

# Masinaigan

A Chronicle of the Lake Superior Ojibwe

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Joe Rose Sr. and Dave Parisien, Bad River tribal members, haul in a net set for walleye in Mille Lacs Lake the previous night during the spring, treaty fishing season. Members of seven other Ojibwe bands, five from Wisconsin and two from Minnesota, also participated in spring netting and spearing on Mille Lacs Lake. (photo by Lynn Plucinski)

## Good fishin', good feelings 1999 treaty spring season a success

By Sue Erickson  
Staff Writer

Odanah, Wis.—The 1999 spring off-reservation spring spearing and netting season came quickly on the heels of the March 24th Supreme Court of Appeals decision affirming the treaty rights in the Minnesota 1837 Treaty ceded territory for eight Ojibwe bands.

The recent victory may have added to the flavor of the '99 spring season, as tribal members exercised their treaty rights—rights which had recently stood in some jeopardy as the Supreme Court deliberated the appeal.

Whether or not the court decision played a role, the '99 season was marked by the spirit of camaraderie, thankfulness, increased participation, and successful fishing.

"This, overall, was an excellent season," said Don Wedll, Mille Lacs commissioner of natural resources. "Everybody was able to get fish. Cooperation was very good, and everybody was respectful."

It was the cooperation and camaraderie that made the season exceptional to Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Executive Administrator James Schlender. "There were people from different bands fishing at Mille Lacs and everybody was helping each other. They would help each other get launched and help when it came to extracting fish from the nets, even cleaning the fish. It was just a good feeling."

Schlender, a Lac Courte Oreilles tribal member, was among those who set nets during several weekends in Mille Lacs Lake. Tribal members from Bad River, Red Cliff, St. Croix, and Mole Lake in Wisconsin and the Fond du Lac Band in Minnesota also traveled to Mille Lacs during the season to participate in both netting and spearing.

Schlender also praised the attitude and spirit of GLIFWC's conservation officers, creel clerks, and biological staff who were present on landings morning and night, monitoring the set (See Spearfishing, page 26)

## Keweenaw Bay and Forest Service spearhead Michigan trumpeter swan reintroduction

By Charlie Otto Rasmussen  
Writer/Photographer

Watersmeet, Mich.—They arrived in portable pet carriers aboard an orange United States Coast Guard helicopter. Thirteen of North America's largest waterfowl species bound for the wilds of the Ottawa National Forest (ONF) in Upper Michigan.

Nearly wiped out by market and subsistence hunting earlier this century, the endangered trumpeter swans are making a comeback with the help of a cooperative effort between the Keweenaw Bay Indian Community, USDA-Forest Service, and Michigan Department of Natural Resources.

Staff from Keweenaw Bay Biological Services (KBBS) and ONF

picked up the birds at a private airfield near Watersmeet on May 27 and 28.

The juvenile swans arrived from the Kellogg Bird Sanctuary at Michigan State University and the Detroit Zoo where they were fitted with radio collars.

Biologists transported the birds directly from the airfield to three release sites in the western Upper Peninsula (UP): Lake St. Katherine in Iron County and Sucker Lake and Presque Isle Flowage in Gogebic County.

In an attempt to help the one-year-old swans adapt to their new surroundings and lay the foundation for future mating, "family groups" were kept together, said Mike Donofrio, KBBS Director.

Biologists grouped male and female birds that appeared to be bonding at the sanctuary and the Detroit Zoo.

Three birds were released at Lake St. Katherine, four at Sucker Lake, and the remaining six trumpeters were introduced at Presque Isle Flowage.

Trumpeter swans are a threatened species in Wisconsin and Michigan, virtually eliminated in the lower 48 states by 1900 except for a remnant

population of around 60 birds in rural Montana.

Settlers shot birds for the dinnertable, while other hunters sought items like quills for writing pens.

In 1989, state wildlife managers from Wisconsin and Michigan collected (See Trumpeter swan, page 9)



A juvenile trumpeter swan steps into Sucker Lake near Watersmeet. The swan was one of 13 birds released in western Upper Michigan by Keweenaw Bay Biological Services and the USDA-Forest Service. Rick Chiochios (background) and Jim Somerville, Ottawa National Forest staff guide the bird out of a travel carrier. (photo by CO Rasmussen)

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# March 24, 1999—A good day in Indian country

## Supreme Court issues favorable treaty ruling

By Sue Erickson  
Staff Writer

Odanah, Wis.—When the telephone rang on the desk of Great Lakes Indian Fish and Wildlife Commission (GLIFWC) Executive Administrator Jim Schlender the morning of March 24th, news of the tribes' 5-4 victory in the Supreme Court ended the seemingly interminable wait for the Court's ruling on the appeal of the *State of Minnesota v. Mille Lacs*.

The call set the stage for a contagious euphoria as the news spread from room to room at the GLIFWC's main office in Odanah. Laughter, tears, expressions of relief mixed with hugs and handshakes—the wait and the worry were over!

In the words of GLIFWC Chairman Tom Maulson (Lac du Flambeau), the ruling "galvanized the treaty rights for the tribes." The appeal, he says, was inevitable. "Racism won out and had to question the Supreme Law of the Land," but the Supreme Court's ruling laid all questions to rest.

To Mille Lacs Chief Executive Marge Anderson, the ruling demonstrated that "our rights are not just words." Speaking at a press conference on March 24th, she said that through the ruling the United States kept a promise, a "promise that agreements are made to be honored, not broken."

For many GLIFWC staff and member tribes, the time since the December 2nd Supreme Court hearing in Washington, D.C. passed slowly and was filled with anxiety over the well-being of the tribes' treaty rights both locally and nationally. The impending decision hovered like a cloud over the business-as-usual operations of the Commission.

Although Schlender had remained confident of a positive outcome for the tribes, the verification brought tears to his eyes as he hurried down the Commission's halls to share the good news. The victory was the sought-after finalé to the Waabanong Run, the long journey which carried the Treaty Staff over 1,000 miles from Lac du Flambeau, Wis. to the Supreme Court building in Washington, D.C. It was also the successful culmination of months of work by tribal attorneys and staff in preparation for this critical case.

In the afternoon of March 24th, GLIFWC staff crowded into the conference room, joined by Leo LaFerner, Red Cliff elder, for a pipe ceremony and talking circle.

The atmosphere settled, and it was time to be reflective, to be thankful, to be proud, and to move confidently forward in the work ahead.

For the Mille Lacs Band it was the end to a litigation process begun in 1990—nine years which included an attempt at an out-of-court negotiated settlement that was ultimately rejected by the Minnesota legislature.

For the Fond du Lac Band in Minnesota it not only affirmed their 1837 Treaty rights, but also provided an excellent precedent for litigation of the 1854 Treaty rights.

And for the Wisconsin bands of Red Cliff, Bad River, St. Croix, Lac du Flambeau, Lac Courte Oreilles, and the Sokaogon Chippewa Community, the Supreme Court's ruling also cemented the *Voigt* decision, which was never appealed to the Supreme Court by mutual agreement between the state and the bands.

The Mille Lacs Band originally filed suit on August 13, 1990 against the state of Minnesota, claiming the state's natural resource laws and regu-



Marge Anderson, Mille Lacs chief executive.

lations violated the hunting, fishing and gathering rights guaranteed to the Band in the 1837 Treaty.

After Minnesota rejected an out of court agreement, the case was heard in U.S. District Court for Minnesota. A 1994 ruling affirmed the band's rights.

During the course of the litigation the United States, the Fond du Lac Band and six Wisconsin Chippewa bands were joined as plaintiffs in the case with Mille Lacs, and nine counties and landowners joined as defendants with the state of Minnesota.

In 1997 the U.S. Court of Appeals, Eighth Circuit accepted an appeal by Minnesota. The Eighth Circuit ruling in 1997 affirmed the U.S. District Court opinion and the existence of the Bands' 1837 Treaty rights.

The next legal step was to the Supreme Court of Appeals which agreed to hear the case in 1998.

In this final court battle, one vote made the victory. Supreme Court Justice Sandra Day O'Connor wrote the

opinion. Joining O'Connor in affirming the treaty rights were Justices John Paul Stevens, David Souter, Ruth Bader Ginsburg, and Stephen Breyer. Two dissenting opinions were issued, one by Justice Clarence Thomas and another by Justice William Rehnquist in which Justices Antonin Scalia, Anthony Kennedy, and Clarence Thomas joined. The narrow margin of victory gave a basis for some of the anxiety felt over this appeal.

Of those who had listened to the hearing on December 2nd, few had been willing to predict an outcome, including Attorney Marc Slonim, representing the Mille Lacs Band and U.S. Attorney Barbara McDowell, representing the United States. Slonim and McDowell presented the oral argument. The justices had questioned attorneys from both sides vigorously throughout the one hour hearing.

### Opinions on issues considered by the Supreme Court

On June 6, 1998 the Supreme Court announced its decision to hear Minnesota's appeal of the Eighth District Court's ruling. The Supreme Court agreed to consider three distinct issues in the appeal.

These related to: 1) the 1855 Treaty signed by the Mille Lacs Band; 2) the 1854 Removal Order; and 3) the Equal Footing Doctrine of States.

The Supreme Court ruled favorably for the tribes on each of these issues. A synopsis of the Supreme Court ruling on each issue follows. The synopsis is taken from a syllabus issued with the Opinion prepared by the Reporter of Decisions for the Supreme Court.

(See Supreme Court, page 24)

# Tribes honor Waabanong runners through feasts and ceremony



Waabanong Run, day 1. Seeking a favorable outcome in the *Minnesota v. Mille Lacs* case, runners carried the Treaty staff from Lac du Flambeau to the steps of the Supreme Court in Washington, D.C. From left to right, Bo Hammond, Don Graves and Eric Gahbow strike out from the Bear River Pow-wow grounds. (photo by Sue Erickson)



St. Croix's Gene and Eva Conner were honored at a feast in Hertel, Wisconsin on April 1. Feasts for the core Waabanong runners were held at Lac Courte Oreilles, St. Croix and Mille Lacs. (Photo by CO Rasmussen)



# '99 spring harvest figures looking good

## LCO takes 100% of declaration in Wisconsin

By Sue Erickson  
Staff Writer

Odanah, Wis.—Data on the spring season is updated daily by GLIFWC Biological Services staff. Preliminary draft summaries of the season's activities provide totals.

In Wisconsin's ceded territory, a total of 26,066 walleye were taken from a tribal quota of 39,966 and 275 muskellunge were harvested during a spring spearing season which ran from April 5 through May 4.

