



***Keweenaw Bay***



***Natural Resources Department***

**Keweenaw Bay Indian Community  
Waterfowl Index Report  
And Wild Rice Report**

**Results For 2012**

**By**

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## Introduction

The Keweenaw Bay Natural Resources Department (KBNRD) has conducted a waterfowl index during the fall from 1994-2012. Sites were chosen on the L'Anse Indian Reservation (Baraga County, MI) and on KBIC owned lands to observe waterfowl utilization: Sand Point Sloughs, Pinery Lakes, Mud Lakes, Head of Keweenaw Bay, and most recently Huron Bay (Fig.1). Four sites have been improved (wild rice planting, water control structures and/or nesting structures) for waterfowl utilization and one site was removed, Pinery Lakes, due to extremely low water levels and few birds being seen for consecutive years.

This waterfowl index was modeled from a program described by U.S. Fish and Wildlife Service (USFWS) personnel from Ashland, WI. Since 1994, KBNRD has received annual funding from a Bureau of Indian Affairs sponsored cooperative program entitled "Circle of Flight". Circle of Flight has supported this fall survey and various other activities which benefit area waterfowl and the wetlands they inhabit.

Over the years, changes in personnel coupled with upgraded computer software have made locating and combining data sets difficult. We are in the process of locating the data and re-entering or converting files as necessary so that we can show long term waterfowl occurrence on wetlands surveyed on the L'Anse Reservation. This year will discuss waterfowl survey results from 2000 to 2012. We have been unable to locate hard copies or a digital copy of data collected during 2004, therefore, that year is not included.

## Site Descriptions

**Sand Point Sloughs** is a backwater slough connected to Lake Superior which experiences regular seiches. This slough is relatively shallow (water less than 6 feet) with minor shoreline development. On the eastern end of the Sand Point Sloughs, there is tribal development of the public beach area. Electric lines and permanent outlet boxes were installed, a gravel access road was widened, and gravel was leveled for a parking area. This construction was completed during the summer of 1996. Since this time, a stamp sand remediation project has been ongoing at the public beach area. In 2006, Electric lines were removed, stamp sands were covered with fresh top soil, the smallest northern pond was filled in, and a gravel walking trail was created. A wildlife habitat improvement project for 35 acres of shoreline was completed in fall of 2012. This project included installation of mounds and boulders to provide relief in the topography and wind break, as well the planting of native plants, trees and shrubs to improve habitat for wildlife.

On the south side of the Slough, a lighthouse was purchased by the Keweenaw Bay Indian Community in 1994 and is currently used as an office. A small lake (Hidden Lake), attached by a short channel, near the mouth of the Sand Point Sloughs is also considered to be part of this site. Hidden lake also has shallow (<6 feet) water. In 1997, a floating dock was added and anchored as a bridge, to improve access to this back sloughs area. In 1998, a 180 foot long marsh walk was added to allow access to Hidden Lake and KBNRD released two juvenile trumpeter swans. In 1999, wild rice was harvested by tribal members for the first time. In 2000, the trail going from the main road near the northern end of the main sloughs area was cleared and cleaned up. Permanent water quality and depth gauging stations were added to the main slough area and Hidden Lake. Also, permanent sites were made for measuring wild rice crop densities.

**Mud Lakes** is a series of small lakes (<5 acres) which are shallow in most areas (water <6 feet), but have small deep water pockets (water 6 to 11 feet). In 1998, many projects were completed at this site: 1) a contractor installed a culvert and added some fill to a ditch in the access road; 2) an entrance gate was also placed on the access road; 3) a 12 foot high observation tower was built on a high stretch between the eastern and western lakes; and 4) several beaver dams were removed at the outlet of Mud Lakes. In 1999, the following projects were completed: 1) an access road was made to the outlet; 2) a water control structure was installed at the outlet; 3) several beaver were removed; and 4) water levels were lowered in all lakes. In 2000, water levels were manipulated several times by removing and adding slats at the water control structure. The channel outflow going under the dirt road near the upper eastern lake was dredged and gravel added to keep it from plugging up. Overall water level appeared to be down from shoreline vegetation. A nearby landowner was

