

## **MANOOMIN (WILD RICE) ENHANCEMENT AND RESEARCH IN THE CEDED TERRITORIES - 2004**

### **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 2004.

### **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 over 8,800 pounds of rice in 2004 is summarized below.

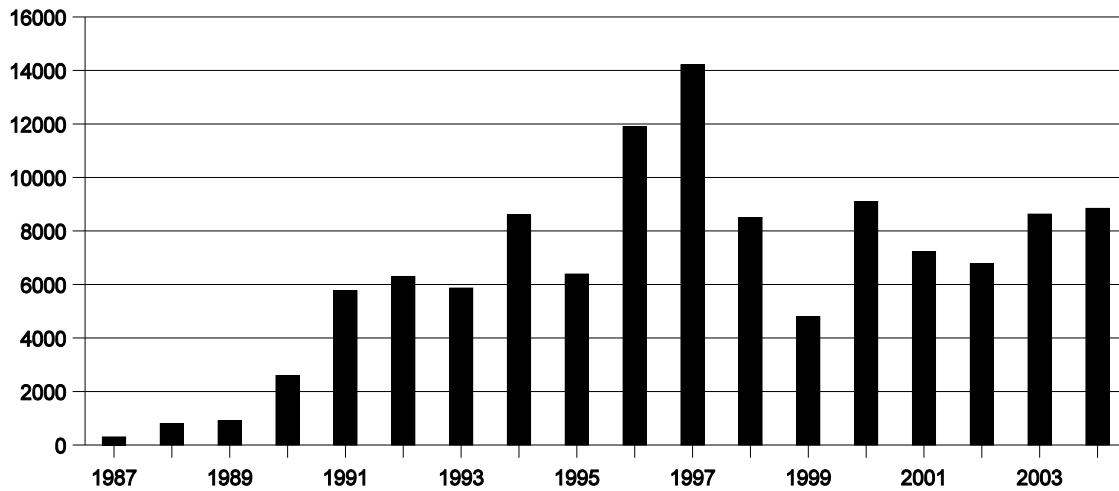


Figure 1. Pounds of manoomin purchased by GLIFWC and seeded by GLIFWC, its member tribes, or cooperators, 1987-2004.

## ENHANCEMENT

### Seeding Summary

In 2004, 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 8,844 pounds of wild rice was seeded in over 24 waters in 14 Wisconsin and 1 Michigan counties.

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 2004 included GLIFWC member tribes, including the Lac Vieux Desert Band, the Lac du Flambeau Band and the Red Cliff Band; federal agencies including the Ottawa and Chequamegon-Nicolet National Forests, USGS-NRCS, and USFWS; state agencies including the Wisconsin Department of Natural Resources (WDNR) and the Michigan Department of Natural Resources (MiDNR); 3 Wisconsin counties: Douglas, Florence and Langlade; and the Wisconsin Valley Improvement Company. The contributions of each of these cooperators are summarized by project below.

## Seed Purchasing

Seed purchasing in 2004 was quite successful given the relatively modest crop available for harvesters. Rice abundance in Wisconsin was similar to 2003 in the north-central part of the state, and slightly improved in the northwest. An overall manoomin abundance index for 2004, based on surveys of 40 Wisconsin waters, was 17% below the 1985-2004 average (David, 2008). Nevertheless, GLIFWC was able to purchase 8,844 pounds of seed for planting (Figure 1). Seed purchased was harvested from over a dozen waters. Because many harvesters mixed seed from different waters of harvest in 2004, the amount coming from each site cannot be determined, but the most significant seed sources included Aurora Lake (Vilas County, WI), Upper Ninemile Flowage (Vilas County, WI), Rice Lake NWR (Aitkin County, MN), and North Fork Flowage (Burnett County, WI). It is interesting to note that the bed on the North Fork Flowage was itself established through the seeding program.