The Lac Courte Oreilles Band took 100% of its declaration, a first in the Wisconsin treaty season. Red Cliff took 98% and Lac du Flambeau harvested 89% of their declarations.

Although harvest opportunities remain open through the fall in Minne-

sota, the eight bands harvested a total of 42,183 pounds of walleye out of a total quota of 55,000 pounds during a spring season which began on April 4 and concluded on May 5.

Of the total walleye harvest, the Mille Lacs Band took 18,391 pounds of walleye.

This leaves a remaining combined walleye quota in Mille Lacs Lake of 913 pounds to be taken by spearing and 11,898 to be taken by net. Most of the remaining quota belongs to the Mille Lacs Band; however, both Red Cliff and Mole Lake have over 1,000 lbs. of walleye remaining to be used at a later date this year.

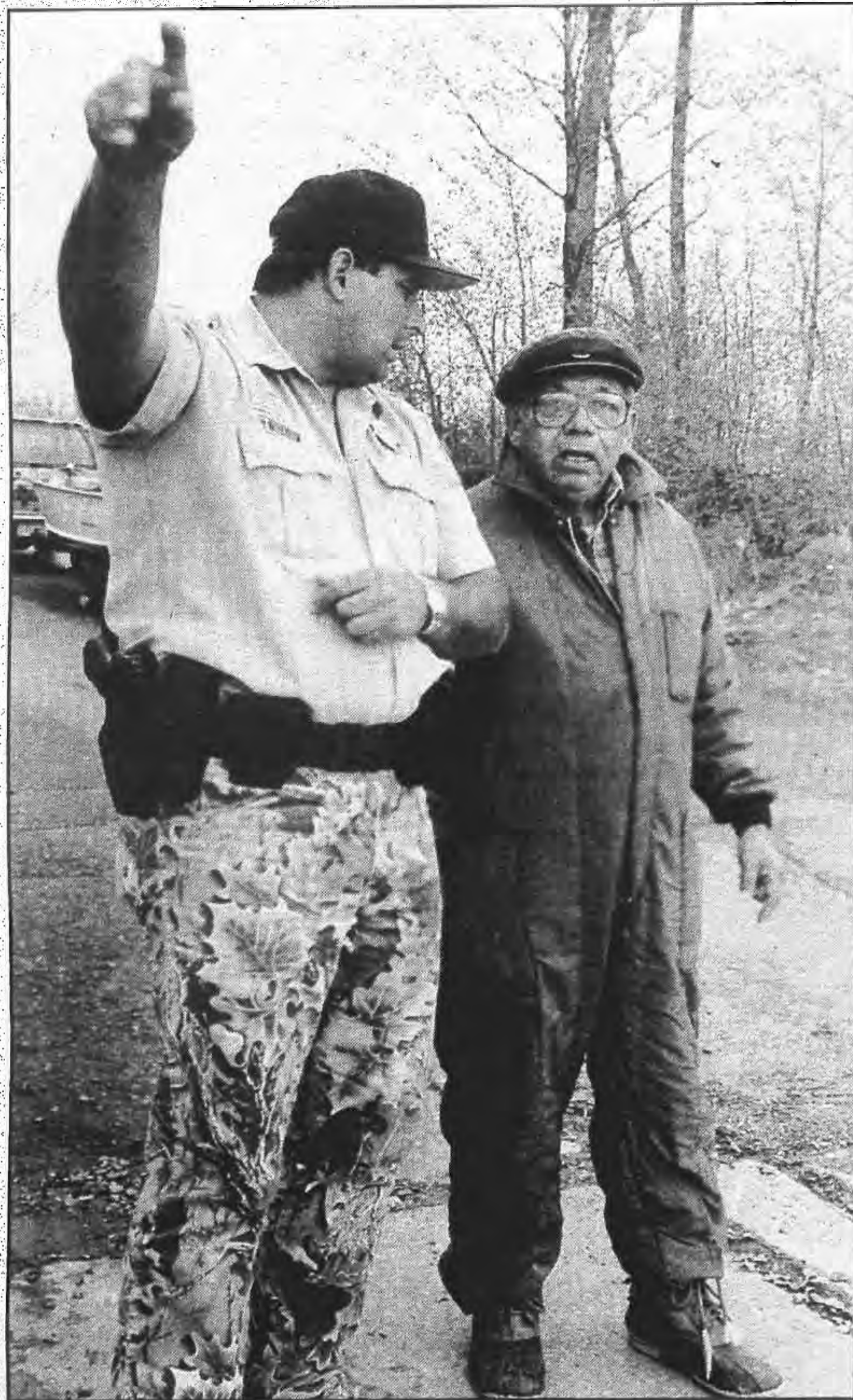
In Michigan, the Lac Vieux Desert band harvested 2,964 walleye during the season. Over half of those were taken from Lake Gogebic, Ontonagon County.

### Number of walleye and muskellunge harvested during the 1999 spring treaty fishing season in the Wisconsin ceded territory

| Tribe               | Walleye | Muskellunge |
|---------------------|---------|-------------|
| Bad River           | 3,880   | 6           |
| Lac Courte Oreilles | 4,293   | 80          |
| Lac du Flambeau     | 9,983   | 120         |
| Mole Lake           | 4,368   | 28          |
| Red Cliff           | 2,324   | 7           |
| St. Croix           | 1,218   | 275         |

### Pounds of walleye harvested by band from Mille Lacs Lake during the 1999 spring treaty fishing season

| Tribe               | Spearing | Netting  | Total    |
|---------------------|----------|----------|----------|
| Mille Lacs          | 809.6    | 17,581.5 | 18,391.1 |
| Fond du Lac         | 1,489.0  | 2,085.7  | 3,574.5  |
| Bad River           | 71.4     | 3,596.8  | 3,668.2  |
| Lac Courte Oreilles | 0.0      | 3,718.6  | 3,718.6  |
| Lac du Flambeau     | 366.7    | 3,393.7  | 3,760.4  |
| Mole Lake           | 312.4    | 2,539.0  | 2,851.4  |
| Red Cliff           | 63.8     | 2,547.6  | 2,611.4  |
| St. Croix           | 256.7    | 3,351.4  | 3,608.1  |



Getting some tips on where to set a net is Leo LaFornier, Red Cliff. GLIFWC Sgt. Ken Pardun shares some local knowledge of the lake. (photo by Sue Erickson)

## Rusk County's Potato Lake under dispute

### LCO claims tribes denied opportunity for walleye

By Sue Erickson, Staff Writer

Lac Courte Oreilles, Wis.—"If they [state anglers] get a bag limit, we [the Chippewa tribes] get a bag limit," says Mic Isham, Lac Courte Oreilles (LCO) Tribal Council member and Voigt Inter-tribal Task Force (VITF) representative from LCO, who is taking issue with Wisconsin's classification on Potato Lake, Rusk County.

Potato Lake is not among lakes listed with a Safe Harvest Level figure, so is not available for tribal walleye declarations in the spring; however, Isham notes, it does allow a five daily bag limit for state-licensed anglers. The lake also has a spring musky quota for tribes and there is an allowance for an incidental catch.

Potato Lake came under discussion this spring when several LCO tribal members speared the lake for musky and also took 53 walleye. Isham says the spearers indicated they could easily have taken more.

Isham feels LCO spearers are being denied an opportunity on Potato Lake, while opportunity for a five bag limit is available for state anglers.

Isham says he was told by Wisconsin Department of Natural Resources (WDNR) Fishery Biologist Steve Hewitt that the state is trying to get the walleye population up on the lake, therefore it has an O-ST standing and is not available for high intensity fishing methods.

An "O-ST" label means that "stocking provides the only source of recruitment but was initiated only recently and has not yet resulted in a harvestable population of adults," according to the definition in *Casting Light Upon the Waters*, a 1991 joint report on the status of Wisconsin's fishery by state, federal and tribal resource managers.

But Isham believes that high numbers of state-licensed anglers alone make for high intensity fishing during the state season and constitute a significant pressure on the fishery.

There are few lakes near the LCO reservation in Rusk Co. that provide any opportunity for tribal walleye harvest, Isham says. He believes Potato Lake has a walleye population viable for tribal harvest and that the tribe is unnecessarily being denied access to the walleye.



Mike Murphy, GLIFWC creel clerk, and George White, warden, check nightly spearing permits of Lac du Flambeau tribal members at the Star Lake landing. (photo by Sue Erickson)



# Season not marred by incidents

## State and local agencies helpful

Odanah, Wis.—Only a few incidents troubled the '99 treaty fishing activities. In light of the overall season in all three states, Michigan, Wisconsin and Minnesota, incidents, such as a couple reports of possible gunshots, did little to disrupt the success and enjoyment of the fishing overall, according to Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Chief of Enforcement Gerald White.

White traveled to landings extensively throughout the season and was impressed by the positive, quiet atmosphere encountered. He had not been to some Wisconsin landings since the 1980s when landings were crowded with protesters and state and local enforcement officers lined the landings protecting tribal fishermen from harassment.

Thirty-two spring fishing related citations were written during the season and cited into respective tribal courts. According to White, thirty of those were for violating the size limit.

In the Minnesota 1837 Treaty ceded area, Mille Lacs Commissioner of Natural Resources Don Wedll commends the local sheriff departments for their vigilance, cooperation and no-nonsense approach to potential troublemakers. Harassment was nipped in the bud and not given further opportunity.

Wedll feels that, with litigation concluded, the Mille Lacs community now recognizes that the treaty rights are valid, and this has helped keep the season peaceful.

Minnesota Department of Natural Resources (MDNR) conservation officers and creel staff were often at the landings, Wedll said. Tribal and state conservation officers worked well together. MDNR creel staff helped with weighing and measuring fish, gaining a lot of firsthand experience in fish handling.

The cooperation and the assistance were much appreciated.



Mark Bisonette, Jr. (center) gets a spearing lesson from his dad Mark, Sr. (right) and Robert Sander on Round Lake near Lac Courte Oreilles. When "hunting" large fish like this northern pike, tribal members often use double-spear tactics to prevent losing the powerful fish.



Muskies are exempt from tribal harvest in the 1837 Minnesota ceded territory.



A family works together to extract walleye from a net they set the night before on Mille Lacs Lake.