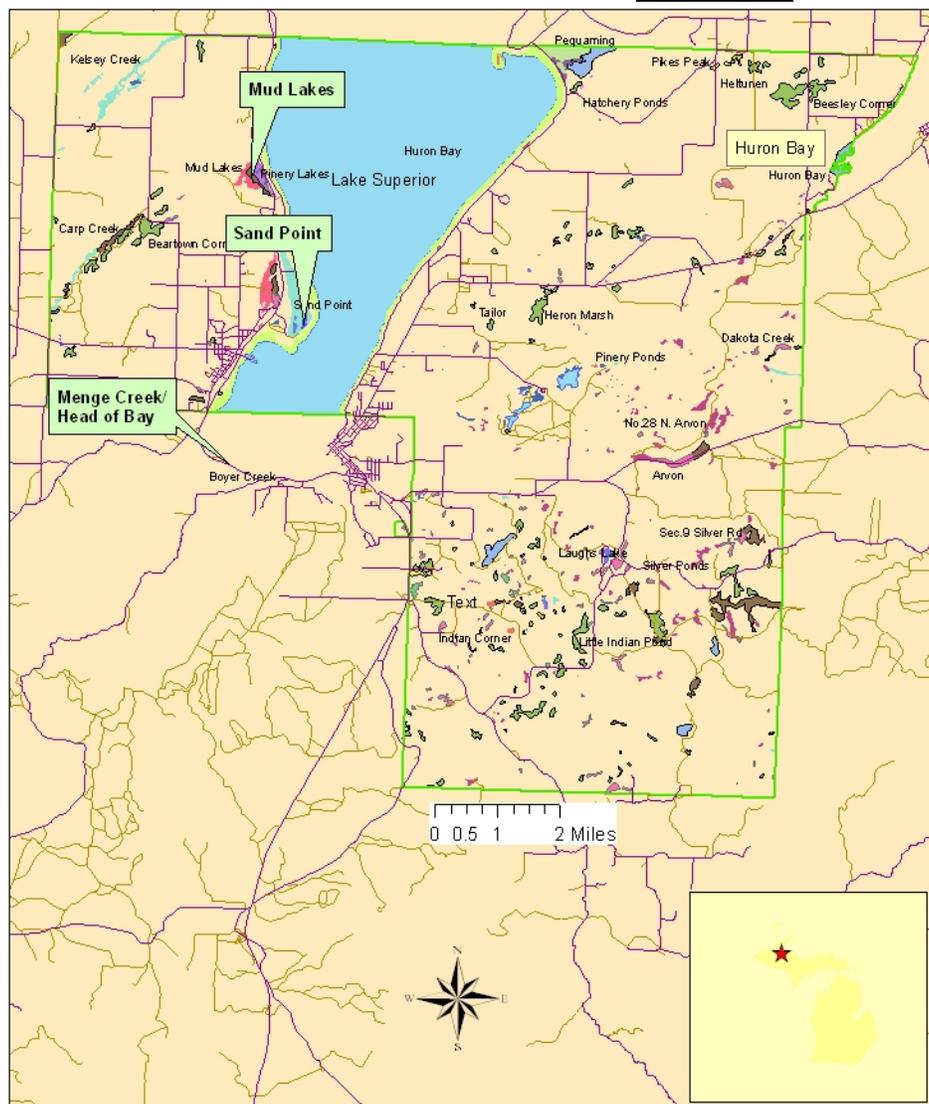
contacted and asked to remove some derelict machinery he had on tribal property. A trail was cleared from the Old U.S. 41 to the channel connecting upper and lower lakes. Floating docks on upper western lake were maintained. Permanent water quality and depth gauging stations were added to an upper and lower lake site. Also, permanent sites were made for measuring wild rice crop densities. In 2009 and 2012, additional trails were cleared and a series of floating docks were installed to allow access to a small island. There was also maintenance completed on the observation tower to improve steps to the upper observation deck.

***Pinery Lakes*** has been removed as of 2009 from the waterfowl survey route due to the low water levels and lack of activity. Pinery lakes are more suitable for shorebirds as one of the two lakes became mud flats and the second lake is extremely shallow (< 12”). A family of beaver was still attempting to maintain two lodges on the property but is not expected to remain there. Also, a fire spread through the area in 2009 and burned a total of 685 acres that encompassed the survey site.

***Head of the Keweenaw Bay*** is located between L’Anse and Baraga where KBIC owns a 25 acre parcel of wetland associated with Menge Creek (labeled as Head of Bay/Menge Creek on Figure 1). Due to the important ecological functions of the entire wetland and open water located here, surveillance of waterfowl was conducted annually from 2004 to 2012. Wild rice plantings were done annually from 2004 to 2009. Interstate highway 41 travels around the bay with a several gravel parking areas established along the edges of the wetland. Several private homes are also built along the head of the bay.

***Huron Bay*** is located in the northeast corner of the KBIC L’Anse Indian Reservation. KBIC currently owns a 112 acre parcel of wetland. There is a network of sloughs, shallow water tributaries and deep open water ( $\geq 6$  ft) that is visited annually by hundreds of migrating waterfowl. Monitoring was initiated in 2007 to see if Huron Bay should be added as long-term surveillance point. Access and viewing stations need to be addressed to make this a more thorough survey site. Numbers of waterfowl sighted may not accurately depict how many are actually on site due to various inlets that are not visible from the current viewing locations. A boat would be the most effective way to access the sloughs where hundreds of migrating waterfowl stopover to rest and feed. Therefore, much of the waterfowl data is obtained weekly from local duck hunters and we greatly appreciate their time and care in counting the waterfowl and reporting back to us. This issue will be considered for future project proposals.

## Waterfowl Survey Sites 2012



**Figure 1. Waterfowl Index survey locations, L'Anse Reservation.**

### Methods

In Michigan's western Upper Peninsula, the usual time to begin waterfowl surveys is late September. The waterfowl index began on September 21, 2012 and concluded December 13, 2012 when lakes were frozen at each site. The survey was conducted weekly at or near dawn. Weather conditions in the specified areas were observed and noted.