## Seeding Locations

Twenty-three Wisconsin and 1 Michigan water received 8,844 pounds of seed under cooperative seeding ventures in 2004. Figure 2 displays the locations of seeded waters. All sites were seeded in the fall. Sites seeded were:

**1-3) Name:** Cylon Wildlife Area: 3 unnamed wetlands

**Location:** North-central St. Croix County, WI

**Cooperator:** Wisconsin DNR

**Seed Source:** North Fork Flowage, Burnett County, WI or Clam Lake, Burnett County, WI (source not recorded by seller) (213 pounds).

**Summary:** Seed purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on 3 small, unnamed flowages on the Cylon Wildlife area:

1) NW 1/4, N1/2, Sec.22, T31N, R16W; 168 pounds

2) SE 1/4, SW1/4, S1/2, Sec.10, T31N, R16W; 15 pounds

3) SW 1/4, S1/2, Sec.11, T31N, R16W; 30 pounds

This was the initial seeding attempt on the first site, and the second efforts on the other two locations.

**4) Name:** Johnson Tract wetland

**Location:** North-central St. Croix County, WI (NW 1/4, N1/2, Sec.4, T31N, R17W)

**Cooperator:** WDNR

**Seed Source:** North Fork Flowage, Burnett County, WI or Clam Lake, Burnett County, WI (source not recorded by seller) (80 pounds).

**Summary:** 80 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on this National Waterfowl Production Area wetland in an initial seeding attempt.

- 5) **Name:** Joel Marsh Wildlife Area Flowages  
**Location:** East-central Polk County, WI  
**Cooperator:** WDNR  
**Seed Source:** North Fork Flowage, Burnett County, WI or Clam Lake, Burnett County, WI (source not recorded by seller) (358 pounds).  
**Summary:** 358 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on adjacent flowages on this state wildlife area in an initial seeding attempt.
  
- 6) **Name:** Yellow River  
**Location:** East-central Burnett County, WI  
**Cooperator:** WDNR  
**Seed Source:** North Fork Flowage, Burnett County, WI or Clam Lake, Burnett County, WI (source not recorded by seller) (66 pounds).  
**Summary:** 66 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR in the vicinity of historic beds that existed around the mouth of Black Creek, about 2 miles down stream of Rice Lake. This planting is an effort to re-invigorate an area that was also seeded in 1996 and 1997.
  
- 7) **Name:** Casey Creek Flowage  
**Location:** Northwest Washburn County, WI  
**Cooperator:** WDNR  
**Seed Source:** Aurora Lake, Vilas County, WI or Upper Ninemile Flowage, Vilas County, WI (source not recorded by seller) (208 pounds).  
**Summary:** 208 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on this undeveloped waterfowl flowage. This planting is an effort to re-invigorate a bed that was established from seedings that took place between 1997 and 1999.
  
- 8) **Name:** Jackson Box (Moose Branch) Flowage  
**Location:** Central Douglas County, WI  
**Cooperator:** Douglas County  
**Seed Source:** Mallard Lake, Aitkin County, MN (183 pounds); Rogers Lake, Todd County MN (50 pounds); Rice Lake NWR, Aitken County, MN (48 pounds).  
**Summary:** 281 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on this undeveloped waterfowl flowage located on Douglas County lands, in an initial seeding attempt.
  
- 9) **Name:** Unnamed (Olson Meadows) Flowage  
**Location:** Central Douglas County, WI  
**Cooperator:** WDNR  
**Seed Source:** Mallard Lake, Aitkin County, MN (114 pounds).

**Summary:** 114 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on this undeveloped waterfowl flowage located on Douglas County lands. This site was also seeded in 2003.