Spearing/netting articles by: Sue Erickson, Staff Writer

Photos by: Charlie Otto Rasmussen, Sue Erickson & Lynn Plucinski, Masinaigan Staff



Don Smith, Lac du Flambeau, grills hamburgers for his family at the North Garrison boat landing, Mille Lacs Lake, prior to setting nets in the evening.



Netting Mille Lacs Lake is a father and son operation for Leo and Richard LaFrenier, Red Cliff, who came to Mille Lacs after perch in the later part of the season.



# Managing the off-reservation spring season

## Behind the scenes at GLIFWC

Odanah, Wis.—When the ice begins to “turn over” on lakes in the ceded territory, it sets in motion a great wheel of activity at Great Lakes Indian Fish & Wildlife Commission (GLIFWC) in terms of managing the spring fishing season—the busiest time of year, a time of year that requires everyone at GLIFWC to give their all.

The off-reservation spring spearing and netting seasons require intensive monitoring because they are considered intensive forms of harvesting fish, governed by specific regulations in accordance with court stipulations.

For GLIFWC this means being prepared to monitor landings throughout the three-state treaty ceded territory, where spearing or netting activities may be occurring simultaneously on any given night.

In preparation for the season, GLIFWC hires additional, seasonal creel clerks and temporary wardens,

many of whom have worked seasonally with GLIFWC for many years.

Each landing that is open for spearing or netting has a GLIFWC warden and creel clerk present to monitor the activity. While several full-time GLIFWC wardens are permanently stationed at each reservation, a single band may declare many lakes open on any one night. Therefore, additional staff is necessary.

Monitoring includes checking daily permits, checking gear requirements, counting fish, weighing and/or measuring the fish as they are brought in, recording other biological information such as sex, and issuing citations when violations occur.

All the on reservation registration stations are also manned each day of the season, so tribal members can get their daily permits. Each person fishing must have a permit indicating the lake and the nightly bag limit.

Information on each day's harvest as well as reports of violations or incidents are called in daily to the GLIFWC main office. The data is processed daily, so information on remaining quotas in each lake is available. This helps the bands stay within their quotas and provides the information necessary to establish bag limits each day.

Because the season runs through the weekends, staff involved in maintaining the data base, coordinating the enforcement, or involved in monitoring at landings must cover a seven-day week.

In the Enforcement Division's main office, a nearly round-the-clock vigil at radio dispatch is required to coordinate the enforcement activities throughout the ceded territories. Seasonal dispatchers assist full-time staff in manning central dispatch.

The spring spearing and netting season usually runs for about a month. The season usually opens in the western

areas of the ceded territory and gradually extends to include lakes in the northern and eastern reaches of the ceded lands.

Prior to the season enforcement and biological staff prepare equipment, hire and train seasonal staff, and establish schedules to cover the season once it begins rolling.

The hiring of additional seasonal personnel and the staff travel involved during the spring also puts a great deal of pressure on GLIFWC's bookkeeping staff. Additional time sheets, payroll, travel forms, and travel reconciliations keep everyone's nose to the grindstone as the season rolls on.

To all who were a part of making 1999 a successful season—tribal fishermen and fisherwomen, GLIFWC staff, Voigt Inter-tribal Task Force members, tribal enforcement and biological staff, local law enforcement personnel, Minnesota and Wisconsin Departments of Natural Resources staff —Miigwetch!



Lac du Flambeau's registration station is a busy place during spearing. Above Sgt. Larry Mann (standing) and Gerry Mann, LdF Fish & Game, issue permits.



Sgt. John Mulroy, Mole Lake briefs Brenda Poler, creel clerk.



Inland Fisheries Section Leader Joe Dan Rose spent many days and nights on the Mille Lacs Lake landing.



Chief of Enforcement Gerald White, Jr. completes paperwork at Mole Lake.



Kim Campy, enforcement administrative assistant, processes information from satellite offices.



This is what it's all about—the opportunity to exercise a treaty right. Emmanuel Poler, Mole Lake, glides quietly on Lake Lucerne in his canoe.



Spring season can be stressful at times! Behind the computer is Jennifer Kreuger, data base manager, processing nightly numbers on the three-state harvest.



# Walleye numbers surveyed on nineteen lakes

## Agencies join to cover Chippewa Flowage

By Charlie Otto Rasmussen  
Writer/Photographer

**Hayward, Wis.**—Survey boats motored along northwoods shorelines, from the Chippewa Flowage east across Wisconsin to Squirrel lake. Above, sheets of celestial color swayed in the light breeze as *jiibayag niimi'idiwag*—ghosts danced in the sky.

Also known by another Ojibwe name, *wasanooode*, or lights dancing on the wind, it was a sign that the fishermen were not alone on this night. And as it turned out, fishing was excellent.

The northern lights commanded the sky over much of upper Wisconsin on this mid-April evening as fishery crews from GLIFWC conducted electrofishing to estimate walleye populations.

Nineteen lakes were surveyed across the ceded territory in April, and good weather conditions made the annual event very successful, said GLIFWC Inland Fisheries Biologist Glenn Miller.

"The overall timing was perfect," Miller said. "A majority of the female walleye we captured were ripe, indicating the spawn was at or near the peak."

The spring walleye assessment is generally a two-fold process: marking and recapture.

When the sun dips below the horizon, electroshocking boats begin cruising spawning areas.

Walleye are brought to surface with the aid of shocking booms, an electricity-conducting rig mounted on the bow that looks like a jumbo windchime.

Netters situated behind the booms scoop up walleye that are shocked to the surface and swing them over to a livewell. Fisheries staff record the sex and length of each fish, and mark them by clipping the tip of one of the fins.

Marked walleye, as well as non-target catches like white sucker, are returned to the lake.

In some cases, fyke nets are used to capture walleye during the marking phase. These nets allow fish to swim into a meshed enclosure and traps them.

Fyke nets are left overnight and lifted the following day. Again, the fish are examined, measured, marked, and released.

After two to four marking sessions, recapture begins. During this phase, the entire shoreline of the lake is surveyed in one evening and some larger water bodies often require multiple electrofishing boats to complete the task.

Captured fish are examined for a fin clip and released.

The majority of ceded territory lakes that maintain walleye populations are surveyed on a rotational basis, approximately every eight to ten years.

### The Chippewa Flowage

Walleye assessments on the massive Chippewa Flowage were coordinated between GLIFWC, Wisconsin Department of Natural Resources (DNR), United States Fish & Wildlife Service, and St. Croix Ojibwe.



A nice female walleye surfaces in a fyke net pulled from the water by Royce Bressette, GLIFWC inland fisheries aide, on the Chippewa Flowage. (photo by CO Rasmussen)



A Wisconsin Department of Natural Resources electroshocking crew from Park Falls cruises the Chippewa Flowage shoreline after sundown in search of walleye. (photo by CO Rasmussen)

Representatives from each agency met at the Lac Courte Oreilles bingo hall on April 19 where fisheries biologist Glen Miller and Frank Pratt, DNR, assigned specific areas of the lake to survey crews.

Miller advised the crews of the delicate nature of the southeastern portion of the lake where Ojibwe graves were inundated in 1923 when the man-made flowage was created.

"Please be respectful of any remains that may come up," Miller said. "Just leave the area and report anything you find."

Crews spent a total of eleven days and nights marking walleye and two evenings shocking fish on recapture runs. During that time, no remains were encountered.

Rick Madsen, GLIFWC data analyst, helps process the information collected by the fishery crews and estimates walleye population trends.

"We look at the ratio of marked to unmarked fish and come up with a population estimate," Madsen said. "The estimate is used to gather information on the health of the fishery and to determine safe harvest levels."

On the Chippewa Flowage, initial figures from the spring 1999 assessment show a similar walleye density compared to the last survey, conducted by the DNR in 1990.

Madsen estimates the flowage has a sound population of approximately five adult walleye per acre. Fisheries managers consider three walleye per acre a benchmark for a healthy population.

Fisheries assessment crews also utilize floy tags to mark walleyes on some northern lakes. After collecting data from captured fish, the tiny plastic tags are inserted at the base of the dorsal fin. The tags are yellow and about one inch long with "GLIFWC" and a tracking number printed on two sides.

During the spring 1999 walleye assessment, floy tags were used on select Wisconsin lakes in Bayfield, Forest, Oneida, Vilas, and Washburn counties. Anglers that land a floy-tagged walleye are encouraged to report the catch to GLIFWC inland fisheries (715) 682-6619.



# Getting the scoop on lake sturgeon gets wet 'n wild

## Team effort gets assessment work done

By Sue Erickson, Staff Writer

**Odanah, Wis.**—Catching a small one has a different sort of meaning when it comes to lake sturgeon. A four foot, 35 pounder is a "small" one.

Catching them, especially by hand, can be tough. At least, that is what fisheries staff participating in a joint sturgeon population assessment in the Bad River discovered this spring. Holding onto seventy pounds of slippery, wet fish flesh while wading out of a fast flowing river gets tricky, according to Mike Plucinski, Great Lakes Indian Fish and Wildlife Commission (GLIFWC) Great Lakes fishery technician.

It got downright wet 'n wild for Dan North, summer intern at GLIFWC, who literally tackled one of the gray giants. It was a cold plunge, but North came up with the struggling fish and hung on.

Fisheries staff from GLIFWC, the Bad River Natural Resources Department (BRNRD) and the U.S. Fish and Wildlife Service (USFWS) used a team approach to capture and tag adult spawning sturgeon this spring. The goal is to get sufficient data for a population estimate in the Bad River.

The USFWS has been doing adult spawning population studies for the past five years, but stepped up the effort this spring, according to Henry Quinlan, USFWS fisheries biologist.

Quinlan says the Bad River in Wisconsin and the Sturgeon River in Michigan are the only two tributaries in the U.S. waters of Lake Superior with a spawning population of lake sturgeon. There are a few remaining in Canada.

USFWS crews set nets down stream in the Bad River to tag the adult spawning sturgeon, then released them. Downstream GLIFWC and Bad River staff caught the sturgeon by hand or with a dip net, checking for tagged fish.

Staff employed a new method this spring, tagging with "pit" tags, according to Plucinski. A pit tag is very small and is injected beneath the skin in the back of the sturgeon's head. If recaptured, the tag is read by scanning with a wand, similar to scanning prices at a grocery check-out.

USFWS figures show that a total of 94 fish were caught and tagged, of which 74 were male and 20 female, according to JP Pagel, USFWS fisheries technician.

Of those tagged this year, only nine were recaptured; however six sturgeon tagged in 1998 were recaptured and five tagged by the Wisconsin Department of Natural Resources in previous years.