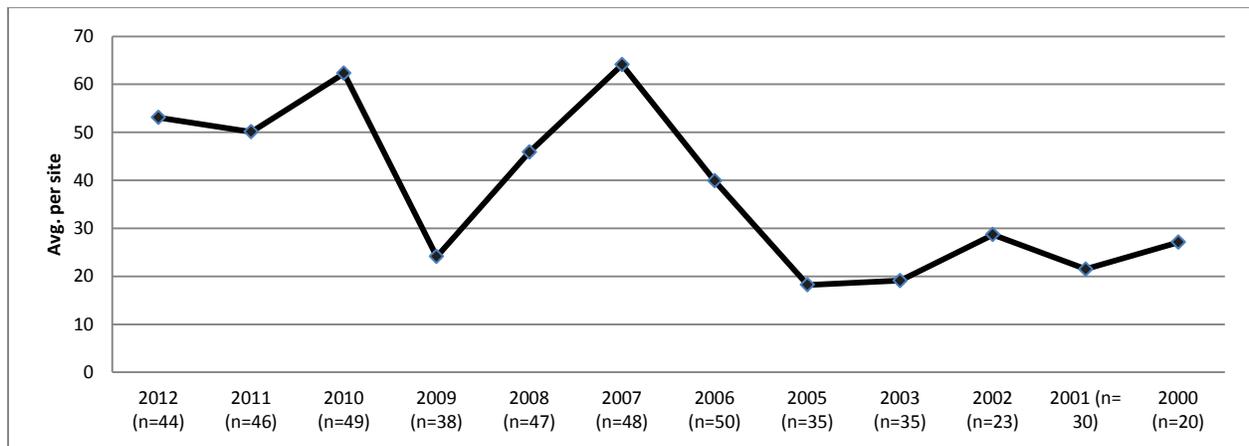
Bausch and Lomb 15x-60x Zoom Telescopes and Leupold 10 x 42mm binoculars were used to observe waterfowl. "Ducks at a Distance", federal waterfowl identification guide and an Audubon handbook titled "Eastern Birds" were used in species identification. All information was recorded on a waterfowl index data

sheet (Appendix 1). On many days, two observers conducted the survey, and conferred with each other before information was recorded.

Viewing took place from specified observation points. The number of species and individuals seen on the water and flying overhead were recorded for each visit. When two observers went to different observation points at the same site, they prearranged and conferred at the end of the site survey before recording information to keep from overlapping observations. Prearrangement included: selecting observation points so all areas were covered without overlapping, noting time and directions of flyovers, and dividing equipment and reference material. Sightings of endangered bird species, culturally significant species, and other points of interest were also recorded.

## Results

In 2012, waterfowl surveys took place weekly for 13 consecutive weeks at the Head of Keweenaw Bay, Mud Lakes and Sand Point, and 5 weeks at Huron Bay. The average number of waterfowl observed per site visit of 53 waterfowl seen per visit in 2012 was most similar to 2011 (51 waterfowl per visit) and lower than 2010 average of 62 waterfowl observed per visit in 2010 (Figure 2). Please note that Pinery Lakes was removed from the survey in 2009 due to low numbers of waterfowl and lack of water. Huron Bay was added as a site in 2006 and is visited by large flocks of migrating waterfowl compared to numbers detected at other survey sites such as Pinery Lakes and probably explains most of the increased detections beginning in 2006. Equipment upgrades to more consistent use of scopes and high-powered binoculars may also partly explain the overall increase in detection of species and numbers from 2000 to 2006 (Appendix 2) which make it easier to see and discern waterfowl species from a distance. If more efficient methods are found to survey Huron Bay more easily, the number of detections will probably increase again.

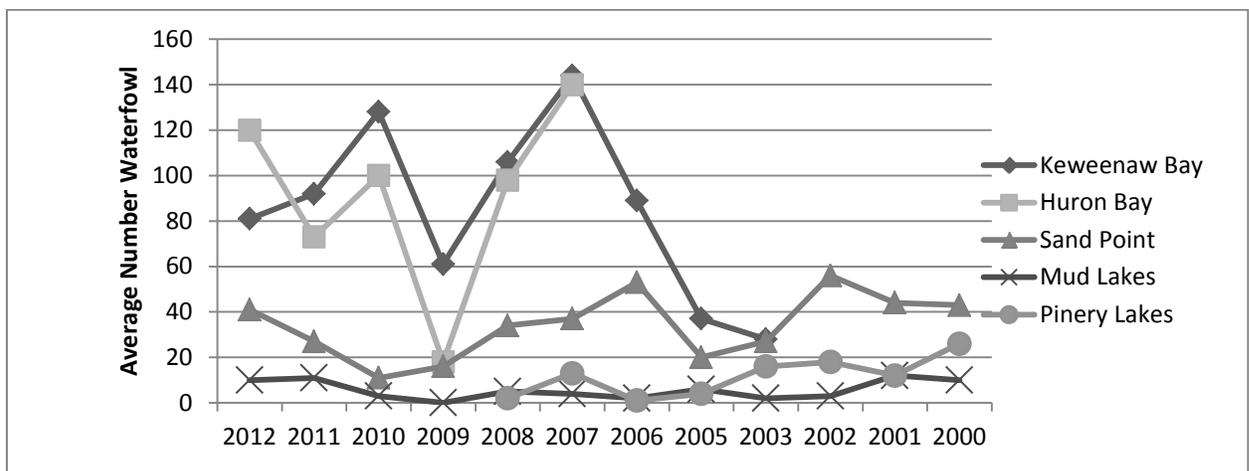


**Figure 2. Average number of waterfowl detected per visit by year, 2000 through 2012. Data is unavailable for 2004. (n = total number of site visits)**

Consistent with previous years, the greatest total numbers of waterfowl seen in 2012 were at Keweenaw Bay, 1, 1061 (45.3%) of total 2,338 waterfowl observed at all sites combined (Appendix 2). There were 21 species detected at Keweenaw Bay with 70.5% (n = 748) being Canadian Geese, 16.2% Mallards (n=172 ), 5.2% American Coot (n=55), 4.5% Black Ducks (n=48), 1.6% Tundra Swan (n=17), 0.85% Pied-billed Grebe (n=9), and 0.38% Common Mergansers (n=4) observed on site (Appendix 3). Species to note this year are the large groups of Richardson Geese that were in the area for 3 weeks.

