



**Manoomin (Wild Rice)
Enhancement and Research
in the Ceded Territories in 2011**

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MANOOMIN (WILD RICE) ENHANCEMENT AND RESEARCH IN THE CEDED TERRITORIES - 2011

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 2011.

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 migration from the eastern seaboard into the heart of wild rice range at the west end of Lake Superior (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 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. Manoomin can also improve water quality by tying up nutrients and by decreasing the wind action across lakes that can suspend sediment particles and lead to water clarity and quality problems. Unfortunately, wild rice is much less abundant than it was historically.

The reaffirmation 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 DNR 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 Wisconsin Department of Natural Resources (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 Program. Restoration efforts continue to be an important part of GLIFWC's manoomin management program.

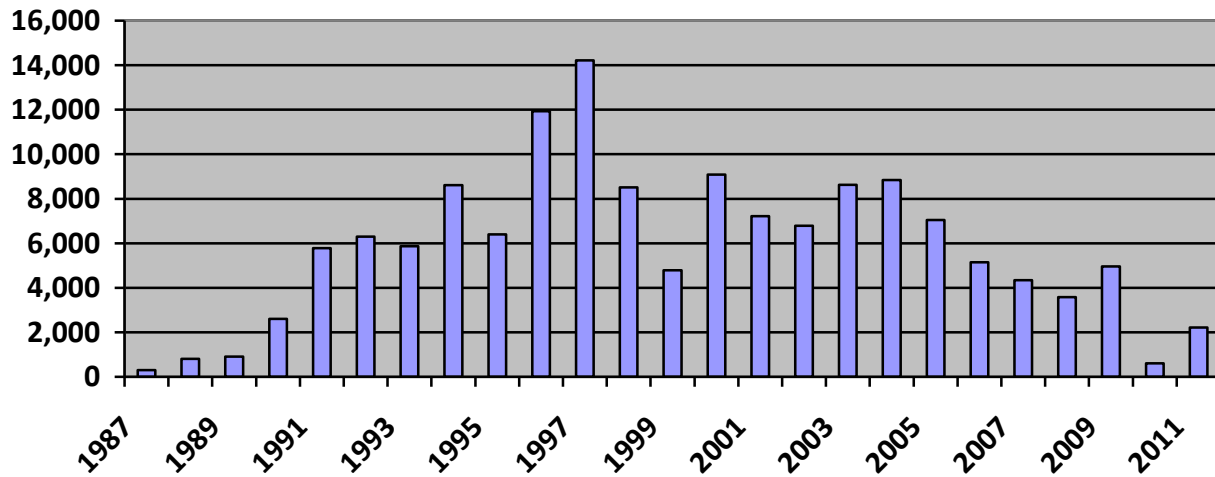


Figure 1. Pounds of manoomin seed purchased by GLIFWC and seeded by GLIFWC, its member tribes, or cooperators, 1987-2011.

ENHANCEMENT

Seeding Summary

In 2011 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 cooperators, member tribes, GLIFWC staff, or some combination of the three. With the assistance of these cooperators a total of 2,219 pounds of wild rice was seeded in 12 waters: six in Wisconsin and six in Michigan.

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 2011 included three GLIFWC member tribes: the Keweenaw Bay Indian Community, the Bay Mills Indian Community, and the St. Croix Band of Chippewa Indians; the Wisconsin Department of Natural Resources (WDNR); the UW-Superior Lake Superior Research Institute; and the Ottawa and Chequamegon/Nicolet National Forests. The contributions of each of these cooperators are summarized below.

Seed purchasing in 2011 was limited by a below average crop. Although abundance increased somewhat from the record poor in 2010, GLIFWC’s index of rice abundance in Wisconsin for 2011 was just 57% of the long-term index average (1985-2011), and was the second lowest index over the 26 year period (David, 2013). As a result, GLIFWC was able to purchase only 2,219 pounds of seed (Figure 1). Seed purchased was harvested from 8 different waters: Mississippi River, Crow Wing County MN (927 pounds); Wisconsin River, Lincoln County WI (307 pounds); Deerwood Lake, Crow Wing County, MN (262 pounds); Mallard Lake, Aitkin County MN (241 pounds); Clark Lake, Crow Wing County MN (240 pounds); Rice

(Hesitation) Lake, Crow Wing County MN (116 pounds); West Nelson Lake, Todd County MN (99 pounds), and the Wolf River, Langlade County, WI (27 pounds).