More sturgeon were actually caught this spring than in previous years; however, Quinlan says the effort was also increased, so that does not necessarily indicate increased numbers of sturgeon overall.

Eggs were taken from spawning females, fertilized and are being reared at the Red Cliff Tribal Hatchery. They will be stocked back into the Bad River system.

The nearly 4 to 1 male-female ratio seems to indicate an unbalanced population. However, Quinlan shies from hasty conclusions. He says that is not necessarily an unreasonable ratio because males mature more quickly and enter the spawning cycle at an earlier age than females. So, it is likely to see more males present. Quinlan also notes that no very large, old sturgeon were captured during the assessment. The largest female was about 5 feet and 70 lbs. and older fish can be much larger.

The USFWS will release a report this fall on the Bad River sturgeon assessments. He comments that the study is too young to be conclusive, and there are many variables, especially at the Bad River Falls area where the sturgeon were



Eggs from spawning sturgeon are harvested on a small island in the Bad River. Fisheries technician JP Pagel, US Fish & Wildlife Service, returns one of the ancient fish to a pool below the Bad River falls. (photo by CO Rasmussen)

captured. For example, high water at the falls prevented staff from capturing any sturgeon for a week or two, periods when spawning may have occurred.

USFWS, GLIFWC and BRNRD staff will also cooperate on juvenile lake sturgeon assessments in early June.

GLIFWC has performed juvenile sturgeon assessments for about ten years, Plucinski says. Gillnets set at the mouth of the Bad River capture the young sturgeon, which are tagged and released.

This spring the USFWS will tag them with sonar tags. Sonar tags will allow fisheries crew to track the movement of the juvenile sturgeon with special antennae. Little is currently known about the movement of sturgeon in Lake Superior.

Wisconsin also has a substantial sturgeon fishery in Lake Winnebago and the Wolf River system, Quinlan says. There the sturgeon population is in the hundreds of thousands, he says, whereas in Lake Superior we're talking only in the hundreds.

Although the Lake Winnebago fishery is strong, managers are tightening up regulations each year due to concern over the harvest of female fish and potential over-exploitation, Quinlan says.

Tribal codes govern the take of lake sturgeon by tribal members. Wisconsin requires a tag for a state angler to take a lake sturgeon and only one tag is allowed per year per person.

# Fish eating habits of tribal members subject of GLIFWC study

By Jenny Krueger, GLIFWC Database Manager

**Odanah, Wis.**—Do tribal members consume more fish, more frequently than the average Wisconsin citizen? If so, do state health advisories on fish adequately protect the tribal con-

sumer? In order answer these questions a study on fish consumption by tribal members was begun in 1997.

With funding provided by the Agency for Toxic Substances and Disease Registry (ATSDR) the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) began a five-year to estimate the amount of fish consumed per

meal by individual tribal members and to describe the pattern of fish consumption over the course of each year.

The amount of fish consumed per meal is an important number because it is used by state agencies to develop health advice for reducing risk when eating mercury contaminated fish.

State agencies commonly use 8 ounces (or 227 grams) as an average meal size. So the GLIFWC study will determine whether or not this is an appropriate number to use for tribal members over the course of a year or during periods of high fish consumption.

The first year of the study covered the period from April 1, 1997 to March 31, 1998 and included a total of twelve families from three bands: four families each from Bad River, Lac Courte Oreilles, and Red Cliff. The second year of the study included ten families: four from Mole Lake, three from Lac du Flambeau, two from St. Croix, and one from Mille Lacs.

Starting April 1, 1999 twelve families (5 from Mille Lacs, 3 from Red Cliff, and 4 families that participated in

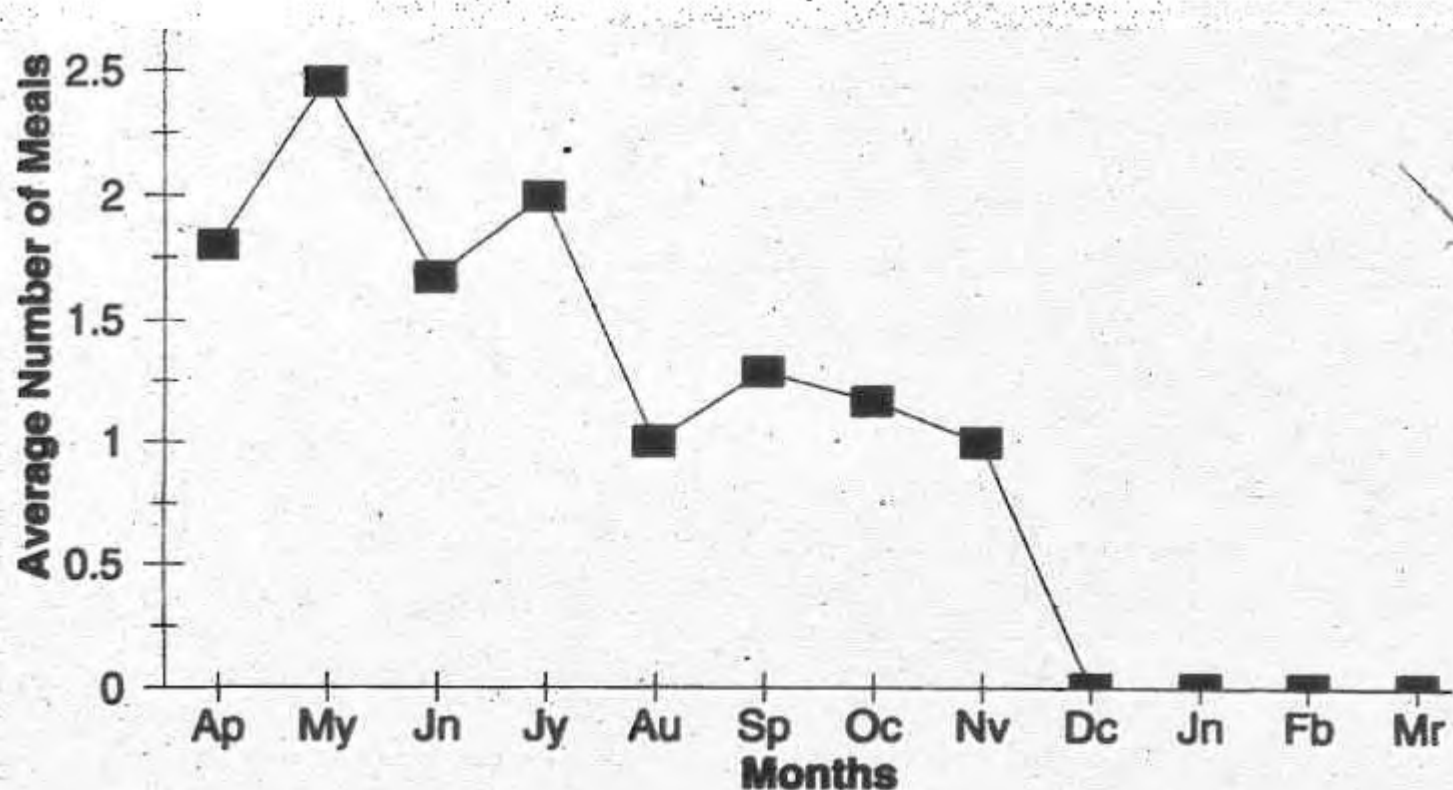
a previous year) volunteered to record data. The study will continue for another two years and cover the five year period from April 1, 1997 through March 31, 2002.

Results from the first year of the study have been summarized and include data for a total of 79 individuals—38 female and 41 male. Average meal size was determined by sex and for three age groups (less than 16 years old, 16 to 45 years old, and over 45 years old). The average meal size was 247 grams for all participants combined, which is higher than the state's average figure of 227 grams.

It was highest for males over 45 years old (411 grams) and lowest for females under 16 years old (145 grams). Overall, males consumed 289 grams per meal on average compared to 203 grams per meal for females.

The first year's study showed a higher rate of fish consumption in the spring and early summer (April through July) and a lower rate December through March.

Results from the second year of the study have not yet been summarized.



The average number of fish meals served per month for families participating in the fish consumption study. (By Kory Grottesch)



# Updated maps depict levels of mercury contamination of walleye in lakes used by GLIFWC member bands

By Sue Erickson  
Staff Writer

Odanah, Wis.—Large, wall-sized maps depicting lakes frequently speared or netted by a given Great Lakes Indian Fish and Wildlife Commission (GLIFWC) member band appear on the walls of most on-reservation registration stations, the offices where tribal members get nightly permits for spring spearing.

These maps illustrate by color code the level of mercury contamination found in walleye samples taken from each of the lakes band members use most for harvesting walleye.

Two maps are produced for each lake, one with information pertinent to women planning to have children and children under 15 years of age based on .5 parts of mercury per million (ppm). The other is aimed at the general public and is based on one ppm.

The intent of the maps is to provide basic information to tribal members in regard to mercury concentration levels, so they may consider whether walleye from a given lake are safe for family consumption, says GLIFWC Environmental Biologist Kory Groetsch.

"The maps provide facts about mercury levels based on the data we have collected to date, but do not constitute an advisory at this time," Groetsch says. "We are not issuing advisories because we are in the process of learning about the potential impact of mercury and its dangers to humans. However, the facts based on what data we have collected are there for tribal members to consider for themselves."

Colors indicate the size at which walleye have a .5/ppm, or in case of the map for the general public, 1 ppm. Red shows that mercury is present even in the smaller fish 15" or less; orange indicates the mercury level appears in fish 15" to 18"; yellow indicates mer-

cury levels appearing in the 18" to 22" walleye; green is for mercury appearing in 22" fish or larger; and dark blue shows fewer than two walleye with .5ppm are present. Essentially, red is bad, blue is very good.

The advantage of the maps vs. the state health advisory bulletins is that an individual can see at a glance whether a lake's fish is .5/ppm of mercury or above. "All you really have to know is that blue is good and red is bad when deciding where to fish," says Groetsch.

Two large maps and about 150 smaller versions were provided to most GLIFWC member bands in early April, prior to the start of spring spearing and netting. The smaller maps are meant for distribution to the each band's fishing public.

