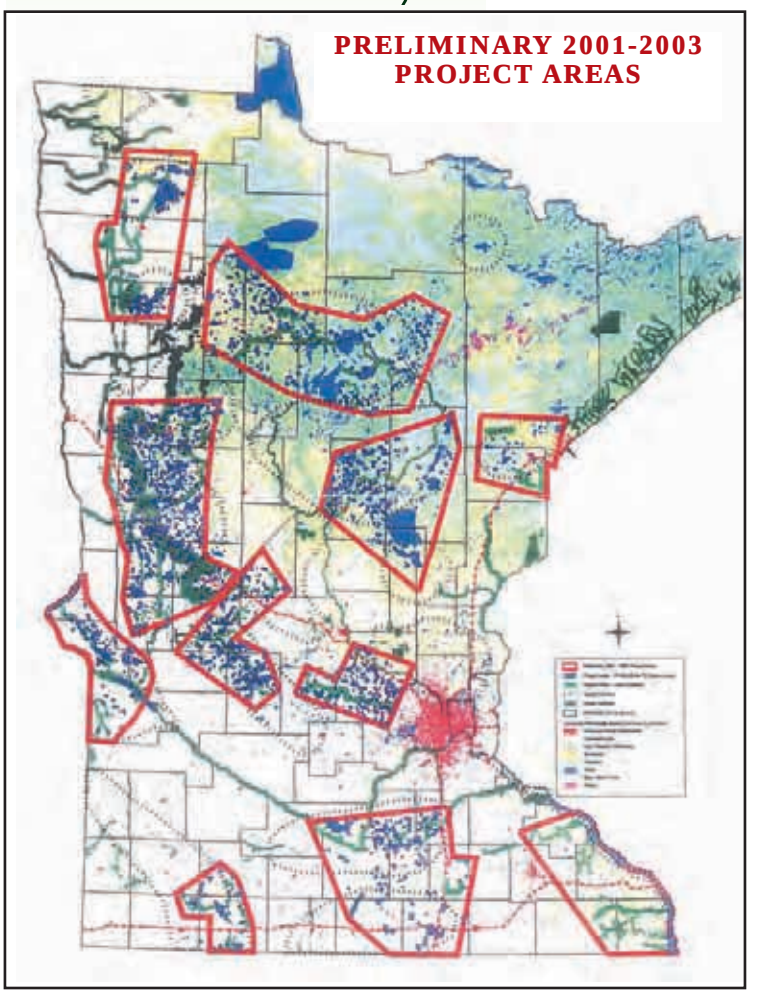
In the past year, GLIFWC used Circle of Flight funds to contribute to cooperative projects with state, federal and private agencies that preserved over 1,500 acres of waterfowl habitat. Sites restored included the 800 acre Presque Isle Flowage in Gogebic County, Mich.; the 680-acre Blackbrook Flowage in Burnett County, Wis.; and the 90-acre Shoulder Creek Impoundment in Taylor County, Wis.

Seeding and water level management is bringing rice back to Lac Vieux Desert's Rice Bay (2003 above, and 2005 below).

In addition, over 120 acres of shallow wetlands were seeded with wild rice to improve their value to migratory and nesting waterfowl, rails, coots, songbirds and furbearers. A highlight of this effort is the continued restoration of historic rice beds on Lac Vieux Desert's Rice Bay. This effort, done in cooperation with the USDA Forest Service, the Michigan DNR, the U.S. Fish and Wildlife Service and the Lac Vieux Desert Band, has resulted in the establishment of approximately 60 acres of dense rice beds in 2005–more than the lake has supported in over half a century. Simply put, Circle of Flight simply works.

Shoulder Creek Impoundment in drawdown for repairs.

Restoring Minnesota's Fish and Wildlife Habitat Corridors



In what has to be the largest consortium of conservation groups, 14 partners received almost $12 million from the Legislative Commission on Minnesota Resources.

Habitat restoration and management projects will occur in 11 project areas based on the implementation of cooperative programs and partnership arrangements focused on high priority habitat. This historic project will provide a new coordination mechanism for working through existing land and water conservation programs to better manage Minnesota's fish and wildlife habitat resources.