Seeding Locations

Six Wisconsin and six Michigan waters received 2,219 pounds of seed under cooperative seeding ventures in 2011. Seeding was done at a rate of approximately 50 pounds per acre, so approximately 44 acres were seeded. Figure 2 displays the locations of seeded waters. All sites were seeded in the fall with the exception of Back Bay (#12 below), which was spring seeded. Sites seeded were:

- 1) **Name:** Allouez Bay (WI WBIC 2751220¹)
Location: Douglas County, WI
Cooperator: UW-Superior Lake Superior Research Institute
Seed Source: Mississippi River, Crow Wing County (53 pounds); West Nelson Lake, Todd County MN (47 pounds).
Summary: 100 pounds of seed was planted by the UW-Superior Lake Superior Research Institute (LSRI) in the second seeding attempt on this historic rice location. Possible obstacles include poor water quality and/or rough fish impacts. LSRI staff report that rice planted in 2010 grew better in 2011 within small experimental enclosures, suggesting the presence of rough fish, resident Canada geese or possibly muskrats may challenge re-establishment efforts.

- 2,3) **Name:** Bashaw Lake (WI WBIC 2662400) and Bashaw Outlet (WI WBIC 2662000)
Location: Burnett County, WI
Cooperator: WDNR
Seed Source: West Nelson Lake, Todd County MN (52 pounds), Mississippi River; Crow Wing County (48 pounds).
Summary: A total of 100 pounds of seed was planted between these two nearby sites by the WDNR in initial seeding attempts. Bashaw Lake is a historic rice water that has displayed a marked long-term decline; it is not known if rice has previously existed on Bashaw outlet, but the area appears to have suitable habitat.

- 4) **Name:** Rice (Glenton) Lake (WI WBIC 2621600)
Location: Polk County, WI
Cooperator: St. Croix Tribe of Chippewa Indians
Seed Source: Mallard Lake, Aitkin County MN (140 pounds); Mississippi River, Crow Wing County (111 pounds); Deerwood Lake, Crow Wing County, MN (92 pounds); Clark Lake, Crow Wing County MN (57 pounds).
Summary: 400 pounds of seed was planted by the St. Croix Tribe in the first recent seeding effort on this historic rice lake. The lake did not respond to the seeding of 1,300 pounds between 1992-1994, but apparent recent improvements in water clarity suggested another attempt may be merited.

Footnote 1: This WBIC code is for Lake Superior since Allouez Bay has not been assigned a unique WBIC code. The more specific area that was seeded is the small bay on the southeast end of the bay where Bear Creek and an unnamed creek (WBIC code 2835100) enter Allouez Bay.

- 5) **Name:** (Upper) Squaw Flowage (WI WBIC 2243200)
Location: Price County, WI
Cooperator: Chequamegon/Nicolet National Forest
Seed Source: Mississippi River, Crow Wing County MN (108 pounds); Mallard Lake, Aitkin County MN (101 pounds); Clark Lake, Crow Wing County MN (70 pounds); Deerwood Lake, Crow Wing County, MN (63 pounds); Rice (Hesitation) Lake, Crow Wing County MN (59 pounds).
Summary: 401 pounds of seed was planted by the Chequamegon/ Nicolet National Forest in the third recent seeding attempt on this flowage (other recent seedings were conducted in 2007 and 2009.) The site did not respond favorably to previous seeding efforts conducted between 1996 and 2007, but the Forest Service is now managing this flowage at a lower water level in hopes of improving habitat conditions. Anecdotal observations suggest extensive herbivory by resident geese and Trumpeter swans may be countering the seeding effort.