Huron Bay showed the second greatest number 602 (25.7%) of total 2,338 waterfowl observed in 2012. There were 16 species detected at Huron Bay with 20.3% Ring Neck (n=122), 18.6% Greater Scaup (n=112), 13.3% Goldeneye (n=80), 13.3% Bufflehead (n=80), 9.8% Mallard (n=59), 7.6% Common Merganser (n=46), 3.3% Redhead (n=20), 2.5% Blue Winged Teal (n=15), 2.3% Tundra Swan (n=14), 2.0% Wood Duck (n=12), 1.7% Green Winged Teal (n=10), 1.3% Hooded Merganser (n=8), 1.3% Gadwall (n=8), 1.2% Black Duck (n=7), 0.8% Scoter (n=5), 0.7% American Widgeon (n=4) (Appendix 3). There were lower numbers of bufflehead observed in 2012 and 2011 than in 2010 in both Huron Bay (2010 = 569) and Keweenaw Bay 2010(n=50). Wood duck sightings were also high in 2011 (n=33) similar to 2010 (n=20) and higher than 2012 (n=12).

There appears to have been an increase in the average number of waterfowl detected per visit on both Keweenaw and Huron bays since 2005 (Figure 3). There was much lower than average precipitation for 2006 and 2007, waterfowl may have moved from smaller inland bodies of water to the bays due to drought conditions. Keweenaw Bay experienced noticeably lower water levels in 2006 and 2007 and Pinery Lakes nearly dried up and has not recovered. Wild rice planting was initiated in 2009.



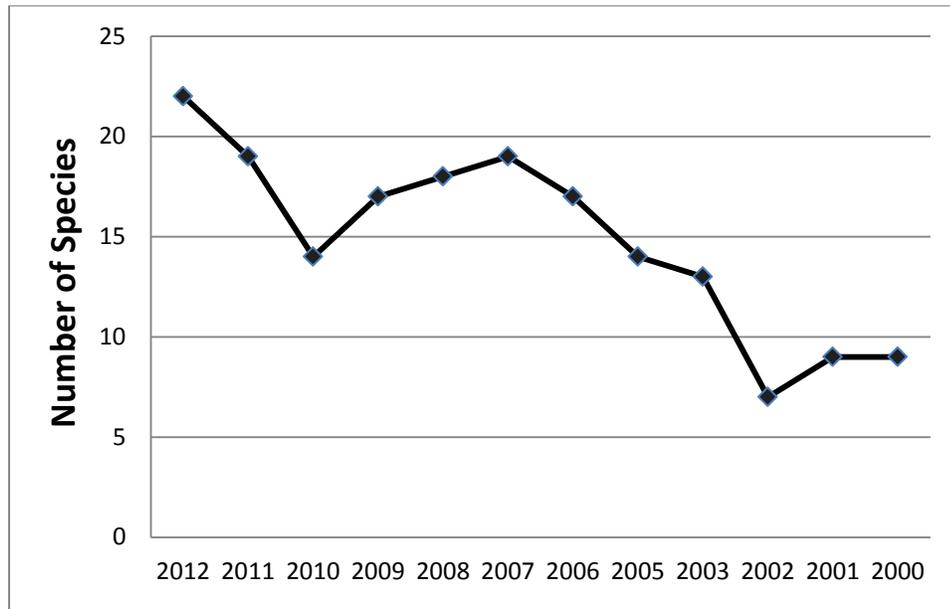
**Figure 3. Average number of waterfowl detected per visit and compared by site location and years, 2000 through 2012. (Data for 2004 is unavailable.)**

There was a total of 142 waterfowl detected on Sand Point (6.1% of the total 2,338 detected) in 2012 and include 76.8% Canadian Geese (n=109), 9.9% Hooded Mergansers (n=12), 6.3% Mallard (n=9), 3.5% Pie-billed Grebe (n=5), 2.1% Wood Duck (n=3), 0.7% American Coot (n=1), 0.7% Black Duck (n=1)(Appendix 3). There were fewer numbers of Canadian Geese detected at Sand Point in 2012 (n=109) compared to 2011 (n=256).

Mud Lakes had a record number of waterfowl detected with a total 530 (22.7% of the total 2,338) detected in 2012. Of the ten species detected were 58.5% Canada geese (n=310), 22.5% mallard (n=119), 6.0% Hooded Merganser (n=32), 4.5% Black Duck (n=24), 4.2% Wood Duck (n=22), 1.9% Pie-Billed Grebe (n=10), 1.3% Common Merganser (n=7), 0.7% American Coot (n=4), 0.2% American Widgeon (n=1), and 0.2% Redhead (n=1) (Appendix 3). Small groups of Canada Geese were seen swimming and feeding on several visits which in previous years were rarely observed in Mud Lakes.

Overall, there were of 31 species of waterfowl identified between 2000 to 2012. The total number of