The Circle of Flight program is a key partner in this project, providing matching funds for Fond du Lac, Leech Lake and Red Lake to participate. The tribal governments will receive $300,000 of LCMR funding to accelerate waterfowl and wetland enhancement activities on their reservation.

Habitat Corridors Partners

- Minnesota Board of Water and Soil Resources
- Minnesota Waterfowl Assn.
- Minnesota Deer Hunters Assn.
- U.S. Fish and Wildlife Service
- Ducks Unlimited
- Minnesota D.N.R.
- Minnesota Land Trust
- The Nature Conservancy of Minnesota
- Natural Resources Conservation Service
- Pheasants Forever
- The Trust for Public Land
- National Wild Turkey Federation
- The Nature Conservancy
- Bureau of Indian Affairs–Circle of Flight

Fond du Lac

The Fond du Lac natural resources program will conduct a cooperative wild rice restoration project. The wild rice lakes on the Fond du Lac Reservation are currently being restored to their historic size and abundance. The six major wild rice lakes on Fond du Lac have a total acreage of 1,401 acres, with a total watershed area of about 22,740 acres. The largest area of wild rice habitat will be restored on Rice Portage Lake.

Leech Lake

Leech Lake will provide better water level management on 18 impoundments totaling about 500 acres. To enhance brood habitat, installation of Clemson levelers will occur on five natural wetlands or lakes totaling about 400 acres. Wild rice will be reseeded on up to 300 acres to reestablish rice beds and 250 nest boxes will be constructed and installed.

Red Lake

The Red Lake Band of Chippewa will initiate the Good Lake Waterfowl Enhancement Project – Phase I to increase the use of this area by waterfowl and other wildlife species, as well as provide improved access for those interested in wetland wildlife populations, including waterfowl hunters. Project activities for the 2,000-acre Good Lake Impoundment include establishing food plots, constructing access sites, wild rice seeding, construction of waterfowl nesting structures and the clearing of 70 acres of timber from an island with subsequent seeding for upland nesting cover.

North American Waterfowl Management Plan

The North American Waterfowl Management Plan is an international agreement to restore waterfowl populations to levels observed during the 1970s. The plan recognizes the importance of a continental approach to conserving North America's waterfowl and the benefits of cooperation among the United States, Canada and Mexico. The plan has provided a means to accomplish that end through international cooperation and the development of conservation partnerships called joint ventures.

The North American Wetlands Conservation Act (NAWCA) is the funding mechanism to provide dollars fostering the development of partnerships to protect North America's migrating bird habitat in a continental undertaking. Private sector businesses, landowners, and conservation groups are working cooperatively with the federal, state, tribal and local governments to conserve, restore and enhance North America's wetlands.

Tribal governments have become major partners in implementing the North American Waterfowl Management plans, goals and objectives.

MINNESOTA RIVER I, II AND III

The Upper Sioux and Lower Sioux reservations have been involved in all three phases of this multi-partner project to restore, enhance and conserve 6,813 acres of wetlands and associated grassland within the Minnesota River watershed with focus on the lower Minnesota River region.

LAKE SUPERIOR COASTAL WETLANDS

In the fall of 1996 a group of government agencies and special interest groups began developing a partnership to combine limited human and financial resources to unite their separate and focused efforts of protecting selected coastal wetlands on Lake Superior. The partners had a common vision: to protect and restore the Lake Superior coastal wetlands in Wisconsin through a land stewardship watershed-based approach. Each entity had a different area they were focused on and all had limited resources. As the partnership grew, a grant application was submitted to the North American Wetlands Conservation council requesting $878,000 to protect and restore 8,180 acres of wetlands and 6,359 acres of uplands. In September 1998 the partnership was notified that it had received the grant. Activities will include: $400,000 for the Bad River Tribe to acquire 691 acres of wetlands in the Kakagon Sloughs and 1,529 acres of riparian buffer along the Bad and White rivers; $150,000 for the Wisconsin DNR to purchase 1,000 acres along the St. Louis River; $160,000 for the USFWS to purchase 250 acres of the Whittlesey Creek National Wildlife Refuge; and $50,000 for local agencies to restore drained and filled wetlands in the basin.