- 10) **Name:** HWY T Wildlife Management Area wetland  
**Location:** Central Barron County, WI (NE 1/4 NE 1/4 Section 24, T34N, R13W)  
**Cooperator:** WDNR  
**Seed Source:** North Fork Flowage, Burnett County, WI or Clam Lake, Burnett County, WI (source not recorded by seller) (52 pounds).  
**Summary:** 52 pounds of rice purchased by GLIFWC with COF and WDNR funds was seeded by the WDNR on this undeveloped waterfowl flowage in an initial seeding attempt.
- 11) **Name:** Red Cliff Reservation On-reservation Wetlands  
**Location:** Bayfield County, WI  
**Cooperator:** Red Cliff Band  
**Seed Source:** Kakagon Sloughs, Ashland County, WI (502); Briggs Lake, Burnett County, WI (113 pounds); Aurora Lake, Vilas County, WI (97 pounds); Long Lake, Burnett County, WI (60 pounds)  
**Summary:** 772 pounds of rice was purchased by GLIFWC on behalf of the Red Cliff Band for seeding various (un-reported) on-reservation waters. A portion of this rice, however, was not seeded, but was consumed by a bear, who found a portion of the rice as it was in temporary storage in a stream.
- 12) **Name:** Wittlesey Creek National Wildlife Area Wetlands  
**Location:** East-central Bayfield County  
**Cooperator:** USFWS  
**Seed Source:** Kakagon Sloughs, Ashland County, WI (32 pounds).  
**Summary:** 32 pounds of rice purchased by GLIFWC with COF funds was seeded by USFWS staff on small ponds on the Wittlesey Creek National Wildlife Refuge. Although these small ponds may not be able to support a self sustaining rice bed, they are located along a visitor walking trail, and offer an important education opportunity.
- 13) **Name:** Wilson Lake  
**Location:** Northeast Sawyer County, WI  
**Cooperator:** Chequamegon National Forest  
**Seed Source:** Pacwawong Lake, Sawyer County WI, or North Fork Flowage, Burnett County, WI (source not recorded by seller) (207 pounds); Aurora Lake, Vilas County, WI or Upper Ninemile Flowage, Vilas County WI (source not recorded by seller) (56 pounds).  
**Summary:** A total of 263 pounds of rice was planted by GLIFWC on the second annual seeding of this undeveloped lake located on the Chequamegon National Forest. Some

initial take was observed resulting from the 2003 seeding.

- 14) **Name:** Sailor Lake  
**Location:** Northeast Price County, WI  
**Cooperator:** Chequamegon National Forest  
**Seed Source:** Pacwawong Lake, Sawyer County WI, or North Fork Flowage, Burnett County, WI (source not recorded by seller) (356 pounds).  
**Summary:** 356 pounds of rice purchased by GLIFWC with COF and USFS funds was planted on this lake on the Chequamegon National Forest by FS staff. Although this is considered an “initial” seeding attempt, the USFS reports that there are small patches of rice existing on the apparently as a result of a small seeding effort done by others in the mid 1980's. If these beds expand, they may also provide a public education opportunity, since there is a small USFS campground located on this lake.
- 15) **Name:** Manitowish River  
**Location:** Southeast Iron County, WI  
**Cooperator:** WDNR, USDA-NRCS  
**Seed Source:** Rice Lake NWR, Aitken County, MN (154 pounds); Long Lake, Burnett County, WI (46 pounds).  
**Summary:** 200 pounds of rice purchased by GLIFWC with NRCS funds was seeded by GLIFWC on the initial seeding effort on this river. Seeding was done in various bends east of the HWY 47 bridge, over 2-3 river miles.
- 16) **Name:** Lac du Flambeau Reservation On-reservation Waters  
**Location:** Southwest Vilas County, WI  
**Cooperator:** Lac du Flambeau Band  
**Seed Source:** Aurora Lake, Vilas County, WI (381 pounds); Aurora Lake, Vilas County, WI or Upper Ninemile Flowage, Vilas County WI (source not recorded by seller) (307 pounds).  
**Summary:** GLIFWC purchased 688 pounds of rice on behalf of the Lac du Flambeau Band for seeding on various on-reservation waters.
- 17) **Name:** Roe Lake  
**Location:** South-central Oneida County, WI  
**Cooperator:** WDNR  
**Seed Source:** Aurora Lake, Vilas County, WI or Upper Ninemile Flowage, Vilas County, WI (source not recorded by seller) (319 pounds).  
**Summary:** GLIFWC seeded 319 pounds of seed into this small, largely state-owned lake in the second annual seeding effort. Fairly good take was observed from the initial seeding attempt in 2003.