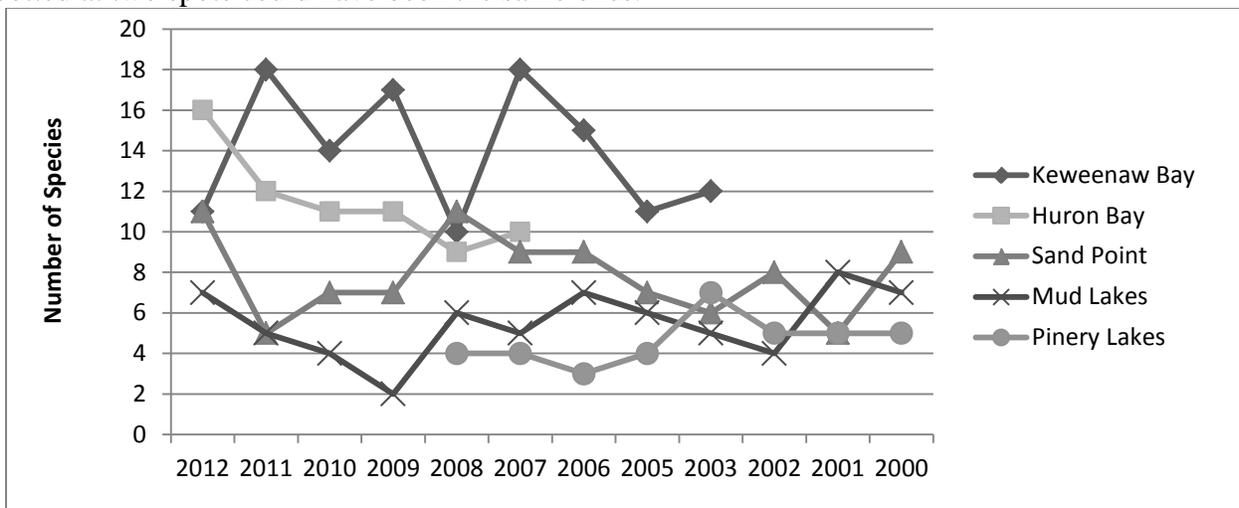
species detected in 2012 was 22 species compared to 19 species detected in 2011 the most in any previous year. Species diversity ranges from 8 to 21 total species being detected between 2000 and 2012 with the lowest detection of species in 2002 (7) and the greatest number of species detected in 2012 (21) and 2011 (19), respectively (Figure 4).



**Figure 4. Number of species detected by year, 2000 through 2012. (Data is unavailable for 2004)**

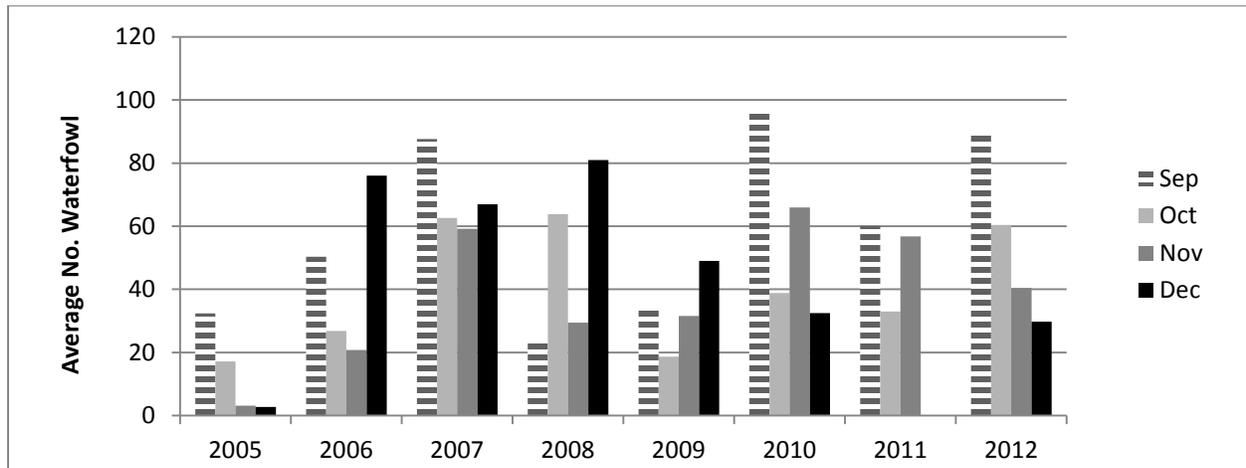
Diversity of waterfowl observed per site from greatest to least in 2012 was: Huron Bay with 16 species, Keweenaw Bay and Mud Lakes both had 10 species detected and Sand Point had only 7 species detected. Overall, Huron Bay had the most species of detection while Sand Point had the least. (Figure 5).

Uncommon visitors this year were large groups of Richardson Geese. They arrived at Keweenaw Bay in late-November, early-December and were in large groups over 100. From distant they looked like ducks but when looked upon closer they looked like miniature Canadian Geese. The small group of Tundra swans that were spotted at two spots could have been the same ones.



**Figure 5. Comparisons of species diversity between years and study sites, 2000 through 2012 (data is unavailable for 2004).**

Average number of waterfowl observed per visit show greater numbers of waterfowl being observed the month of September and again in December in years 2006, 2008, and 2009. The study areas were frozen over by the end of November in 2011, therefore there was no data collected in December 2011 (Figure 6).



**Figure 6. Average number of waterfowl observed per month, 2005 through 2012. Due to ice-over, there were no surveys done in December 2011.**

Overall, it appears that hooded mergansers have been detected less over the years between 2000 and 2012 (Appendix 2). The greatest numbers of hooded mergansers were observed at Pinery Lakes which eventually, by 2009 had nearly dried up to only a few inches deep of open water and large areas of mud flat which could explain the decrease. KBIC will continue to conduct annual waterfowl surveys in the coming years to identify changes in waterfowl using these important wetlands on the KBIC L’Anse Indian Reservation.