Minnesota Department of Natural Resources

Minnesota Waterfowl Association, INC.

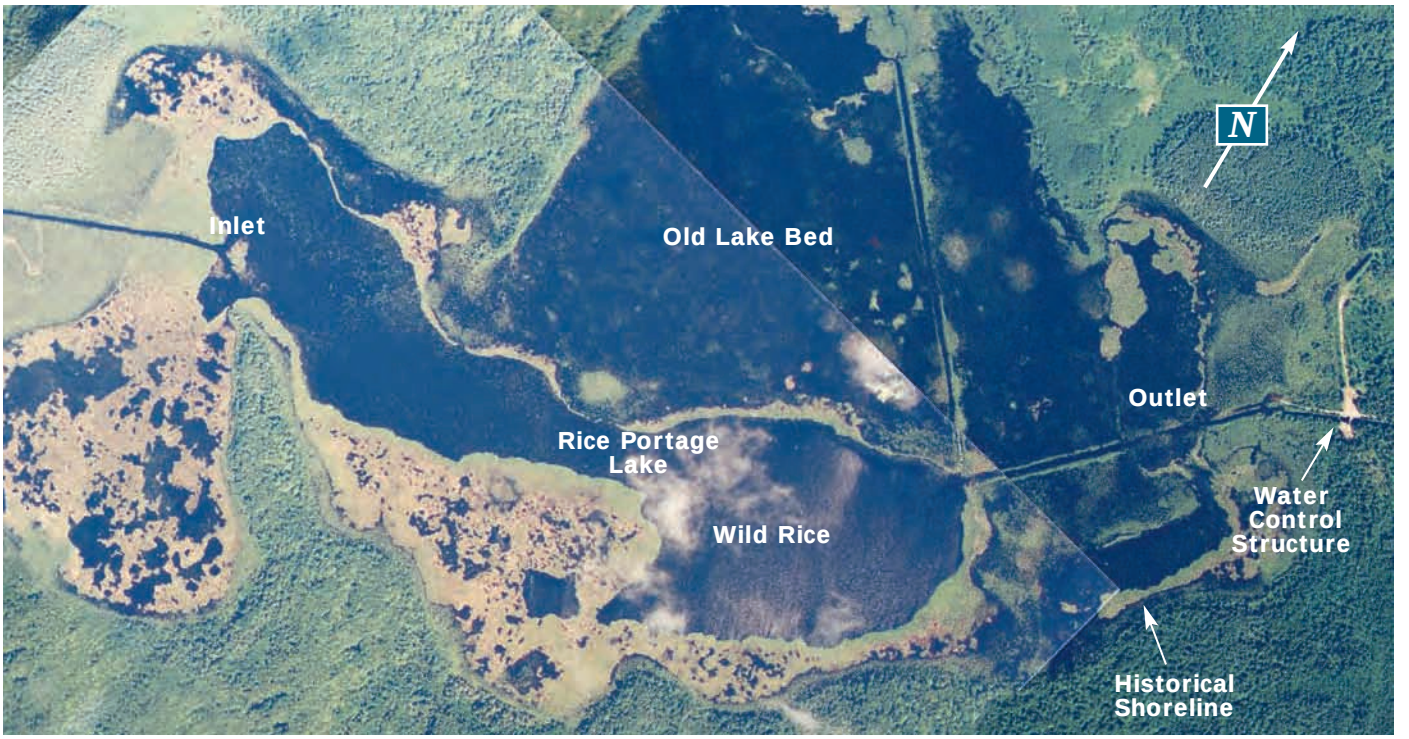
DUCKS UNLIMITED

The Nature Conservancy Minnesota Chapter

Circle of Flight

U.S. Fish & Wildlife Service

PARTICIPATING ORGANIZATIONS & AGENCIES



Aerial photo of Rice Portage Lake after completion of the water control structure on the outlet. The photo was taken on July 7, 1999, at about 7,000 feet above ground level. The water elevation is about 1,294 feet, which restored this wild rice lake to its original size of 634 acres. Much of the competing vegetation is inundated. The full restoration of the wild rice stands will require the conversion of cattail and sedges by mechanical means to the open water conditions in which wild rice can again grow. The new water control structure will be used to manage water levels to maintain and enhance wild rice growth.