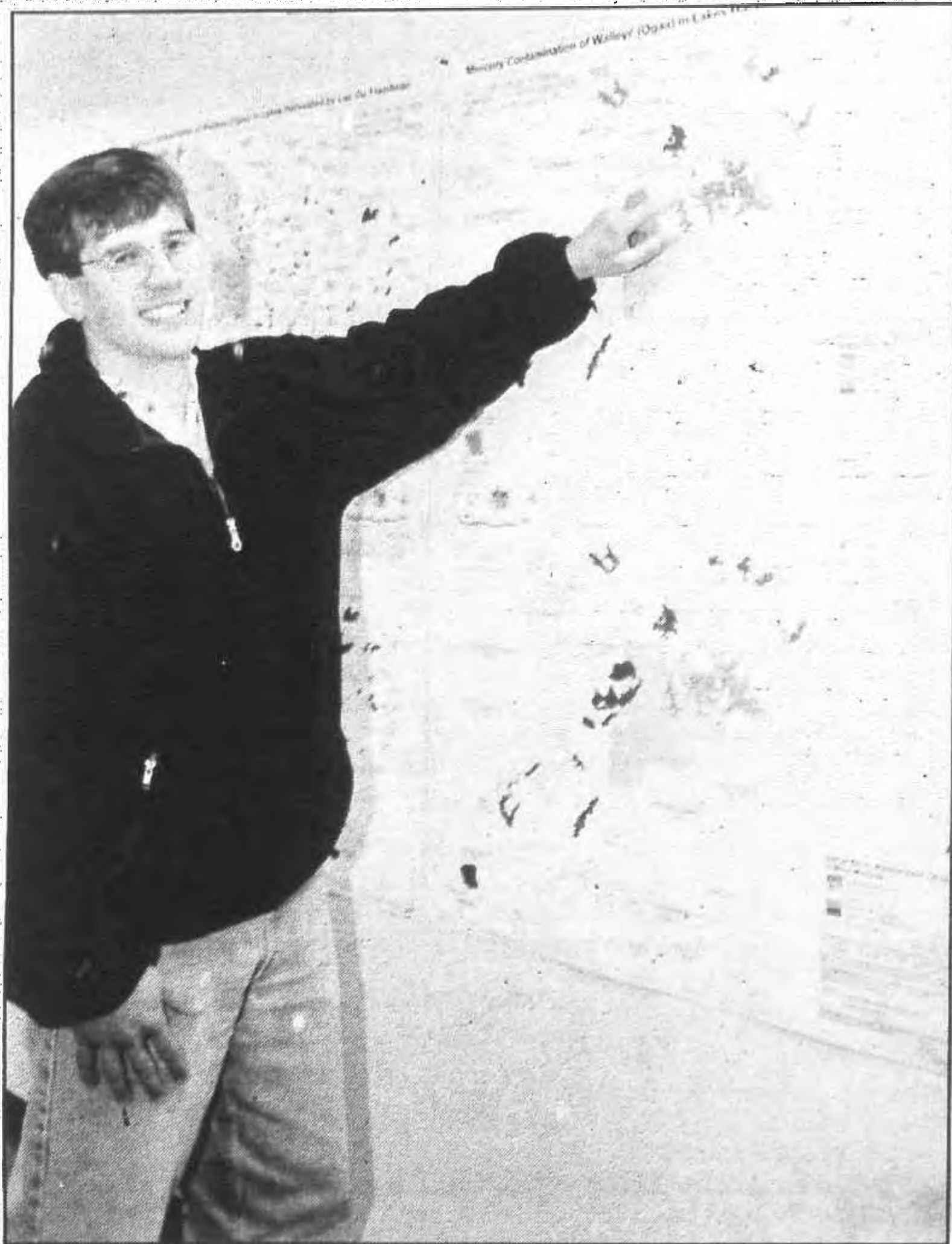
GLIFWC, through grants from the Environmental Protection Agency and the Agency for Toxic Substance and Disease Registry, first produced mercury contamination level maps in 1996. Information was updated in 1998 and again in 1999. Each year the data base is expanded as more and more samples are collected and analyzed.

GLIFWC is targeting lakes from which 90% of the tribal off-reservation walleye are harvested. Ideally, biologists hope to rotate sampling of these lakes on a five year basis, Groetsch says.

This spring 250 walleye samples were collected from 30 lakes, including five Michigan lakes and two Minnesota lakes. GLIFWC assessment crews on spring electrofishing surveys bring in some walleye samples and GLIFWC wardens purchase fish from tribal spearsers on the landings.

Groetsch provides the wardens a list of how many walleye from each size bracket are needed from a lake, a cooler for keeping the samples and enough money to purchase the necessary fish.

"The mercury walleye program would not be possible without the diligent help of conservation enforcement



Kory Groetsch, GLIFWC environmental biologist, shows how the color-coding works on a mercury map depicting lakes used for off-reservation fishing by the Lac Courte Oreilles Band. Levels of mercury are determined by analyzing fish samples of different sizes from each lake. The lake is then color-coded providing a guide for tribal fishermen. (Photo by Sue Erickson)

and inland fisheries staff," Groetsch comments.

Three samples of walleye in four size groups are taken from each lake. Samples are skinned, labeled as to fish size and lake, and then sent to the Lake Superior Research Institute, UW-Superior for analysis.

Information from the analysis is entered into a data base by Groetsch and sent to GLIFWC's satellite office in Madison for conversion into the map format. This year Esteban Chiriboga, GLIFWC Geographic Information System (GIS) mining assistant, formatted the maps.

Data from the Wisconsin Department of Natural Resources (WDNR) are also used. The WDNR and GLIFWC share data on mercury levels.

While the WDNR collects information on several species of fish, GLIFWC focuses on walleye, providing approximately one-third of the shared data on walleye mercury levels in Wisconsin.

Groetsch says that GLIFWC's

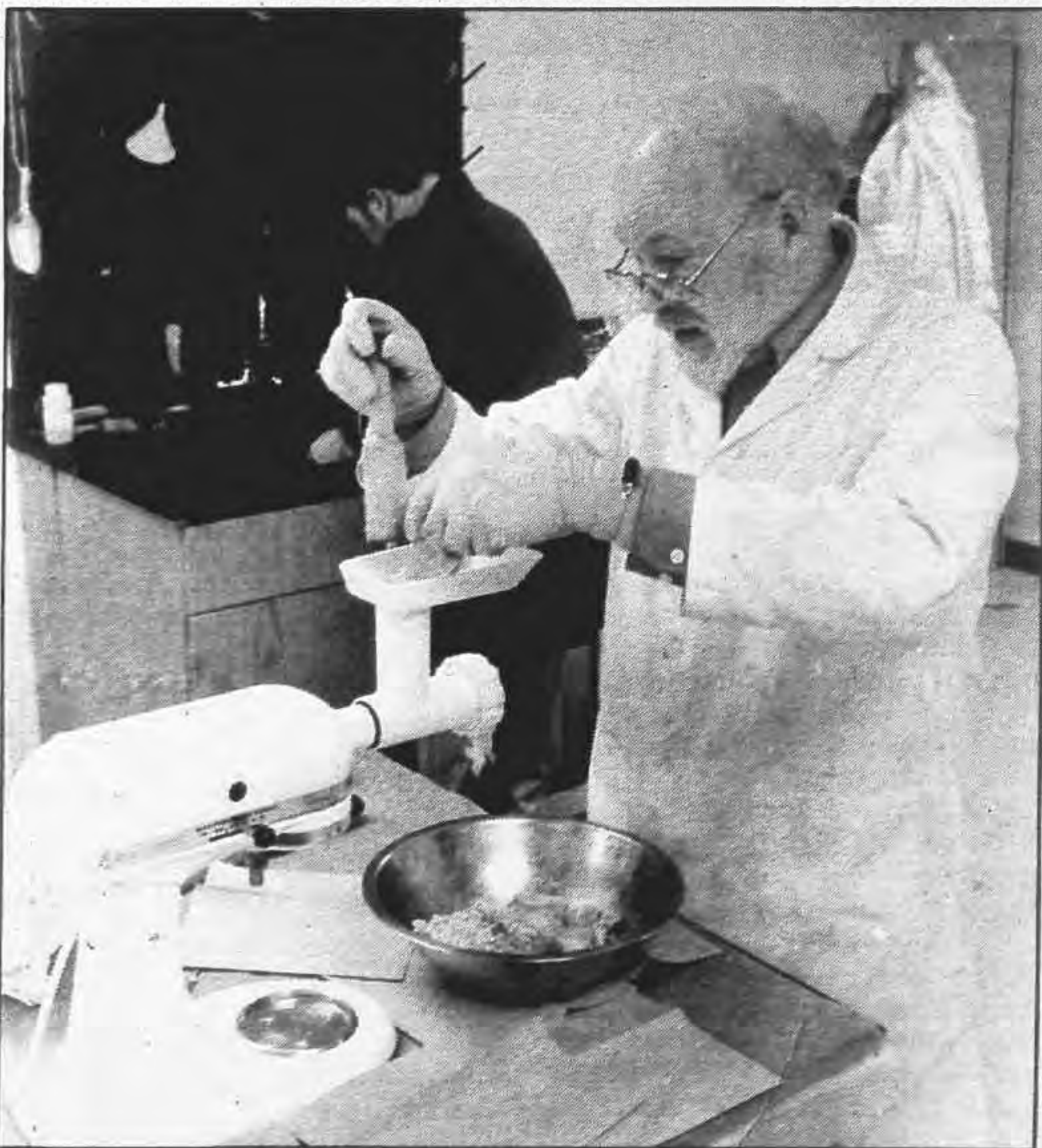
maps represent a conservative approach to informing the public on mercury levels. If two walleye samples from a lake exceed the .5/ppm mercury level, the lake is colored on the basis of the size of the second fish.

GLIFWC has also been hesitant to put out advisories as to the amount or frequency people should eat fish with significant levels of mercury.

Research on the effect of mercury contaminated fish on human health is not conclusive. Given the many positive attributes of fish consumption, GLIFWC is reluctant to advise on frequency and amounts.

This summer Groetsch says that one or two focus groups will be organized to get feedback from tribal members on the usefulness of the maps. The focus groups will be targeting primarily tribal mothers and elders.

On an optimistic note, preliminary sample results are not revealing any great increase in mercury levels overall, although Groetsch noticed an increase in a few lakes.



Larry Brooke, Lake Superior Research Institute scientist, grinds a lake trout fillet for mercury. See related article, page 21. (photo by CO Rasmussen)

## Where does mercury come from?

Mercury is a natural element that is found in air, water, rocks, and soil. Mercury evaporates from these sources and returns to *Aki* (the earth) attached to small airborne particles or is washed out of the air by rain or snow.