## **Wild Rice Management and Restoration**

Wild rice (manoomin) is the “food that grows on water”, whose presence fulfilled the prophecies foretold in the Anishinaabe’s migration from the east. It is used in our daily lives, ceremonies, and feasts (Our Manoomin, Our Life). It is also recognized as a preferred source of food for migrating waterfowl and has high ecological value for both wildlife and fish habitat. It can also help to maintain water quality by securing loose soil, tying up nutrients, and slowing winds across shallow wetlands. The amount of wild rice in the western U.P. has declined from historic levels due mainly to water fluctuations from hydro dams and degradation of water quality from logging and shoreline development over the past century. In 1991, there wasn’t any wild rice present in our area, although historically it was thought to have been here and on lakes in areas named “Rice Lake”. Peter David, Great Lakes Indian Fish and Wildlife Commission (GLIFWC), assisted our Natural Resources Department in identifying suitable lakes, providing technical assistance, and a source for green seed. In 2003, The Keweenaw Bay Tribal Council affirmed the community’s interest in a wild rice program on the L’Anse Indian Reservation (KBIC Integrated Resource Management Plan). It is our hope is to have self-sustaining wild rice populations.

Our original focus was on three wetland systems: Sand Point Sloughs, Pinery Lakes, and Mud Lakes. In 1999, we expanded to include Robillard Impoundment. In 2004, we became cooperators with The Cedar Tree Institute in The Manoomin Project. In 2005, we began test plots in other areas and checked into possible partnerships outside of the reservation boundaries, in ceded territory (Table 1). In 2007, we partnered with US Forest Service, Lac Vieux Desert (LVD), and USDA- NRCS on a cooperative wild rice seeding project for several lakes in Ottawa National Forest. In 1999, we began seeding Huron Bay. Since 1991, we have planted thousands of pounds of wild rice at selected sites (Table 2). Wild rice green seed availability has been an issue but along with Peter David; Roger LaBine, LVD, and Pete McGeshick III, Mole Lake have helped to locate sources. Future plans include test seeding Parent Lake, an additional area in Baraga County which was checked as a potential cooperative project with MDNR; this lake was also checked this year as a potential site for a LVD wild rice restoration project. Zeba Creek, a tribally accessible site mentioned in GLIFWC’s 1994 Wild Rice Enhancement Survey is also a waterbody having wild rice potential.

Table 1. Acreage of lakes at each site on the L'Anse Indian Reservation.

Site	Acres of lakes
Sand Point Sloughs	21
Mud Lakes	11
Pinery Lakes	28
Robillard Impoundment	3
Kelsey Creek wetlands	10
Menge Creek wetlands	10
Gomanche Creek wetlands	0.6
Pakkala Creek wetlands	0.3
Indian Road pond	2
Laughs Lake	15
US 41 wetland (1 acre)	1
Pequaming wetland	18
Huron Bay wetland	35

Table 2. Pounds of wild rice planted at sites in 1991 thru 2011.

Site	1991-1997	98	99	00	01	02	03	04	05	06	07	08	09	10	11
Sand Point Sloughs	1772	0	0	0	120	0			273	430	0	0	0	0	0
Mud Lakes	560	34	243	433	240	0			0	0	0	0	0	0	0
Pinery Lakes	2799	28	167	0	300	0			0	0	0	0	0	0	0
Robillard Impoundment	0	0	0	0	400	360	0	0	0	0	0	0	190	0	0
Menge Creek wetlands	0	0	0	0	0	0	0	40	311	372	137	346	356	0	0
Pakkala Creek wetlands	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0
Indian Road pond	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0
Kelsey Creek wetlands	0	0	0	0	0	0	0	0	94	233	149	201	0	0	0
Gomanche Creek wetlands	0	0	0	0	0	0	0	0	30	108	59	53	0	0	0
Manoomin Project	0	0	0	0	0	0	0	900	400	600	0	0	0	0	0
Laughs Lake	0	0	0	0	0	0	0	0	0	170	101	102	126	0	0
Yellowdog Plains	0	0	0	0	0	0	0	0	0	207	0	0	0	0	0
US 41 wetland (1 acre)	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0
Ottawa Project	0	0	0	0	0	0	0	0	0	0	350	509	518	0	0
Clear Lake	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0
Pequaming wetland	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0
Huron Bay wetland	0	0	0	0	0	0	0	0	0	0	0	0	585	299	552

## Monitoring

There are annual fluctuations and wild rice seed can lie dormant for up to 5 years; making long-term monitoring important. Wetlands that have had wild rice present or action taken upon it within the last 5 years are surveyed annually for the presence of wild rice (survey form attached). Pictures of wild rice crops were also taken. In instances where the coverage is greater than sparse an estimate of coverage was made with a gps unit, pictures, and arc view mapping.

### Areas with wild rice present

#### *Huron Bay*

Huron Bay has a possible 35 acres of wetlands with favorable conditions for wild rice, the largest wetland site bordering the reservation. There are numerous waterfowl using this area as well as muskrat and deer; tribal land borders this wetland. In 2009, wild rice was planted over 10 acres for the first time. In 2010, wild rice came up in all the areas planted. With the limited amounts of wild rice available for purchase it was decided to make this area the top priority for planting. All wild rice purchased was planted at this site for the third year, however we need more seed to cover the entire area. In 2011 there weren't as many plants but we had unusual seiche activity which may have uprooted many of the plants. This continues to be a promising area which we will plant in 2012. Estimates of coverage, water depths, and plant sizes (table 3).