- 6) **Name:** Upper Steve Creek Flowage (WI WBIC 2191700)
Location: Taylor County, WI
Cooperator: Chequamegon/Nicolet National Forest
Seed Source: Mississippi River, Crow Wing County (97 pounds).
Summary: 97 pounds of seed was planted by GLIFWC in cooperation with the Chequamegon/ Nicolet National Forest in the second recent seeding attempt on this flowage (site was also seeded in 2009). The site did not respond favorably to a small seeding attempt in 1995-96, but the Forest Service is now managing this flowage at a lower water level in hopes of improving habitat conditions.

- 7) **Name:** Lake Thirteen (MI WIC 31-51)
Location: Houghton County, MI
Cooperator: Ottawa National Forest
Seed Source: Mississippi River, Crow Wing County (167 pounds).
Summary: 167 pounds of seed was planted by the Ottawa National Forest in the third seeding attempt on this small, undeveloped lake. Rice is present but in limited quantity from the previous seedings.

- 8) **Name:** Kunze Lake (MI WIC 31-34)
Location: Houghton County, MI
Cooperator: Ottawa National Forest
Seed Source: Clark Lake, Crow Wing County (60 pounds).
Summary: 60 pounds of seed was planted by the Ottawa National Forest in the third small seeding attempt on this undeveloped lake. Results of previous seedings has been very limited.

- 9) **Name:** Lake St. Kathryn (MI WIC 36-1501)
Location: Iron County, MI
Cooperator: Ottawa National Forest
Seed Source: Mississippi River, Crow Wing County (117 pounds); Rice (Hesitation) Lake, Crow Wing County MN (57 pounds).

Summary: 174 pounds of seed was planted by the Ottawa National Forest in the third seeding attempt on this minimally developed lake. Rice is present but in limited quantity from the previous seedings.

- 10) **Name:** Huron Bay of Lake Superior
Location: Baraga County, MI
Cooperator: Keweenaw Bay Indian Community
Seed Source: Wisconsin River, Lincoln County WI (307 pounds); Deerwood Lake, Crow Wing County, MN (107 pounds); Mississippi River, Crow Wing County (30 pounds); Wolf River, Langlade County, WI (27 pounds).
Summary: 471 pounds of seed was planted in this Lake Superior bay by the Keweenaw Bay Indian Community, after previous seedings in 2009 and 2010 showed positive results.
- 11) **Name:** Spectacle Lake (MI WIC 17-404)
Location: Chippewa County, MI
Cooperator: Bay Mills Indian Community
Seed Source: Mississippi River, Crow Wing County (150 pounds); Clark Lake, Crow Wing County MN (53 pounds).
Summary: 203 pounds of seed was planted by the Bay Mills Indian Community in an effort to revitalize the rice bed that had been established in this on-reservation lake from seedings that were conducted from 1993-2002.
- 12) **Name:** Back Bay of Lake Superior
Location: Chippewa County, MI
Cooperator: Bay Mills Indian Community
Seed Source: Mississippi River, Crow Wing County (46 pounds).
Summary: 46 pounds of seed harvested in the fall of 2011 was planted in the spring of 2012 by the Bay Mills Indian Community in a small experiment to see if spring seeding might prove more effective than the previous fall seeding efforts which have been conducted at this location, since this area sees heavy fall use by migratory waterfowl.