- 18) **Name:** Middle Trappe Flowage  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR  
**Seed Source:** Unrecorded northeast Wisconsin source (100 pounds).  
**Summary:** Approximately 100 pounds of seed purchased by the WDNR with WDNR, County, and GLIFWC funds was seeded on this flowage by the WDNR. This was an initial seeding attempt.
- 19) **Name:** Upper Trappe Flowage  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR  
**Seed Source:** Unrecorded northeast Wisconsin source (200 pounds).  
**Summary:** Approximately 200 pounds of seed purchased by the WDNR with WDNR, County, and GLIFWC funds was seeded on this flowage by the WDNR. This was the second year this site was planted.
- 20) **Name:** Upper Eau Claire Flowage  
**Location:** Southwest Langlade County, WI  
**Cooperator:** WDNR  
**Seed Source:** Unrecorded northeast Wisconsin source (200 pounds).  
**Summary:** Approximately 200 pounds of seed purchased by the WDNR with WDNR, County, and GLIFWC funds was seeded on this flowage by the WDNR. This was third year this site was planted.
- 21) **Name:** High Lake  
**Location:** Central Langlade County, WI (T33N, R11E, Sec. 27)  
**Cooperator:** WDNR  
**Seed Source:** Unrecorded northeast Wisconsin source (150 pounds).  
**Summary:** Approximately 150 pounds of seed purchased by the WDNR with WDNR, County, and GLIFWC funds was seeded on this undeveloped lake by the WDNR. This was an initial seeding attempt.
- 22) **Name:** Legerski's Pond  
**Location:** Central Florence County, WI  
**Cooperator:** WDNR  
**Seed Source:** Unrecorded northeast Wisconsin source (100 pounds).  
**Summary:** Approximately 100 pounds of seed purchased by the WDNR with WDNR, County, and GLIFWC funds was seeded on this flowage by the WDNR. This was an initial seeding attempt.
- 23) **Name:** Halls Creek Flowage  
**Location:** Central Florence County, WI

**Cooperator:** WDNR

**Seed Source:** Unrecorded northeast Wisconsin source (200 pounds).

**Summary:** Approximately 200 pounds of seed purchased by the WDNR with WDNR, County, and GLIFWC funds was seeded on this flowage by the WDNR. This was the first year that GLIFWC has contributed funds to the seeding of this location, but it reportedly has been seeded twice previously by the WDNR .

**24) Name:** Lac Vieux Desert

**Location:** Gogebic County, MI

**Cooperators:** Ottawa National Forest, Lac Vieux Desert Band, Wisconsin Valley Improvement Company

**Seed Source:** Aurora Lake, Vilas County, WI or Upper Ninemile Flowage, Vilas County WI (source not recorded by seller; 1,792 pounds); Rice Lake NWR, Aitkin County, MN (887 pounds); Mallard Lake, Aitkin County, MN (314 pounds); Long Lake, Burnett County, WI (291 pounds); Rogers Lake, Todd County, MN (192 pounds); Briggs Lake, Burnett County, WI (189 pounds); Allequash Lake, Vilas County, WI (131 pounds); Kakagon Sloughs, Ashland County, WI (65 pounds); Pacwawong Lake, Sawyer County WI, or North Fork Flowage, Burnett County, WI (source not recorded by seller; 31 pounds).

**Summary:** GLIFWC and the Ottawa National Forest seeded 3,892 pounds of seed into Rice Bay on Lac Vieux Desert in the 3<sup>rd</sup> of 4 years of intensive seeding underway as part of the restoration effort on this lake being implemented after a modification of the FERC and final seeding year of the major restoration effort on this historic rice water.

## RESEARCH

No research activities were conducted in 2004.

