

## **MANOOMIN (WILD RICE) ENHANCEMENT AND RESEARCH IN THE CEDED TERRITORIES - 2002**

### **INTRODUCTION**

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) conducts a manoomin (*Zizania palustris*) enhancement and research program in the territories ceded in the Treaties of 1836, 1837, and 1842. Most wild rice management projects are conducted cooperatively with other natural resource agencies. This report summarizes activities carried out under this program in 2002.

### **BACKGROUND**

Manoomin has been a staple in the diet of native people in the upper Great Lakes region for over 1000 years (Johnson 1970). It has been an important component of the diet and the culture of the Ojibwe people since their immigration into the heart of wild rice range nearly 3 centuries ago (Vennum 1988). With the arrival of Europeans, wild rice also became an important economic commodity, providing critical nutrition to the fur-trappers and traders moving into the area. Today, manoomin retains extraordinary significance to the Ojibwe, and is considered sacred food. The September moon is still referred to as Manoominike Giizis (the Rice Making Moon), and the harvest season is still celebrated with traditional pow-wows.

In addition to its value to Native Americans, wild rice provides a valuable food source for wildlife, and its presence increases the biological diversity of wetlands. Wild rice can also improve water quality by tying up nutrients and by decreasing the wind action across lakes that can suspend particles and lead to water clarity and quality problems. Unfortunately, wild rice is much less abundant than it was historically.

The re-affirmation of off-reservation treaty rights has restored the Tribes' opportunity to cooperatively manage wild rice in the ceded territories. The general objective for the enhancement program is to increase the amount of wild rice in the ceded territories through the reestablishment of historic beds and the development of new beds. In 1985, GLIFWC and the Wisconsin Department of Natural Resources (WDNR) cooperated in the first attempt to inventory wild rice beds in Wisconsin. In 1987, GLIFWC began off-reservation seeding activities by planting 200 pounds of seed in Pat Shay Lake, Vilas County, Wisconsin in cooperation with the Nicolet National Forest (NNF), and providing approximately 100 pounds of seed to the WDNR for seeding on a state wildlife area. The seeding program grew gradually over the next several years, until it expanded significantly in 1991 (Figure 1) with support of funding from the Bureau of Indian Affairs Circle of Flight (COF) Program. Restoration efforts continue to be an important part of GLIFWC's manoomin management program. The cooperative seeding of nearly 6,800 pounds of rice in 2002 is summarized below.

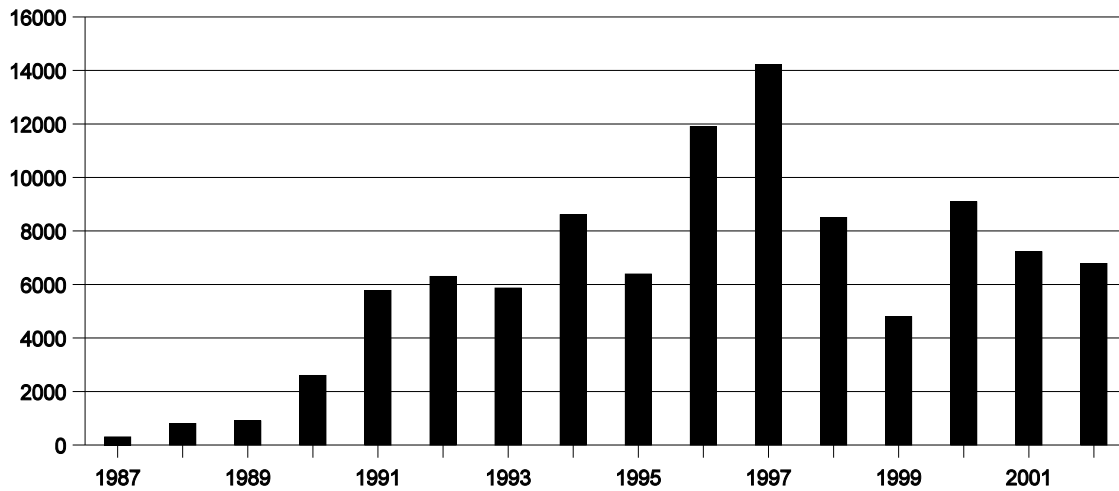


Figure 1. Pounds of manoomin purchased by GLIFWC and seeded by GLIFWC, its member tribes, or cooperators, 1987-2002.