NORTHERN TALLGRASS PRAIRIE RESTORATION I & II

This project will preserve key prairie wetland communities for their unique values; restore degraded lacustrine aquatic bed wetlands as critical migrational habitat; and restore drained wetlands and adjacent grasslands on public and private lands in Minnesota and South Dakota. Partners include the Red Lake Reservation, the White Earth Reservation, the Minnesota DNR, the Minnesota Board of Water and Soil Resources, Ducks Unlimited, The Nature Conservancy, Pheasants Forever and the Minnesota Waterfowl Association.

Phase II of this 10-year initiative is to accelerate the preservation, restoration and enhancement of tallgrass prairies, prairie wetlands and associated wildlife. The Northern Tallgrass ecosystem has been identified as a priority area because of extensive conversion of natural habitats and its high value to numerous plant and animal species, including waterfowl and other prairie species. Another $1million was funded for Phase II with the same partners.

RICE PORTAGE WETLAND RESTORATION PROJECT

The completion of the Rice Portage Wetland Restoration Project was possible because of the grants from the North American Wetland Restoration Act, the Natural Resources Conservation Service, the Minnesota DNR, the USFWS, Ducks Unlimited, the Carlton County Soil and Water Conservation District, and three corporate partners. The Fond du Lac Reservation has generously supported this project for several years. The completion of the four water control structures and the 71-acre impoundment will provide the capability to better manage the wild rice lakes and to restore several hundred acres of wild rice. The Fond du Lac Natural Resources Program has begun an extensive program to restore the wild rice stands by mechanically converting the competing vegetation to wild rice habitat. The greatly enhanced wild rice and wetland habitat will benefit migratory and nesting waterfowl in this region.

RED LAKE FARM/KIWOSAY WILDLIFE HABITAT RESTORATION PROJECT, PHASE I

The overall project area encompasses the 2,552-acre Red Lake Farm, the 7,000-acre Kiwosay Wildlife Area, and an additional 2,000 acres of surrounding properties targeted for future purchase. Phase I of the project will restore 325 wetland acres, 600 acres of upland nesting habitat, 150 acres of wild rice food plots, 200 acres of small grain food plots, and complete construction and placement of 59 nesting structures. An additional 80 acres will be purchased to provide more nesting habitat for waterfowl and grassland birds.

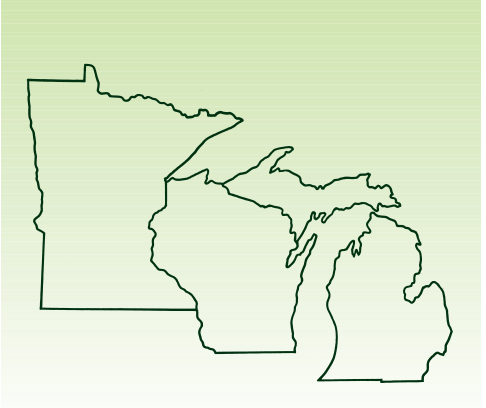
Partners in this project include the Red Lake Reservation, Ducks Unlimited, the Minnesota Waterfowl Association, the Natural Resources Conservation Service, Beltrami Co. (NRCS), the National Audubon Society, and the Minnesota DNR.