Since about 1850 the amount of mercury cycling through *Aki* has been increasing about 1.7 percent per year due to human activity. For example, burning coal, wood, and waste (both household and industrial) releases mercury into the atmosphere. An estimated 75% of newly deposited mercury entering Minnesota's land and lakes comes from human activities; the other 25% is natural.





# Sharp-tailed grouse on the air in northern Wisconsin Radio collars to track seasonal activity

By **Charlie Otto Rasmussen**  
Writer/Photographer

Odanah, Wis.—Getting to know the elusive sharp-tailed grouse is tricky business. In fact, it's a science.

Sharptails are famous for their spring mating ritual, dancing on jackhammer legs with outspread wings. Once a lek, or dancing ground, is identified, it is relatively easy to set up a blind, creep in before dawn, and watch the show.

But what happens afterwards, when the birds are less conspicuous, stealing away to lay eggs or riding out harsh winter storms?

Sharp-tailed grouse sporting radio collars are expected to reveal preferred nesting sites and over winter habitat in the coming year.

Working with University of Wisconsin-Stevens Point graduate student, Tim Connolly, staff from Great Lakes Indian Fish & Wildlife Commission's (GLIFWC) wildlife section trapped and collared seven sharptails in the Moquah Barrens Wildlife Management Area this spring with small radio antennas.

While Connolly collects data on the nesting habits of one collared female this June, GLIFWC wildlife biologist Peter David is waiting for the snow to fly when he and wildlife technician John Denomie begin monitoring

sharptail cold weather patterns.

"We want to identify specific areas that serve as wintering grounds," David said. "It may influence management practices. For example, we may want to retain a conifer stand outside of the Moquah Barrens if birds utilize it in the winter."

The USDA-Forest Service manages the 7,800-acre Moquah area as a pine barrens ecosystem, clearing out pine plantations established in the 1930s, and conducting prescribed burns every few years.

Unlike the more common ruffed grouse which thrive in forests, sharptails tend to prefer open, grassy landscapes with scattered stands of trees.

The Moquah sharp-tailed grouse population of around 30 pairs this spring is down slightly from last year, but remains relatively stable.

David said that Forest Service has played a vital role in restoring good sharptail habitat since the early 1990s when sharp-tailed grouse numbered in the single digits at Moquah.

Additional birds were transplanted to Moquah from other wildlife areas from 1990 to 1992, helping to establish a viable breeding population.

In order to complete the requirements for a masters degree in wildlife

management, Connolly is monitoring the nesting patterns of sharptails throughout the northwest quarter of Wisconsin.

Connolly's research examines the nesting success of grouse on private land, compared to those birds utilizing public sharptail management areas including, the Moquah Barrens, Douglas County Wildlife Area, Namekagon Wildlife Area, and Crex Meadows Wildlife Area.

Sharp-tailed grouse numbers seem to be higher than expected in unmanaged areas, like recent clearcuts on industrial forest land, Connolly said. Intensively managed areas that cater to the dancing birds, however, have less vigorous populations.

"Preliminary indications show that sharptails may prefer to nest in taller vegetation than previously thought," Connolly said. "Hens seem to like taller, woody shrubs and pin oak standing around three to four feet tall."

With assistance from the Wisconsin Department of Natural Resources, GLIFWC and other organizations, Connolly tracks almost fifty radio collared nesting sharptails.

Connolly plans on finishing his two-year study at the end of 1999 and completing a thesis in early 2000.



John Denomie, GLIFWC wildlife technician, steadies a sharp-tailed grouse before fitting the bird with a radio collar. (photo by CO Rasmussen)

## Trumpeter swan reintroduction

(Continued from page 1)

trumpeter eggs in Alaska and brought them to the Kellogg Bird Sanctuary.

Since that time the sanctuary and the Detroit Zoo have reared swans used in reintroduction efforts across the upper midwest.

Joe Johnson, chief wildlife biologist at the Kellogg Bird Sanctuary, estimates the Michigan swan population at around 245 birds.

Trumpeters are expected to fare well in Upper Michigan over the coming years, Johnson said. Pitfalls like high tension wires, lead poisoning, and vandalistic shootings that plague southern Michigan birds, seem to be in shorter supply in the UP, he said.

Funding for the project was shared by the resource management agencies. Keweenaw Bay provided funds for the purchase of the birds, and the Forest Service is furnishing manpower, utiliz-

ing staff from the ONF as well as volunteers. Additional support came from Circle of Flight, a Bureau of Indian Affairs program devoted to waterfowl and wetland enhancement projects.

"This is one of the best projects I've been involved in," said Robert Evans, Forest Service wildlife biologist. "Keweenaw Bay initiated the release and we've received important contributions from all the agencies."

Evans said the behavior and movements of swans will be monitored weekly until the birds move south to open water habitat, probably sometime in November.

In 1998, KBBS released nine Kellogg-reared trumpeters and are monitoring radio signal from three birds this summer.

Keweenaw Bay and the Forest Service are planning another trumpeter swan release next spring.



Moquah Barrens sharptails are captured on dancing grounds using "lead" traps. GLIFWC wildlife biologist Miles Falck carefully grasps a trapped bird. (photo by CO Rasmussen)



A U.S. Coast Guard helicopter pilot assists Mike Donofrio, Keweenaw Bay Biological Services, unload a trumpeter swan near Watersmeet, Mich. (photo by CO Rasmussen)

Just to the west of the Upper Michigan trumpeter swan release area, the Bad River Natural Resources Department (BRNRD) is monitoring five trumpeters living on the northern Wisconsin Ojibwe reservation. From 1996 to 1998, the BRNRD released 19 swans on the reservation. The present population includes two nesting pairs and one solo bird.

"Some of the birds have moved out of the area," said Tom Doolittle, BRNRD wildlife biologist. "They're still part of the Wisconsin breeding population and our program has been successful."

Doolittle said that two swans have died of lead poisoning since reintroduction and one appears to have fallen victim to bear predation this spring.



## Mille Lacs Lake and Red Lake not comparable

### Editor's note:

The collapse of Red Lake's walleye fishery, now undergoing restoration, resulted from years of overfishing by Indian and non-Indian alike and the lack of necessary regulations to prevent an overharvest. With much of the blame often put on tribal gillnetting, Red Lake's problems have been used to condemn the use of nets by treaty fishermen in Mille Lacs Lake as well.

However, the situation is different in Mille Lacs Lake. As mentioned in the article to the right, part of Red Lake's restoration plan involves increased tribal and non-tribal enforcement and a harvest regulated by quota, such has been established for the Mille Lacs Lake treaty harvest. Proper management through the establishment of quotas based on population assessments will provide opportunity for both tribal and non-tribal fishing, but not to the detriment of the walleye population.

With a quota established and enforced as it is during the Mille Lacs Lake treaty seasons, harvest must stop once the quota is reached, whether the fish are taken by net, spear, or hook.



GLIFWC Warden Vern Stone, Bad River, was on board at the Mille Lacs Lake landing to assist enforcement during spring spearing and netting. Above tribal fishermen extract fish from a net which was set the evening before and pulled in the early morning hours. Creel and enforcement personnel were on each landing where spearing and/or netting occurred. (photo by CO Rasmussen)

# Rebuilding of Red Lake fishery to begin

By Doug Smith  
Star Tribune Staff Writer

The long road to recovery for Red Lake's walleye fishery began April 9.

That's when the Red Lake Band of Chippewa, the federal Bureau of Indian Affairs and the state Department of Natural Resources (DNR) signed an historic 10-year agreement to try to restore the walleye population.

The restoration of a body of water the size of Upper Red Lake and Lower Red Lake, which cover 275,000 acres, is unprecedented in Minnesota. Once one of the premier walleye fisheries in the state Red Lake's walleye population has collapsed from years of overfishing, including commercial netting by the band.

The walleye numbers are so low that officials don't believe the lake can recover without drastic action. That action begins with the signing.

"It's a tremendous opportunity," said Henry Drewes, regional DNR fisheries supervisor in Bemidji. "If successful, it could be one of the best fish and wildlife restorations that we've seen in some time. It's exciting."

Under the plan:

- There will be no walleye harvest of any type allowed for either the band or sport anglers. A bill in the Legislature would help businesses in the area deal with the fishing ban.

- 500 quarts of walleye fry per year will be stocked, beginning this spring. Enforcement, both band and non-band will be increased.

- Once the walleye population has been restored, harvest will be regulated by quotas—similar to those used on Lake Mille Lacs—to prevent overharvest.

Developing the plan wasn't easy because of the geographical and politi-

cal nature of the sprawling Red Lake area. All but 48,000 acres of the lakes are within the Red Lake Indian Reservation, a closed reservation. The stocking is estimated to cost about \$68,000 the first year; the Bureau of Indian Affairs will pay \$40,000 of that, the DNR the rest, said Jack Wingate, DNR fisheries research manager.

Both Drewes and Wingate said it will be well worth the state's investment.

"We see it as an opportunity of getting 48,000 acres of prime walleye fishing back to our anglers," Wingate said.

The walleye fry—newly hatched fish about a quarter-inch long—will come from eggs that are harvested yearly from the Pike River Hatchery on Lake Vermillion. Those fish are genetically similar to Red Lake's walleye.

The 500 quarts will come from quotas that were previously shipped to hatcheries in southern Minnesota. The DNR intends to reopen another egg-stripping operation to replace those fry, Wingate said.

The DNR emphasized that the action won't affect Lake Vermillion. Walleyes trapped and milked for eggs and sperm comprise only about 5 percent of the spawning population, and the DNR will continue to stock 10 million to 20 million fry in the lake yearly.

Both Wingate and Drewes are optimistic the once-incredible Red Lake walleye fishery can be restored.

"We stand an excellent chance to recover the population," Wingate said. "The habitat and water quality is there. But it's a long-term recovery. The population has been beaten down. It didn't get that way overnight, and it won't recover overnight."

(Reprinted from *Star Tribune*, March 31, 1999.)

# Sharing the blame for Red Lake

A commentary by Byron Dyrland  
Blackduck, Minnesota

Several letters in *Outdoor News* said that there was hope that Indians do not deplete lakes of fish like they have Red Lake. Also referenced was that nobody blew the whistle on the overharvest of fish.

Having worked the Red Lake area as a conservation officer for over 21 years, I can tell you there was abuse by Indians and non-Indians alike.