RESEARCH

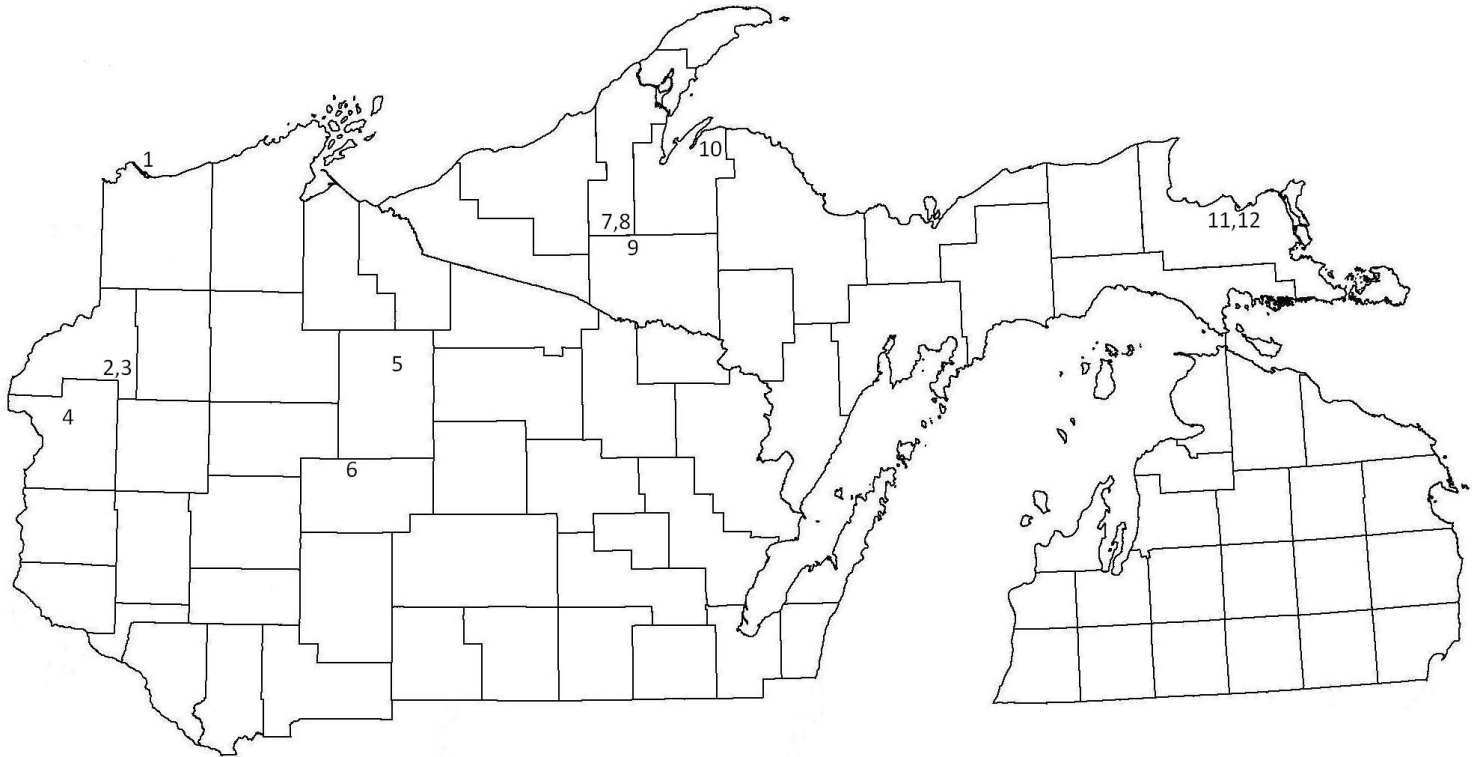
GLIFWC did not undertake any manoomin related research activities in 2011.

LITERATURE CITED

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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) Allouez Bay, Douglas County WI	2) Bashaw Lake, Burnett County, WI
3) Bashaw Outlet, Burnett County, WI	4) Rice (Glenton) Lake, Polk County WI
5) (Upper) Squaw Creek Flowage, Price County, WI	6) Upper Steve Creek Flowage, Taylor County WI
7) Lake Thirteen, Houghton County, MI	8) Kunze Lake, Houghton County, MI
9) Lake St. Kathryn, Iron County, MI	10) Huron Bay, Lake Superior, Baraga County, MI
11) Spectacle Lake, Chippewa County, MI	12) Back Bay, Lake Superior, Chippewa County, MI

Figure 2. Waters seeded in 2011 GLIFWC cooperative ventures.