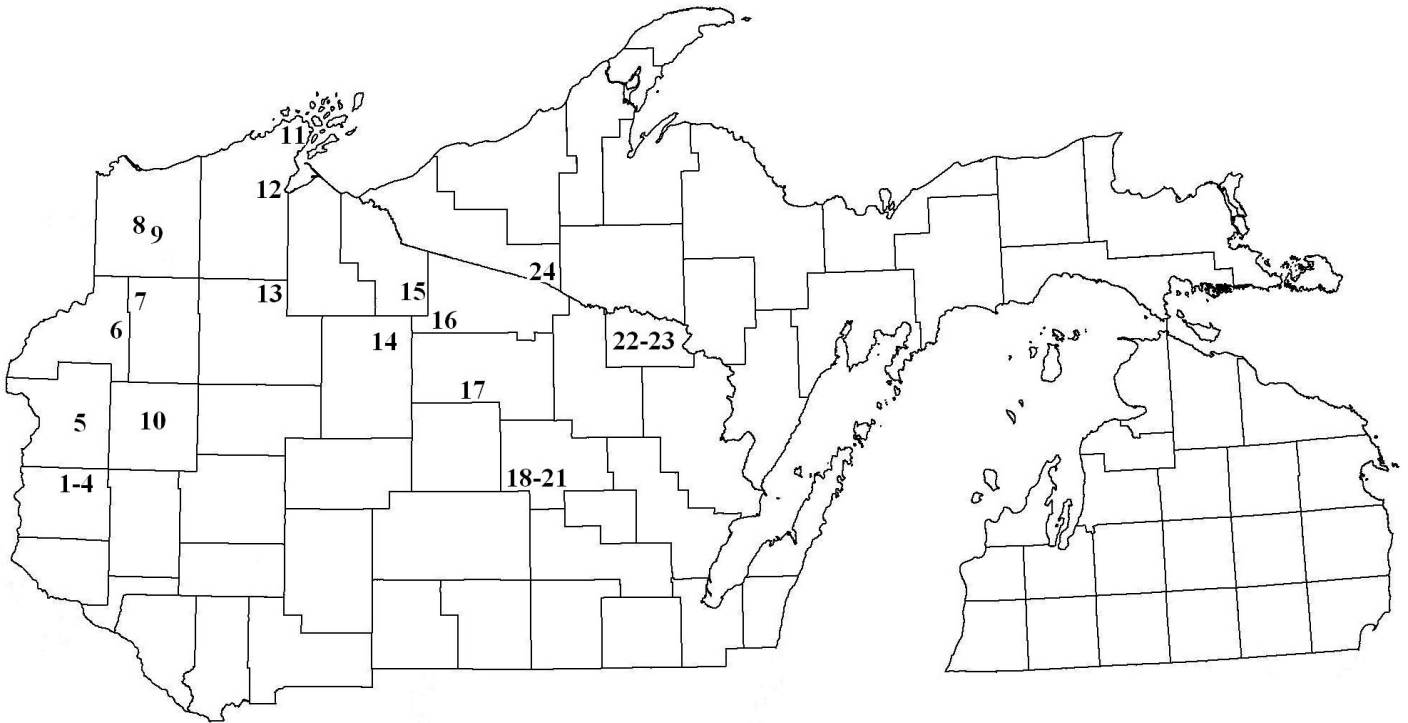
## LITERATURE CITED

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Vennum, T. 1988. Wild rice and the Ojibwa people. Minnesota Historical Society Press. 357 pp.





1-4) Cylon Wildlife Area (3 sites) and Johnson Tract	13) Wilson Lake
5) Joel Marsh	14) Sailor Lake
6) Yellow River	15) Manitowish River
7) Casey Creek Flowage	16) Lac du Flambeau On-Reservation Sites
8) Jackson Box Flowage	17) Roe Lake
9) Olson Meadows Flowage	18-20) Middle and Upper Trappe Flowages and Upper Eau Claire Flowage
10) HWY T Wildlife Management Area	21) High Lake
11) Red Cliff On-Reservation Sites	22-23) Legerski's Pond and Halls Creek Flowage
12) Visitor Center Pond	24) Lac Vieux Desert

Figure 2. Waters seeded in 2004 GLIFWC cooperative ventures.