MICHIGAN UPPER PENINSULA COASTAL WETLAND PROJECT

Partners: Ducks Unlimited; Michigan DNR; Keweenaw Bay Indian Community; Bay Mills Indian Community; Great Lakes Indian Fish and Wildlife Commission; The Nature Conservancy; Village of L'Anse; Eagle Harbor Township; Yellowdog Watershed Preserve, Inc.; Ottawa National Forest; Upper Peninsula Resource, Conservation and Development Council; U.S. Fish and Wildlife Service; Natural Resources Conservation Service; and private landowners. The Michigan Upper Peninsula Coastal Wetland Project is a multi-phase landscape scale project to protect, restore and manage coastal wetlands and associated uplands in Lake Superior and the St. Mary's River watersheds in the Upper Peninsula of Michigan. Phase I ($1million) was awarded in September 1999, and Phase II ($835,000) was awarded in September 2001. A Phase III application ($1million) was submitted in July 2003 focusing, with the same partners, on 3,255 acres of waterfowl habitat in the Upper Peninsula.

The peninsula has not seen the same great wetland losses as lower Michigan, with the exception of the Rudyard Clay Plain. For this reason, this project focuses on preventing destruction of coastal wetland areas and associated upland, with habitat restoration / enhancement as a secondary objective. The best way to ensure perpetual protection is fee title or easement acquisition of these properties by government agencies and conservation organizations. Activities conducted through these grants will preserve 2,856 acres of wetlands and 3,263 acres of associated uplands. Eleven thousand eight hundred forty-seven feet of Lake Superior shoreline will be protected from development, 3,347 feet of which is identified as "essential breeding habitat" in the Piping Plover Recovery Plan.

This initiative has brought together all of the major natural resource entities in the basins to begin breaking down old barriers in working relationships to combine technical, biological and cultural expertise in creating the most efficient working group to address the resource needs of the basins. No component can be singled out; all of the players and elements must work together to preserve the coastal zone and watershed of Lake Superior and northern Lake Huron and the migratory birds and other wildlife these habitats support.



2006 Circle of Flight Enhancement Projects

MICHIGAN

GRAND TRAVERSE

Petobego Marsh Wild Rice and Waterfowl Habitat Study – Petobego Marsh State Game Area comprises 443 acres of state-owned land surrounded by both private and Grand Traverse Conservancy property in Antrim County, Mich. A stop-log dam structure was constructed in the early 1950s impounding a creek and creating a backwater marsh in order to provide waterfowl habitat to be utilized as nesting / rearing and migration, and to provide hunting and trapping opportunities. The proposed project lies within the Grand Traverse Band's Service Area and the 1836 Treaty Ceded Territory. The Grand Traverse Band of Ottawa an Chippewa Indians Natural Resources Department (GTB-NRD) has proposed to assist the Michigan Department of Natural Resources (MDNR) in conducting a waterfowl habitat assessment and management recommendation. Wild Rice enhancement on 35 acres.

GUN LAKE

Upland Nesting Habitat – Planting of two-four acres of upland nesting grasses and wildflowers. Construction of wood duck boxes.

KEWEENAW BAY INDIAN COMMUNITY

Wild Rice Seeding, Monitoring and Stand Improvements – Wild rice seeding to re-establish wild rice on the 15-acre Roubillard Impoundment. Establishment of wild rice on the 10-acre Mud Lakes wetland complex following culvert and water control maintenance and select vegetation removal. Wild rice enhancement and expansion in eight to 10 locations.

LAC VIEUX DESERT

Wild Rice Establishment – Enhance the wetland and waterfowl resources of the Lac Vieux Desert Reservation and surrounding lakes, particularly the wetlands along the shore of Lake Lac Vieux Desert, restoring 80-100 acres of wild rice.

LITTLE RIVER BAND

Wild Rice and Trumpeter Swan Re-introduction – A total of 40 acres of wild rice will be planted and four trumpeter swans will be re-introduced. Wild rice research and waterfowl monitoring.

LITTLE TRAVERSE BAY BAND

Wild Rice Enhancement/Waterfowl/Endangered Species Assessment – The Little Traverse Bay Band's Natural Resources Department has utilized Bureau of Indian Affairs Circle of Flight funding as a catalyst to fund projects for baseline wetland monitoring within the 1855 Reservation and 1836 Ceded Territory. These baseline wetland and waterfowl projects include: **threatened & endangered species monitoring,** including piping plover monitoring and aerial surveys for bald eagle / osprey nests; **migratory waterfowl monitoring,** including loon & waterfowl brood surveys; and **cultural significant species enhancement,** including wild rice seeding and sweet grass propagation.