Table 3. Averages for Huron Bay Wild Rice Crop (35 acre bay)

Site	2011
Sample size	4
Density (stalks/.5 sq. m)	12
Tillers	4
Coverage (acres)	3
Water depth (inches)	20
Plant size (inches)	23

#### *Sand Point Sloughs*

Sand Point Sloughs had approximately 5 acres of wild rice in the main area, around the same as last year. The main slough still had large muskrat houses which are partially composed of the plants. There is pickerelweed near the north end of the sloughs, which may pose a future problem. Past estimates of coverage, water depths, and plant sizes (table 4). Crop coverages were estimated by eye and pictures. Sample plots were taken this year, algae and elodea were present within the measured plots. No wild rice was seen at Hidden Lake or the Lighthouse Pond. Water levels continue to go up but are still low and channel to lake is closed with sand (still current fluctuations); there is a sizeable sandbar in main sloughs which may have flowering rush. Phragmites were found in parts of the slough but identified as a native species. Eurasian watermilfoil was identified at a nearby pond.

Table 4. Averages for Sand Pt. Sloughs Wild Rice Crop (main 8 acre lake)

Site	1999	2000	2001	2002	2003	2004	2007	2010	2011
Sample size	5	3	4	3	5	2	4	5	5
Density (stalks/.5 sq. m)	24	25	25+	24	29	20	13		18
Tillers	2	2	2	2	2	1.5	1		3
Coverage (acres)	4	4	4.8	2.1	3.2	2	3	5	5
Water depth (inches)	27	12	20	21	17	24.5	6.4	12	14
Plant size (inches)	45	61	69	56	61.5	57	61	66	64

*Menge and Kelsey Creek Wetlands*

Crop density continues to grow and wild rice is a major component of aquatic plants at Kelsey Creek wetlands, but the water level is very low and open water is non-existent. Menge Creek wetlands had a high number of waterfowl using area and many of the plants were cropped, the mouth had no plants. This is a highly visible area on the reservation. Kelsey Creek wetlands have a lot of beaver activity and damming of creek. The pond near the Brunk Camp was a beaver made impoundment, the east end was dammed up with small trees and branches and west end had a large beaver home. Access to all the water sites is difficult (camp road, logging road, cross-country ski trail), and a four-wheeler/snowmobile would be advisable for large plantings. Canoe access is very difficult. The remote access and mature woods surrounding the area offers future wildlife refuge possibilities. Most likely there are large numbers of waterfowl here also but this site isn't included on the regular waterfowl monitoring due to its difficult access and remoteness. Past estimates of coverage, water depths, and plant sizes (table 5).

Table 5. Averages for Menge and Kelsey Creek Wetlands (10 acre lakes)

Site	Menge		Kelsey	
	1999	2010	2010	2011
Sample size	10	5	5	3
Density (stalks/.5 sq. m)	19			
Tillers	4			
Coverage (acres)	2	2	2	3
Water depth (inches)	36	11	9	0
Plant size (inches)	66	36	84	37

(other noted vegetation was white water lily)

*Gomanche and Pakkala Creek wetlands and Indian Road pond*

Wild rice is present at these three sites, in the case of the Pakkala Creek wetland almost the entire lake is covered but these are sites an acre or smaller and crop density wasn't measured. Waterfowl were observed at all the sites.

### *Off reservation cooperative project sites*

#### *Ottawa National Forest*

The Ottawa National Forest has an objective in its forest plan to “maintain and/or expand the quantity and ecological health of wild rice beds.” With this in mind, the Ottawa partnered with the KBIC, GLFWC, LVD, and USDA-NRCS in 2007 to establish wild rice (*Zizania aquatica*) on several small lakes within the Ottawa. In September of 2007, members of KBIC, the Lac Vieux Desert Band of Lake Superior Chippewa (LVD), and Forest Service staff, seeded wild rice in Lake Sainte Kathryn, Lake Thirteen, and Kunze Lake. Seeding of rice in these lakes was originally planned for three consecutive years over 10 acres, in order to provide the best chance for establishing self-sustaining rice beds. These lakes were monitored in 2008 to determine the results from the first year of seeding. All three lakes had small amounts of wild rice within the seeded areas, which showed potential for future self-sustaining wild rice beds. The small amount of established wild rice this year was possibly due to the cold, late spring, which likely means most of the seed remained dormant and did not germinate. In 2008 and 2009, members of KBIC and Forest Service staff hand-broadcasted seed in all three lakes, in hopes of increasing the amount of wild rice. Rice was annually monitored for presence and this year additional seed was planted by the Forest Service. LVD has a wild rice restoration project and these lakes were included in a survey done by LVD, Applied Ecological Services, Inc. and USFS this summer. These new wild rice beds, though relatively small in size, will help restore this important aquatic plant to the lakes and wetlands of the Ottawa National Forest and the ceded territory (Randall Wollenhaup, Ottawa National Forest).

#### *The Manoomin Project 2004-2007*

Cedar Tree Institute put forth a collaborative effort supported by KBIC for a three-year historic planting of wild rice in eight lakes and wetlands in Marquette and Alger Counties. During this time at risk youth were involved in over 1000 hours of community service to carry out this initiative. Several outcomes of this initiative were; youth learned the history and plant life of wild rice, were introduced to Northern Michigan Ojibway cultures, and were part of the planting of wild rice. Staff and volunteers from Project Weave, the Marquette Juvenile Court, The Central Lake Superior Watershed Partnership, and the Cedar Tree Institute planted 1900 pounds of wild rice seed on the following waterbodies: Harlow Lake, the Peshekee River, Lake Levasseur, Laughing Whitefish River, Harkins Lake, Dead River, Keweenaw Bay, and Sand Lake. Peter David, GLIFWC, checked several of the seven lakes seeded in The Manoomin Project and let KBIC know that wild rice was present in 2007, these lakes weren't checked in 2008. In 2009, Peter David checked some of the lakes but conditions were unknown in 2010 and 2011.