## ENHANCEMENT

### Seeding Summary

In 2002, as in other recent years, GLIFWC concentrated its management efforts on purchasing locally harvested rice and distributing it to cooperators (listed below) who conducted the majority of the seeding. Seeding sites were selected by GLIFWC staff, member tribes, cooperators, or some combination of the three. With the assistance of these cooperators a total of 6,785 pounds of wild rice was seeded in at least 19 waters in 8 Wisconsin and 3 Michigan counties (Figure 2).

GLIFWC's wild rice seeding program is a highly cooperative effort. Without the strong financial and manpower support of numerous partners, this important undertaking would be far less successful. Tribal interest in this resource has acted as a catalyst, stimulating effective partnerships with other agencies sharing a concern for this resource. Cooperators in 2003 included GLIFWC member tribes, including the Lac Vieux Desert Band, the Lac du Flambeau Band, the Bay Mills Indian Community, the Red Cliff Band and the Keweenaw Bay Indian Community; federal agencies including the Ottawa and Chequamegon-Nicolet National Forests and USFWS; state agencies including the Wisconsin Department of Natural Resources (WDNR) and the Michigan Department of Natural Resources (MiDNR); Langlade County Wisconsin, and the Wisconsin Valley Improvement Company. The contributions of each of these cooperators are summarized by project below.

## Seed Purchasing

Seed purchasing in 2002 was quite successful given the relatively modest crop available for harvesters. Overall rice abundance in Wisconsin was very similar to the fairly poor crop observed in 2001; an index to manoomin abundance index for 2002, based on surveys of 40 Wisconsin waters, was 27% below the 1985-2002 average (David 2008). Nevertheless, GLIFWC or its cooperators were able to purchase 6,785 pounds of seed for planting (Figure 1). Seed purchased was harvested from at least 13 different waters. For seed with a known origin, the largest amount came from Upper Ninemile Flowage (Vilas County, WI, 1,010 pounds), and Clam Lake (Burnett County WI, 581 pounds). No other water is known to have supplied more than 500 pounds of seed, but the water of origin was not recorded for nearly 2,600 pounds of the seed purchased in 2002.

## Seeding Locations

Fifteen Wisconsin and five Michigan water received 6,785 pounds of seed under cooperative seeding ventures in 2002. (One water, Lobischer Creek, crosses the state line and was seeded in both states.) As in 2001, the total number of sites seeded in 2002 was lower than in many recent years because a great emphasis was placed on heavily seeding Lac Vieux Desert (LVD). Although LVD has been seeded in the past, including a heavy seeding in 2001, 2002 marked the initial year of a special 4-year seeding effort. This effort is being conducted in conjunction with an experimental modification of the FERC license held by the Wisconsin Valley Improvement Company to operate the dam on the outlet of this lake. Figure 2 displays the locations of seeded waters. All sites were seeded in the fall. Sites seeded were:

1) **Name:** Tranus Lake

**Location:** North-central Washburn County, WI

**Cooperator:** None

**Seed Source:** Unspecified MN water (203 pounds); Long Lake, Todd County MN (53 pounds).

**Summary:** 256 pounds of rice purchased by GLIFWC with COF funds was seeded by GLIFWC on this historic rice water. This site was also seeded from 1997-2000, with limited success; this seeding is being done in conjunction with efforts to slightly lower the lake level by removing a beaver dam at the outlet.

2) **Name:** Red Cliff On-reservation Sites

**Location:** Northeast Bayfield County, WI

**Cooperator:** Red Cliff Band

**Seed Source:** The Thoroughfare, Oneida County, WI (123 pounds); The St. Croix River, Douglas County, WI (102 pounds); Long Lake, Todd County, MN (71 pounds); Pacwawong Flowage, Sawyer County, WI, (62 pounds).

**Summary:** 358 pounds of rice purchased by GLIFWC on behalf of the Red Cliff Band was seeded by the Band as part of an on-going effort to establish rice on some on-reservation waters.