2006 Circle of Flight Enhancement Projects

MINNESOTA

BOIS FORTE

Nett Lake Reservation – Continue aquatic plant management program on Nett Lake and major tributaries to increase and stabilize wild rice production. A total cleared area of competing plant material in Nett Lake by fall 2006 is expected to be 115 acres.

FOND DU LAC

Wild Rice Habitat Restoration Project – Increase and improve waterfowl migratory and production habitat by restoring Rice Portage Lake to its original size of 634 acres and wild rice abundance; restore 411 acres of wild rice habitat on Perch Lake; restore 20 acres of wild rice habitat on Jaskari; and assist with an access for equipment on Miller Lake.

GRAND PORTAGE

Trust Lands Pond Construction, Water Level Control and Bank Stabilization – Construct Trust Lands Pond adjacent to office for community education and outreach (NRCS funded at 75%); adjacent creek bed slope stabilization; re-seed Mt. Maude borrow areas, Eagle Marsh dam repairs and Dutchman Lake repairs continue; beaver control efforts continued.

LEECH LAKE

Impoundment Management and Enhancement – Provide management and enhancement on 17 impoundments that total about 500 acres for the benefit of waterfowl and other species that utilize wetland habitats.

Tribal Lands and Wild Rice Bed Survey – Use Circle of Flight dollars to match Tribal Wildlife and Landowner Incentive Programs to survey 2000 acres of tribal lands for rare species of quality habitats for these species in addition to a comprehensive wild rice bed survey.

MILLE LACS

Implementation of Ogechie Wild Rice Restoration – Restoration of wild rice at Lake Ogechie, a small impoundment on the Rum River south of Mille Lacs. Establishing suitable hydraulic conditions for wild rice will be accomplished by modification, re-location or removal of the existing dam.

PRAIRIE ISLAND

Restoring Native Prairie – Restore 60 acres of native prairie on Tribal Trust Land. Annual maintenance / management of existing 200 acres of restored prairie.

Restoring Wild Rice – Seed 30 acres of wetlands with wild rice.

2006 Circle of Flight Enhancement Projects

RED LAKE

Lower Butcher Knife Chain Waterfowl Restoration Project – Restoration of a more "natural" water regime and associated vegetation communities in the lower 2.5 miles of the Butcher Knife stream through beaver dam and debris removal, and seeding of wild rice into appropriate locations. Construction and placement of 50 waterfowl nesting structures and enhancement of 25 acres of grassland habitat.

WHITE EARTH

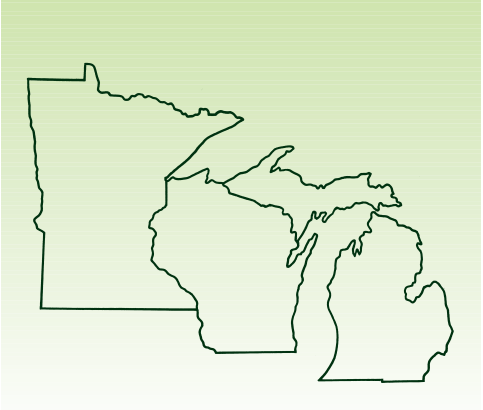
Wetland and Upland Restoration – Restore wetlands and enhance upland nesting cover on tribal land. Planting of native grasses will chance 210 acres of upland habitat. Restore 60 acres of wetland habitat.

Waterfowl Project – Construct 100 nest boxes to provide suitable nest sites. Five hundred Canada geese will be banded within the Reservation boundaries.

1854 AUTHORITY

The 1854 Authority will hire a wetland biologist to carry out management activities and intensive waterfowl / habitat monitoring at four existing impoundments covering 420 acres. Ninety acres of shoreline along rice lakes will be treated with prescription burns to enhance nesting cover, beaver control will be used to manage water levels on about 1,500 acres of shallow lakes and rice will be seeded to attempt restoration at two lakes.