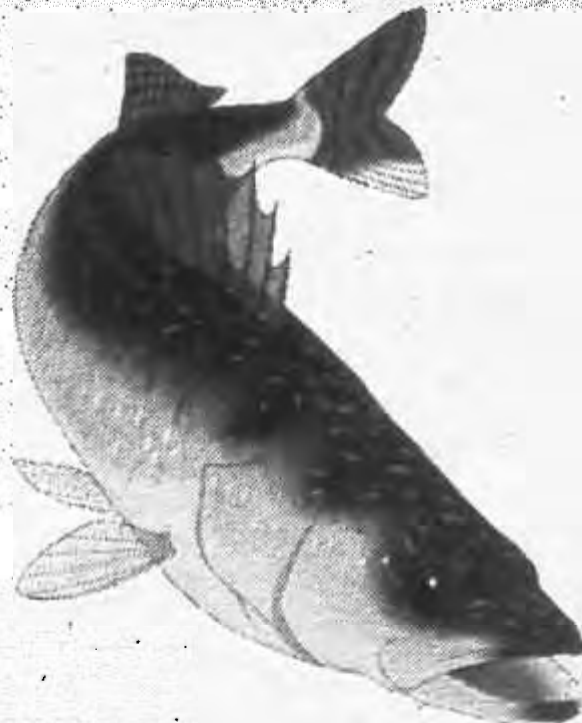
Some years, more than 25 percent of the non-Indian overlimit arrests in the state were from Upper Red Lake. Officers seized and confiscated hundreds of walleyes as a result of overlimits.

Who were these people? They ranged from professional fishing guides, farmers, loggers, resorts, and the public—honest people with a little greed in their hearts. When the fish were biting, people couldn't help themselves.

Almost daily, officers would get calls regarding Indians trying to sell fish and people buying them. Price ranged from 50 cents to \$1 or \$2 per fish.

The Indian took the fish and the non-Indian bought them. It wasn't only the general public; VFW, Legion, Moose, Elks and many more clubs purchased fish illegally for feeds. Restaurants in cities and states did the same.

Many of these clubs and businesses received summons to appear in court. The biggest case to my knowledge was a case in which an Indian was buying walleyes from other Indians and selling the fish through a marketing business. When the person was stopped, he had 10,000 illegal walleye fillets in possession. This person didn't even get a fine and his record was erased. We still haven't found out why.



We also had the Red Lake Fisheries, which was run separately from the band. If I remember correctly, the quota set in the agreement with the Bureau of Indian Affairs was 750,000 pounds of walleye per year. I assume that this number would sustain a renewable harvest in future years.

Word from sources within the reservations was that a million or more pounds of walleye were being taken each year. It was estimated that illegal take from overlimits and selling amounted to another 100,000 pounds in some years.

The tribal government said they could do nothing at the time—the fishery was not in their control. People netting were making good money because of volume.

Did anyone blow the whistle? Seldom did a business in the area call on illegal activities. A few calls came from reservation authorities on illegal fish leaving the reservation. Fisheries on the reservation had been advised of what was happening.

Many news releases were put out by the Department of Natural Resources (DNR) on illegal activities. Courts did not impose heavy fines for violations. Nobody wanted to notice, people were making money and getting fish cheap. Non-Indians were catching all the fish they wanted and businesses were doing well.

Many people can share blame for what happened. Now, we need to support the Red Lake Band and Minnesota DNR to restore the walleye.

Maybe we can all be responsible in the future and not let greed get in the way of sportsmanship. Conservation officers need your help; there are still a lot of overlimits being taken in this state.

You do not have to use a gill net to deplete a lake of fish.  
(Reprinted from *Minnesota Outdoor News*, May 14, 1999.)



### 1999 antlerless deer quota declarations for the deer management units in the Wisconsin portion of the 1837 and 1842 ceded territories

| Unit          | Number of Deer Available | 1998 Antlerless Harvest | 1999 Quota Declaration |
|---------------|--------------------------|-------------------------|------------------------|
| 1             | 1,738                    | 19                      | 50                     |
| 2             | 5,118                    | 187                     | 450                    |
| 3             | 3,490                    | 177                     | 400                    |
| 4             | 1,286                    | 5                       | 50                     |
| 5             | 2,646                    | 198                     | 400                    |
| 6             | 2,413                    | 23                      | 50                     |
| 7             | 956                      | 13                      | 50                     |
| 8             | 3,564                    | 104                     | 200                    |
| 9             | 4,430                    | 118                     | 200                    |
| 10            | 5,266                    | 174                     | 350                    |
| 11            | 3,984                    | 127                     | 200                    |
| 12            | 2,506                    | 94                      | 150                    |
| 13            | 3,870                    | 169                     | 300                    |
| 14            | 1,732                    | 20                      | 50                     |
| 15            | 4,730                    | 23                      | 100                    |
| 16            | 4,638                    | 8                       | 50                     |
| 17            | 2,258                    | 28                      | 100                    |
| 18            | 3,864                    | 26                      | 100                    |
| 19            | 2,712                    | 9                       | 50                     |
| 20            | 1,966                    | 5                       | 25                     |
| 21            | 3,030                    | 0                       | 50                     |
| 22            | 4,590                    | 2                       | 50                     |
| 22a           | 3,300                    | 0                       | 25                     |
| 23            | 4,684                    | 0                       | 25                     |
| 24            | 2,284                    | 1                       | 25                     |
| 25            | 2,868                    | 5                       | 25                     |
| 26            | 2,828                    | 0                       | 25                     |
| 27            | 2,512                    | 0                       | 25                     |
| 28            | 2,732                    | 11                      | 50                     |
| 29a           | 1,172                    | 29                      | 75                     |
| 29b           | 680                      | 22                      | 75                     |
| 30            | 1,122                    | 27                      | 75                     |
| 31            | 3,782                    | 82                      | 200                    |
| 32            | 4,386                    | 3                       | 25                     |
| 33            | 3,512                    | 10                      | 25                     |
| 34            | 2,086                    | 99                      | 200                    |
| 35            | 4,574                    | 169                     | 250                    |
| 36            | 4,522                    | 118                     | 300                    |
| 37            | 4,450                    | 15                      | 75                     |
| 38            | 3,408                    | 34                      | 100                    |
| 39            | 1,746                    | 80                      | 200                    |
| 40            | 2,648                    | 31                      | 100                    |
| 42            | 3,910                    | 6                       | 25                     |
| 43            | 3,026                    | 30                      | 75                     |
| 44            | 3,014                    | 88                      | 200                    |
| 45            | 3,180                    | 25                      | 150                    |
| 46            | 4,598                    | 5                       | 25                     |
| 47            | 5,092                    | 0                       | 25                     |
| 48            | 0                        | 0                       | 10                     |
| 49a           | 2,626                    | 5                       | 25                     |
| 49b           | 3,214                    | 0                       | 25                     |
| 50            | 3,202                    | 0                       | 25                     |
| 52            | 3,474                    | 3                       | 25                     |
| 57            | 2,362                    | 0                       | 25                     |
| 57a           | 3,302                    | 1                       | 25                     |
| 57b           | 4,018                    | 0                       | 25                     |
| 57c           | 4,194                    | 0                       | 25                     |
| 58            | 6,750                    | 0                       | 25                     |
| 59a           | 4,348                    | 1                       | 25                     |
| 59b           | 6,360                    | 0                       | 25                     |
| 62a           | 7,244                    | 0                       | 25                     |
| 62b           | 11,856                   | 0                       | 25                     |
| 78            | 218                      | 6                       | 40                     |
| <b>Totals</b> | <b>216,071</b>           | <b>2,435</b>            | <b>6,200</b>           |

### 1999 Black bear declarations

| Zone   | Declarations |
|--------|--------------|
| Zone A | 100          |
| Zone B | 30           |
| Zone C | 10           |

### 1998 Wisconsin off-reservation trapping results

| Species | Female | Male | Total |
|---------|--------|------|-------|
| Bobcat  | 5      | 2    | 7     |
| Fisher  |        |      |       |
| Zone A  | 34     | 43   | 77    |
| Zone B  | 31     | 24   | 55    |
| Zone C  | 22     | 4    | 26    |
| Zone D  | 11     | 12   | 23    |
| Otter   | 20     | 12   | 32    |

### 1998 off-reservation treaty waterfowl harvest by state

| State        | Estimated Harvest |            |            |
|--------------|-------------------|------------|------------|
|              | Ducks             | Geese      | Coots      |
| Wisconsin    | 475               | 46         | 172        |
| Michigan     | 76                | 107        | 0          |
| Minnesota    | 48                | 24         | 0          |
| <b>Total</b> | <b>599</b>        | <b>177</b> | <b>172</b> |

Results of the 1998 Off-Reservation Treaty Waterfowl Season, a report by Peter David, GLIFWC wildlife biologist, was published in March 1999. For a copy of this report please write GLIFWC Biological Services Division, P.O. Box 9, Odanah, WI 54861; phone (715) 682-6619.

### Harvest opportunities ahead Upcoming off-reservation, treaty seasons

For specific information and dates regarding any off-reservation treaty seasons, tribal members should contact their reservation conservation department or the on-reservation Great Lakes Indian Fish and Wildlife Commission satellite enforcement office or registration station.

Seasons may vary some from state to state, or from tribe to tribe. However, some of the opportunities for off-reservation hunting fishing and gathering in June through August 1999 are as follows:

#### Wisconsin 1837, 1842 Treaty ceded territory

- Netting
- Hook and line fishing
- Gathering (birchbark, berries, ricing, etc.)

#### Minnesota 1837 Treaty ceded territory

- Netting
- Hook and line fishing
- Gathering (birchbark, berries, ricing, etc.)

#### Michigan 1836 Treaty ceded territory

- Netting
- Hook and line fishing
- Gathering (birchbark, berries, ricing, etc.)

Treaty commercial fishing in Lake Superior, Michigan and Wisconsin waters (Consult with tribal codes for specific quotas, units, and dates)

## Masinaigan goes online

In April 1999 Masinaigan went online. Masinaigan is part of the Great Lakes Indian Fish & Wildlife Commission's (GLIFWC) growing homepage located at [www.glifwc.org](http://www.glifwc.org). GLIFWC has maintained a homepage for approximately two years, but received this new address last fall. GLIFWC's homepage is updated as needed by Lee Cloud, GLIFWC network administrator.