- 3) **Name:** Northern Great Lakes Visitor Center Pond  
**Location:** East-central Bayfield County  
**Cooperator:** USFWS  
**Seed Source:** Big Rice Lake, Cass County, MN (38 pounds).  
**Summary:** 38 pounds of rice purchased by GLIFWC with COF funds was seeded by USFWS staff on a small pond on the Northern Great Lakes Visitor Center associated with the Wittlesey Creek National Wildlife Refuge. Although this ponds may not be able to support a self sustaining rice bed, it is located along a visitor walking trail, and offers an important public education opportunity.
- 4) **Name:** Gile Flowage  
**Location:** North-central Iron County, WI  
**Cooperator:** WDNR  
**Seed Source:** Long Lake, Todd County, MN (96 pounds); The St. Croix River, Douglas County, WI (59 pounds); Phantom Flowage, Burnett County, WI, (39 pounds).  
**Summary:** 194 pounds of rice purchased by GLIFWC with COF and WDNR funding was seeded by the WDNR in the bay adjacent to HWY 51 on the northeast corner of this large flowage. This seeding was done to expand the bed established by seeding from 1996-1999.
- 5-6) **Name:** Lac du Flambeau Reservation On-reservation Waters: Sugarbush Flowage and Middle Sugarbush Lake  
**Location:** Sugarbush Flowage: Southeast Iron County, WI; Middle Sugarbush Lake Southwest Vilas County, WI  
**Cooperator:** Lac du Flambeau Band  
**Seed Source:** The Throughfare, Oneida County, WI (320 pounds); Phantom Flowage, Burnett County, WI (144 pounds); Black Brook Flowage, Burnett County, WI (115 pounds); Rice Lake, Forest County WI (112 pounds).  
**Summary:** 691 pounds of rice purchased by GLIFWC on behalf of the Lac du Flambeau Band was seeded by the Band in these two on-reservation waters. The seed was reported roughly divided between the two sites.
- 7) **Name:** Popple Creek Impoundment  
**Location:** Northeast Price County, WI  
**Cooperator:** Chequamegon/Nicolet National Forest  
**Seed Source:** Unspecified MN water (122 pounds).  
**Summary:** 122 pounds of rice purchased by GLIFWC with Forest Service and COF funds was planted by the Forest Service on this flowage located on the Chequamegon portion of the Forest. This site also received small seedings in 1999 and 2000. Establishment thus far has been limited, though the adjacent Upper Wilson Flowage has responded well to seeding.

- 8) **Name:** Upper Wilson Flowage  
**Location:** Northeast Price County, WI  
**Cooperator:** Chequamegon National Forest  
**Seed Source:** Unspecified MN Water (231 pounds).  
**Summary:** 231 pounds of rice purchased by GLIFWC with COF and USFS funding was seeded by the Forest Service on this flowage located on the Chequamegon portion of the Forest. This site was also seeded in 2000. A bed has already been established on the adjacent Wilson Flowage.
- 9) **Name:** Jersey Flowage  
**Location:** North-central Lincoln County  
**Cooperator:** WDNR  
**Seed Source:** Clam Lake, Burnett County, WI (174 pounds); Phantom Flowage, Burnett County, WI, (75 pounds) and Pacwawong Flowage, Sawyer County, WI (51 pounds).  
**Summary:** 300 pounds of seed purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR in an initial seeding attempt on this flowage, located on a section of the Wisconsin River.
- 10) **Name:** Gleason Flowage, Ackley Wildlife Area  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR, Langlade County  
**Seed Source:** Upper Ninemile Flowage, Vilas County, WI (100 pounds).  
**Summary:** Approximately 100 pounds of seed purchased by the WDNR with WDNR, Langlade County and GLIFWC funds was seeded on this flowage by the WDNR, in the second annual seeding of this water.
- 11) **Name:** Middle Trappe Flowage, Ackley Wildlife Area  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR  
**Seed Source:** Upper Ninemile Flowage, Vilas County, WI (100 pounds).  
**Summary:** Approximately 100 pounds of seed purchased by the WDNR with WDNR, Langlade County and GLIFWC funds was seeded on this flowage by the WDNR, who reported about 5 acres of rice being present from the initial seeding in 2001.
- 12) **Name:** Upper Eau Claire Flowage  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR  
**Seed Source:** Upper Ninemile Flowage, Vilas County, WI (200 pounds).  
**Summary:** Approximately 200 pounds of seed purchased by the WDNR with WDNR, Langlade County and GLIFWC funds was seeded on this flowage by the WDNR in an initial seeding attempt.