2006 Circle of Flight Enhancement Projects



WISCONSIN

BAD RIVER

Ecological Monitoring of Bad River Reservation Wetlands – Reservation wetlands (25,000 acres) and wildlife will be monitored using ground and aerial methods. The protection and enhancement activities ensure prevention from degradation for 150 miles of river, 1,063 acres of lakes and 25,000 acres of wetlands on the Bad River Reservation. This is a continuing long-term project (10 years) that needs assistance to maintain a credible monitoring program. The survey will target reservation and Lake Superior near-shore waterfowl populations; conduct photography for annual wetland and wild rice bed monitoring and mapping; survey wetland wildlife populations; and conduct enforcement activities to efficiently enforce the Kakagon Sloughs Ordinance. In addition to these base acres (26,063 acres), enhanced ecological monitoring serves the near-shore ecosystems of Chequamagon Bay and western Lake Superior.

FOREST COUNTY POTAWATOMI

The enhancement of the Arlyn Alloway Pond – Will be expanded to the riparian area of the pond where a selection of plant species that are culturally important to the tribe will be planted. Part of the area that was cleared in excess of the original project will be planted with a mixture of woody species that will diversify the riparian area, providing nesting for songbirds, cover for small vertebrates, and food crops for mammals and birds. A Tribal youth group, Walking in Four Directions, and its director will be engaged in the project as a labor force.

LAC DU FLAMBEAU

Powell Marsh – Maintenance and repair of 15 miles of levees and six water control structures on the 14,000 acre Powell Marsh.

Loon Research Project – Conduct a seasonal loon population study on reservation lakes greater than 10 acres to determine territorial pairs, number of nesting pairs, number of successful hatches and blood mercury levels.

LAC COURTE OREILLES

Cranberry Marsh Restoration – Purchase wild rice to seed areas to be converted from the LCO Tribe's cranberry marsh to wild rice beds. Approximately 20 acres will be seeded in the first year. An important stream reach will be restored and the potential for wildlife habitat or wild rice will be explored. Wood duck nest boxes will be surveyed, cleaned, and repaired, if necessary.

MENOMINEE

Wild Rice Restoration – Wild rice seed will be purchased and collected from area tribes. Will harvest and plant from existing wild rice areas along the Wolf River and nearby lakes. Put forth a community effort to revive historical, cultural wild rice harvest strategies.

2006 Circle of Flight Enhancement Projects

ONEIDA

Restoration of the Headwaters of the Suamico River – The goal of the project is to restore the area as headwater wetlands. The settling basin will allow for sediment removal for approximately 21 acres of water. A second berm will be constructed downstream of the sediment basin and will flood an additional 90 acres of wetlands.

ST. CROIX

Spring Lake Wild Rice Restoration – Restore wild rice abundance on 54-acre Spring Lake, Washburn County, Wis.

Regional Wild Rice Assessment – Record tribal elder wild rice abundance knowledge. Increase regional wild rice abundance for human, waterfowl, and wildlife consumption, and improved water quality.

STOCKBRIDGE-MUNSEE

Construction of Waterfowl Impoundment – To enhance and create additional wetland habitat for waterfowl on the Stockbridge-Munsee Reservation with the installation of an earthen dam and water control structure.

RED CLIFF

Wild Rice Seeding and Monitoring – Continue wild rice seeding program with 25-30 acres to be seeded and 40 acres to be monitored.

GREAT LAKES INDIAN FISH AND WILDLIFE COMMISSION

Ceded Territory Wild Rice Enhancement and Research – Plant approximately three to four tons of wild rice in ceded territory waters in cooperation with state, federal and private natural resource organizations and GLIFWC's member tribes, and begin development of a joint state / tribal Wisconsin Wild Rice Management Plan.

Ceded Territory Wetland Creation and Restoration Program – Partner with the Lac du Flambeau Tribe and Wisconsin Department of Natural Resources to restore water management capability on the Powell Marsh Wildlife Area in Vilas County, Wis.