#### *Yellowdog Plains beaver ponds*

Yellowdog Plains beaver ponds were checked by private individuals and wild rice was present in 2007-11.

### **Areas without wild rice present**

#### *Laughs Lake*

While much of the lake is deeper than 6 feet, the area near the outlet is suitable, along with edges of lake and test seeding was done here 2006-2009. Wild rice grew in areas near the outlet and east end of the lake, waterfowl were observed using the lake. This lake was purchased by the tribe as a possible rural campground and improvements may be made to the outlet of this lake. This area had wild rice present last year.

### *Robillard Impoundment*

Robillard Impoundment had one successful harvest of wild rice in 2002, the first year after it had been seeded. The impoundment was partially destroyed during a flood in 2002 and completely washed out in 2003. At this time, Robillard Impoundment hasn't been rebuilt. The U.S. Army Corp of Engineers had questions on Robillard Impoundment, which KBIC has answered. Michigan Department of Natural Resources surveyed Robillard Creek and they have reservations on permitting the rebuilding of this water control structure for wildlife habitat enhancement. Their position is that the impoundment would create a temperature rise in the stream that would negatively affect the brook trout in the stream. KBIC conducted an investigation of the fish community assemblage. In 2009, beaver rebuilt part of the dam and water has been impounded enough to plant wild rice. Wild rice was planted in 2009 and was present in 2010 but not 2011. We will continue monitoring area but are not planning on rebuilding at this time.

### *Mud Lakes*

There were large numbers of water lilies, water shield, and pondweed observed in these lakes. Wild rice has grown here in past years and there were a few plants three years ago, with work this is a possible location for the future. Rakes would need to be used to lower plant competition. The current access road on the east end of the upper lakes is actually lower than the lake water level. In 2008, attempts were made to clear the culvert to allow drainage but the area filled back in. In order to repair the road, USDA-NRCS recommends getting adequate road fill and build the road up with a good gravel surface. Annual maintenance work is needed on the stop-log control structure; screen placement and clearing the debris from the culvert going to Lake Superior. In 2008, we cleared the debris from the culvert but were unable to remove the welded screen to check for blockages. The control structure had 5 slats in place for a total of 33 inches; 4-7", 1-5". The slats were taken out to help drop the water level in the lakes for spring.

### *Abandoned Sites*

There have been several small wetland areas planted in the past by Natural Resources Committee members. These smaller sites were abandoned for reasons including unsuccessful/had limited success/difficulty with access/limited seed availability (Pequaming, US-41 pond, Clear Lake, and Bishop L. wetland). Lightfoot Bay is a larger area which was planted one year only and not rechecked. With continuing shortage of suitable green rice seed there are no plans to check or reseed at this time.

## **Wild Rice Harvesting Efforts**

Crop density was considered to be large enough and KBIC gave permission for harvesting. Tribal members harvested an estimated finished amount from Sand Pt. Sloughs from 1999-2002: 57lbs, 150lbs, >100lbs, and 60-70lbs. There was harvesting done this year but the amount is unknown. Robillard Impoundment had one harvest in 2002 with 80 lbs. of finished rice. KBIC currently owns equipment to harvest and process its own wild rice: 6 ricing canoes with equipment (6 duckbills, 12 paddles, foam, and tie-downs), a parching pan, and thrasher. In 2001, the Tribal Council named Sandy Dowd our 2<sup>nd</sup> wild rice chief and Alice Hadden was posthumously named our first wild rice chief in honor of their efforts. In 2004, this honor has been passed on to Eleanor Moede. Our department consults and keeps in touch with Eleanor Moede, KBIC wild rice chief, on activities involving wild rice.

Due to lack of areas to harvest within the reservation boundaries, outside areas were looked at. In 2003, 380 pounds of green seed were purchased with tribal funds and processed for community gatherings (134 lbs. of finished), 80 lbs. in 2004. In 2004, GLIFWC website was checked for rules and regulations and aerial maps. Dallas Gropengiser offered to show several ricing lakes he is familiar with in Villas County, Wisconsin but plans didn't work out for harvesting. The main reason mentioned by tribal members for not going to Wisconsin for harvesting was the travel time. In 2007, Bob Evans showed staff several established rice beds near Watersmeet where harvesting is possible: Ontonagon River, Crooked Lake, and Sucker Lake. In 2008, 2009,

2010, and 2011 Lac Vieux Desert hosted a mini wild rice camp on Lac Vieux Desert, there was also a mini wild rice camp held during the summer before the season started to make some of the equipment; winnowing baskets and knocking sticks. There is individual harvesting at Sand Point Sloughs but an amount is not known.

Waterfowl hunting (Chapter 5) and wild rice gathering (Chapter 6) are managed and regulated by Tribal Code Title 10, Hunting, Fishing, Trapping, and Gathering (“Title 10”). Both activities require tribal members to have a tribal hunting, fishing, trapping, and gathering cards. Special permits aren’t given for waterfowl but tribal members follow Federal Migratory Game Birds Regulations. Periodic surveys are given to hunters to summarize activity every few years. GLIFWC addresses these regulations in an annual meeting. Wild rice harvesting areas are designated by the Wild Rice Chief (Eleanor Mode) each year in August.

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Keweenaw Bay Indian Community Tribal Code of Law: Title 10 Hunting, Fishing, Trapping and Gathering. Revised by the Keweenaw Bay Tribal Council at Special Council sessions conducted on March 31<sup>st</sup>, April 3<sup>rd</sup>, April 28<sup>th</sup>, and September 8<sup>th</sup> of the year 2003.