- 13) **Name:** Upper Trappe Flowage, Ackley Wildlife Area  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR  
**Seed Source:** Upper Ninemile Flowage, Vilas County, WI (100 pounds).  
**Summary:** Approximately 100 pounds of seed purchased by the WDNR with WDNR, Langlade County and GLIFWC funds was seeded on this flowage by the WDNR, who reported only a trace of rice being present from the initial seeding conducted last year. Heavy browsing by geese may be a problem at this site.
- 14) **Name:** Lobischer Creek  
**Location:** Southeastern Gogebic County, Michigan and Northeast Vilas County, WI  
**Cooperator:** None  
**Seed Source:** Black Brook Flowage, Burnett County, WI (61 pounds) and an unspecified MN water (45 pounds).  
**Summary:** 106 pounds of seed purchased by GLIFWC with COF funds was seeded by GLIFWC in the second annual seeding of this small tributary to Lac Vieux Desert. About half of the seed was sown into the Wisconsin section of the creek; the other half in the adjacent Michigan section. Little response was noted from the first year of seeding, although the habitat appears suitable.
- 15) **Name:** Kaine Lake  
**Location:** North-central Forest County, WI  
**Cooperator:** Chequamegon/Nicolet National Forest  
**Seed Source:** Black Brook Flowage, Burnett County, WI (62 pounds); Rice Lake, Forest County WI (55 pounds) and an unspecified MN water, (52 pounds).  
**Summary:** 169 pounds of rice purchased by GLIFWC with COF funds was seeded by GLIFWC on this undeveloped lake located on the Nicolet portion of the Chequamegon/Nicolet National Forest. This lake had been seeded once before, in 1990, with good initial establishment, but the bed seems to be in decline.
- 16) **Name:** Lac Vieux Desert  
**Location:** Gogebic County, MI  
**Cooperators:** Ottawa National Forest, Lac Vieux Desert Band, Wisconsin Valley Improvement Company (WVIC)  
**Seed Source:** For the major seeding effort underway at LVD, seed from many different sites was used, including: Upper Ninemile Flowage, Vilas County, WI (510 pounds); Big Rice Lake, Cass County, MN (416 pounds); Clam Lake, Burnett County, WI (407 pounds); Rice Lake, Forest County, WI (86 pounds); Pillager Lake, Cass County, MN (79 pounds); Black Brook Flowage, Burnett County, WI (62 pounds); North Fork Flowage, Burnett County, WI (55 pounds) and Goose Lake, Cass County, MN (45 pounds). In addition, 1,393 pounds came from unspecified waters, mostly out of Minnesota.  
**Summary:** GLIFWC and the Ottawa National Forest seeded 3,053 pounds of seed into Rice Bay on Lac Vieux Desert in the first of 4 years of intensive seeding being conducted

under an experimental modification of the FERC license held by WVIC on this historic rice water. Seed was paid for by WVIC and COF funds.