Circle of Flight FY 2007 Funding Request

RESERVATION	PROJECT TITLE	FY 2007 COST
MICHIGAN		
Bay Mills	Wetland / Wild Rice Enhancement	$ 25,000
Grand Traverse	Petobego Marsh Wild Rice / Habitat Management	25,000
Gun Lake	Construction of Wetland Boardwalk	28,000
Keweenaw Bay	Wetland / Wild Rice Enhancement / Waterfowl Assessment	30,000
Lac Vieux Desert	Wild Rice Establishment	10,000
Little River Band	Wild Rice / Wetland Enhancement	25,000
Little Traverse Bay	Wild Rice Enhancement / Waterfowl Assessment / Piping Plover Monitoring	40,000
MINNESOTA		
Bois Forte	Nett Lake Wild Rice Restoration Project	100,000
Fond du Lac	Wild Rice Habitat Restoration Project	60,000
Fond du Lac Ceded Territory	Waterfowl Enhancement	10,000
Grand Portage	Monitoring and Re-seeding of Wild Rice Lakes	50,000
Leech Lake	Matching Funds for NRCS Wetland Habitat Enhancement	50,000
Mille Lacs	Wild Rice Restoration / Wetland Management	50,000
Prairie Island	Restoring Native Prairie and Wild Rice	30,000
Red Lake	Lower Butcher Knife Chain Waterfowl Restoration Project	80,000
White Earth	Wetland / Prairie Restoration	100,000
1854 Authority	Nesting Cover Enhancement at Wild Rice Lakes / Waterfowl Management Areas	40,000
WISCONSIN		
Bad River	Ecological Monitoring of Bad River Reservation Wetlands	15,000
Forest Cty Potawatomi	Pond Restoration / Waterfowl Enhancement	10,000
Lac du Flambeau	Powell Marsh Enhancement / Wild Rice Re-Seeding	50,000
Lac Courte Oreilles	Cranberry Marsh Restoration	75,000
Menominee	Wild Rice Enhancement and Restoration	25,000
Oneida	Restoration of the Headwaters of the South Branch of the Suamico River	50,000
St. Croix	Wild Rice Restoration	20,000
Stockbridge-Munsee	Breeding Bird Survey, Wild Rice and Beaver Management	10,000
Red Cliff	Wetland Acquisition and Restoration	40,000
GLIFWC	Ceded Territory Wild Rice Enhancement and Research	25,000
GLIFWC	Ceded Territory Wetland Creation and Restoration Program	30,000
		$1,103,000

Midwest Region Waterfowl Management Task Force

Bureau of Indian Affairs Midwest Region Office	*Robert Jackson, Chairman*
Great Lakes Agency	*Mark Kuester*
Great Lakes Indian Fish & Wildlife Commission	*Peter David*
1854 Authority	*Andrew J. Edwards*
Bad River	*Thomas Doolittle*
Bois Forte	*Corey Strong*
Fond du Lac	*Reggie Defoe*
Fond du Lac Ceded Territory	*Mike Schrage*
Grand Traverse	*Tom Callison*
Ho-Chunk	*Randy Poelma*
Keweenaw Bay	*Todd Warner*
Lac Courte Oreilles	*Kristine Maki*
Lac du Flambeau	*Larry Wawronowicz*
Lac Vieux Desert	*George Beck*
Leech Lake	*Steve Mortensen*
Little River Band	*Mark Knee*
Little Traverse	*Archie Kiogima*
Menominee	*Donald Reiter*
Mille Lacs	*Scott Hansen*
Oneida	*Terry Metoxen*
Prairie Island	*Craig Wills*
St. Croix	*Elizabeth Greiff*
Stockbridge-Munsee	*Robert J. Frank*
Red Cliff	*Matthew Symbal*
Red Lake	*Dave Conner*
White Earth	*Douglas McArthur*
Environmental Protection Agency	*Edward Fairbanks*
North American Waterfowl Management Plan Office	*Barb Pardo*
U.S. Fish & Wildlife Service	*Mark Dryer*