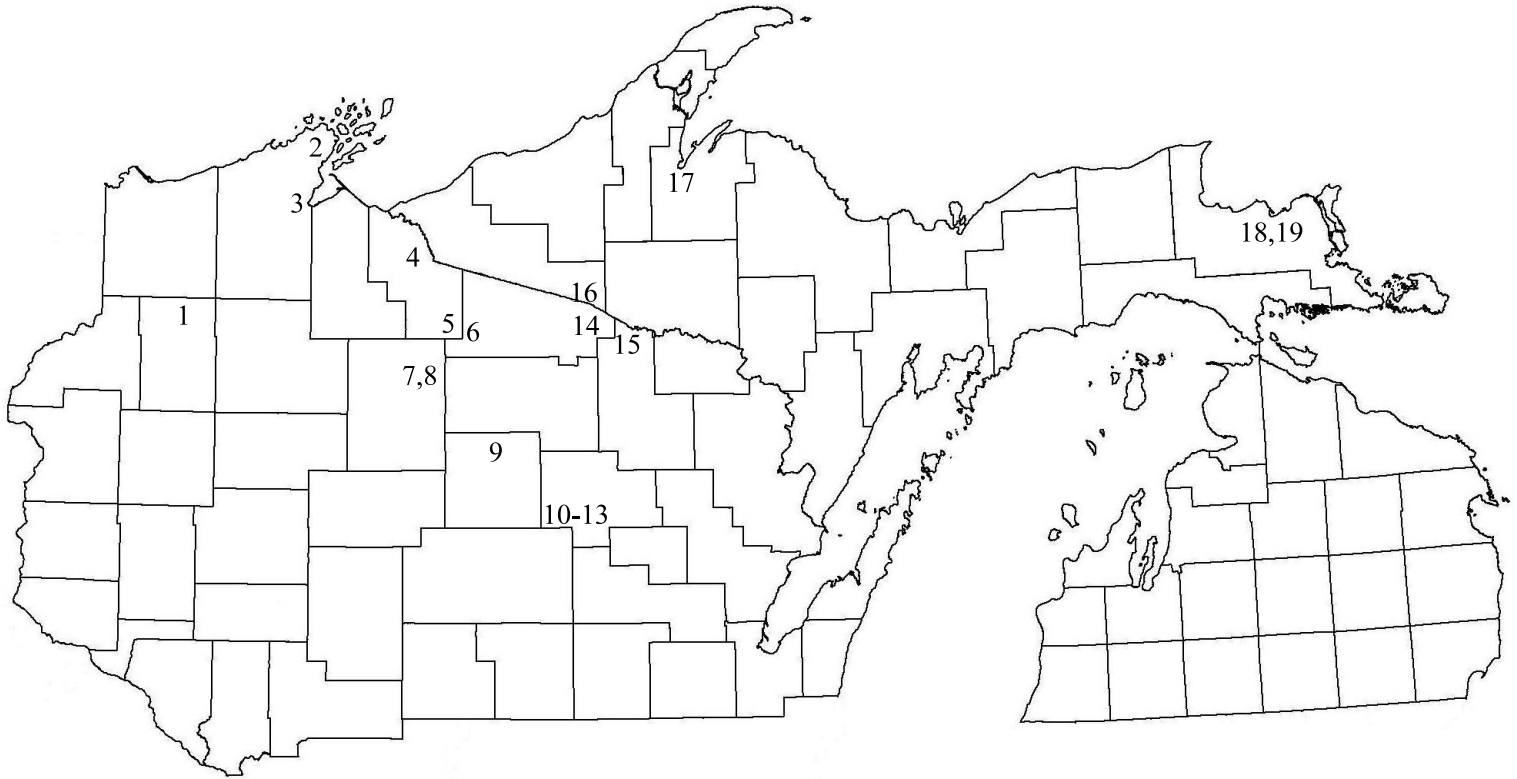
- 17) Name:** Keweenaw Bay On-reservation Sites  
**Location:** Northcentral Baraga County, Michigan  
**Cooperator:** Keweenaw Bay Indian Community  
**Seed Source:** Unspecified water  
**Summary:** 440 pounds of seed purchased by GLIFWC and paid for by the Keweenaw Bay Indian Community (KBIC) was seeded by KBIC on select on-reservation waters as part of an on-going seeding program.
- 18-19) Name:** Bay Mills On-reservation Sites: Waishkey (Back Bay), Lake Superior and Spectacle Lake  
**Location:** Central Chippewa County, Michigan  
**Cooperator:** Bay Mills Indian Community (BMIC)  
**Seed Source:** Unspecified MN water, (103 pounds); Phantom Flowage, Burnett County WI (60 pounds); Rice Lake, Forest County WI (59 pounds); Long Lake, Todd County MN (53 pounds); and North Fork Flowage, Burnett County WI (52 pounds)  
**Summary:** 327 pounds of seed purchased by GLIFWC on behalf of the Bay Mills Indian Community was seeded by BMIC in the sixth seeding of this bay on Lake Superior and the seventh seeding of this lake. Seed was roughly split between the two sites. While beds have become established at both sites, neither has become as robust as desired by BMIC.

## RESEARCH

No research activities were conducted in 2002, but work continued to complete summary reports on research conducted cooperatively with the Forest Service in previous years. These included a study which compared the sediment density at LVD with other area rice waters, and a study examining turbidity levels in Rice Bay on LVD, and the possible impacts of small motor boats on turbidity levels. These reports are expected to be completed in 2003.

## LITERATURE CITED

- David, P.F. 2008. Manoomin (wild rice) abundance and harvest in northern Wisconsin in 2002. Great Lakes Indian Fish and Wildlife Commission Admin. Report 08-19. 13 pp.
- Johnson, E. 1970. Preliminary notes on the historic use of wild rice. The Minnesota Archaeologist, Vol XXX, Number 2.
- Vennum, T. 1988. Wild rice and the Ojibwa people. Minnesota Historical Society Press. 357 pp.



1) Tranus Lake	9) Jersey Flowage
2) Red Cliff On-Reservation Sites	10-13) Ackley Wildlife Area Flowages: Gleason, Middle Trappe, Upper Eau Claire, Upper Trappe
3) Northern Great Lakes Visitor Center Pond	14) Lobischer Creek
4) Gile Flowage	15) Kaine Lake
5-6) Lac du Flambeau On-Reservation Sites: Sugarbush Flowage and Middle Sugarbush Lake	16) Lac Vieux Desert
7) Popple Creek Impoundment	17) Keweenaw Bay On-Reservation Sites
8) Upper Wilson Flowage	18-19) Bay Mills On-Reservation Sites

Figure 2. Waters seeded in 2002 GLIFWC cooperative ventures.