Some of the information included on the homepage is:

- Masinaigan
- GLIFWC's publications
  - >A Guide to Understanding Ojibwe Treaty Rights
  - >Chippewa Treaties: Understanding & Impact
  - >Seasons of the Chippewa
  - >Tribal Hatcheries of the Great Lakes Region
  - >brochures
- Wild rice information, regulation & maps
- Purple loosestrife information/photos/links
- US Forest Service MOU
- Upcoming events/meetings
- GLIFWC staff directory





# Summer harvest: Juneberries (Gozigwaakominag)

By Karen Danielsen  
GLIFWC Forest Ecologist

Contrary to their name, juneberries (gozigwaakominag) ripen later in July. Last July while harvesting blueberries (mīnan), Rose Wilmer, a Great Lakes Indian Fish & Wildlife Commission (GLIFWC) GLIFWC employee and Bad River tribal member, caught sight of a juneberry bush (gozigwaakominagaawanzh) and proceeded to spend as much time eating and savoring those dark red, juicy juneberries as gathering blueberries.

Her son, Dan Soulier, joined her declaring that he liked juneberries even better than blueberries. Certainly, juneberries have a delectable sweetness that one never forgets.

Rose remembers, as a girl living on Birch Hill, trekking through the for-



(Reprinted from *An Illustrated Flora of the Northern United States and Canada* by Nathaniel Lord Britton and Hon. Addison Brown, Volume II)

est with her eight brothers and sisters. What a treat when they encountered a juneberry bush, sometimes the size of a

small tree, loaded with berries! Nowadays, she sees fewer juneberry bushes, possibly due to roadside brushing activities.

Traditionally, tribal members sun-dried juneberries on frames made with the giant reed (aaboogigan) and twine from the bark of basswood (wiigob). The dried berries were stored in birch bark containers (makakoon) for later consumption during the long winter months. Upon use, tribal members boiled the dried berries and often combined them with other foods.

As a medicinal plant, the roots of juneberry bushes may be used for dysentery and the bark as a disinfectant wash. In addition, the roots and bark may be used for women's medicines.

Juneberry bushes grow in woodlands, rocky slopes, river banks, roadsides, and along swamps and lakes. The better berry gathering occurs on the

bushes found in bright, sunlit openings.

With the onset of Spring, pearl-white flowers wrap juneberry bushes in a beautifully resplendent veil. Agnes Fleming, a Lac Courte Oreilles tribal member, recalls mentally noting these displays during May to mark her locations for summer berry gathering.

Of course, white flowering bushes may also be one of the many species of cherry that grow in this region. For a distinguishing characteristic, look for small glands just below the base of cherry leaves.

According to the Francis Densmore (author of *How Indians Use Wild Plant for Food, Medicine and Crafts*), a common Ojibwe saying goes "Take some Juneberries with you"; likely because so many consider juneberries to be one of the simplest forms of refreshment. Not surprisingly, Rose and her son, Dan, wholeheartedly agree!

# Gathering of manoomin An Ojibwe tradition

(The following article is being excerpted from Frances Densmore's book titled "How Indians Use Wild Plants for Food, Medicine & Crafts.")

## Harvesting wild rice

Wild rice, constitutes the chief cereal food of the Chippewa. It abounds in certain lakes, ripening earliest in the shallow lakes led by streams and later in the lakes fed by springs. The soil of some lakes seems to produce more rice and larger kernels than that of other lakes. By a wise provision of nature the seed of the rice is carried by wild ducks, which also afford food for the people at the season when the rice is ripe.

In the old days each family or small group of families had a portion of a rice field, as it had a "sugar bush" for making its maple sugar. The portion of a rice field was outlined by stakes, and a woman established her claim to it by going to the field about 10 days before the rice was ripe and tying portions of it in small sheaves.

Basswood fiber is used without twisting for the tying of rice. One length is tied to another, making a large hard ball that unwinds from the middle. The ball is placed in a tray behind the woman as she sits in the canoe. For this work she wears a special waist, which, with the care of Chippewa women, is reinforced on the shoulder where the basswood fiber passes through a little birch-bark ring.

This method of carrying the "twine" keeps it ready to her hand and free from becoming tangled. She draws a little group of rice stalks toward her with the "rice hoop" and winds the fiber around them, bending the tip of the sheaf or bundle down to the stalks.

The rice is left standing until ripe, when the sheaf is untied, the rice shaken out, and kept separate from the rest of the crop. It has a slightly different flavor than other rice and the kernels are said to be heavier, requiring longer boiling.

When the time came for harvesting the rice a camp was established on the shore of a lake where rice was abundant.

In this, as in the making of maple sugar, the unit was the family or group of immediate relatives, all of whom assisted in the process. Three rice camps were visited and photographed by the author during the harvest season.

The equipment for "rice-making" comprised a canoe or boat with a propelling pole and two rice-beating sticks, one or more birch-bark rolls, the same size as for a wigwam cover, a kettle or tub for parching rice, and a peculiar paddle used for stirring the rice in the kettle; also a barrel sunk in the ground for the first pounding of the rice, and several pestles used for that purpose, several "winnowing trays" made of birch bark, and a small barrel sunk in the ground and having two bars beside



Freshly harvested manoomin. (Photo by M.J. Kewley)

it, this portion of the equipment being for "treading out" the final chaff from the rice.

Receptacles for storing the rice were also provided, these in the older days being bags woven of cedar or basswood bark.

The manner of going through the rice field was by means of a canoe or boat pushed along by a pole forked at the end. This was a heavy task and was usually performed by a man while a woman sat in the stern of the boat and harvested the rice.

In the early morning the canoes started for the rice field and did not return until about the middle of the afternoon, the time depending on the distance to be traveled. Sometimes the rice to be harvested was at the farther side of a lake, requiring considerable time to reach the spot.

A canoeful of rice was considered a day's gathering.

The harvesting of the "free rice" (that which had not been tied) was done

by knocking the kernels off the stalk and allowing them to fall into the canoe. Two "rice-sticks" were used for this purpose. The stalks were bent down with one of them, and a sweeping but gentle stroke with the other stick liberated the kernels. The rice at the right as well as the left of the boat was harvested in this manner, a woman using one hand as easily as the other in knocking off the kernels.

It was considered a test of a good rice gatherer to free the ripe rice kernels without dislodging those which were unripe. Thus it was possible to go over the same part of a rice field several times at intervals of a few days, allowing time for more rice to ripen. It was not the intention, however, to harvest all the rice, a portion being allowed to fall into the water, or being sowed on the water as seed.

The ideal weather for rice gathering was warm and still as wind or rain dislodged the kernels.

(See Harvesting, page 18)

## USDA/FSA youth loans available for ricing equipment

Cloquet, Minn.—Young wild rice producers who are interested in upgrading their equipment or to purchase equipment to start ricing may qualify for USDA/Farm Service Agency Rural Youth Loans.

Young producers between the ages of 10 through 20, who live in rural areas may receive loans of up to \$5,000 to establish and operate income producing projects. Loan funds may be used to purchase equipment and supplies; rent or repair tools and equipment, or to pay operating expenses. Loans can be used for the purchase of canoes or finishing equipment. The project must generate enough income to repay the loan.

The project must be organized and supervised. It must be of modest size and planned and operated by the youth. It should provide the youth with practical business and educational experience.

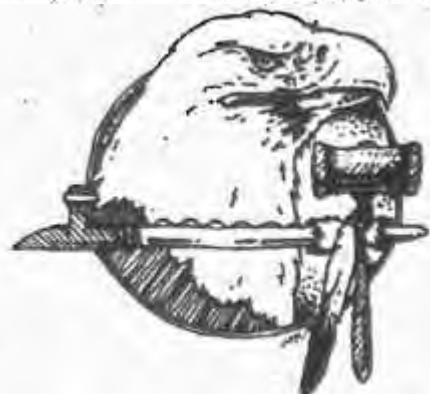
For more information, and to receive a loan application contact: Joan Markon at the Fond du Lac Tribal and Community College 1-800-657-3712 extension 0898.



# Wild Rice: Research and Management Conference

July 7-8, 1999

Black Bear Casino and Hotel  
Carlton, Minnesota



You are invited to attend the Wild Rice Conference! We are excited about the opportunity this conference will provide to bring together many people and agencies interested in this critical resource. We look forward to seeing you in Carlton, Minnesota in July! Reprinted below is the *tentative* agenda.

## Tuesday evening, July 6

### Registration

4:00 p.m. – 8:00 p.m. Registration materials available

## Wednesday, July 7

### Registration

7:30 a.m. – 11:00 a.m. Registration materials available

### Conference Introduction and Opening Ceremony

9:15 a.m. – 9:45 a.m. Jim Schlender  
Prayer and Ceremonial Drum

### Keynote Addresses

9:45 a.m. – 10:15 a.m. T. Vennum • Traditional and Social Context of Ricing

10:15 a.m. – 10:45 a.m. F. Ackley • TBA

10:45 a.m. – 11:10 a.m. Morning Break Sponsored by Mille Lacs Chippewa Tribe

11:10 a.m. – 11:40 a.m. P. Lee • TBA

### Session I: Archeological Context

11:40 a.m. – 12:00 p.m. D. Mather • Archaeological Perspectives on Wild Rice

12:00 p.m. – 12:20 p.m. S. Valppu • Wild Rice Dates in Archeological Context

### Lunch

12:30 p.m. – 1:45 p.m. Lunch sponsored by St. Croix Chippewa Tribe  
Food donated by Fond du Lac Band of Lake Superior Chippewa

### Session II: Research and Ecology

1:50 p.m. – 2:10 p.m. E. Oelke • Wild Rice Plant Development and Seed Physiology

2:10 p.m. – 2:30 p.m. J. Meeker • The Ecology of "Wild" Wildrice (*Zizania palustris* var. *palustris*) in the Kakagon Sloughs, a Riverine Wetland on Lake Superior

2:30 p.m. – 2:50 p.m. R. Pillsbury • The Sensitivity of Wild Rice (*Zizania aquatica*) to Metals and Rapid Changes in Water Depth

2:50 p.m. – 3:10 p.m. T. Dukerschein • Flooding Prior to the Growing Season: A Potentially Important Factor for the Growth of Wild Rice Stands in Pool 8, Upper Mississippi River (UMR)

### Afternoon Break

3:10 p.m. – 3:30 p.m.

### Session III: Genetics and Reproduction

3:30 p.m. – 3:50 p.m. R. Porter • A Genetic Overview of Wild Rice from Three Decades of Breeding

3:50 p.m. – 4:10 p.m. P. Imle • Molecular Genetics of Wild Rice

4:10 p.m. – 4:30 p.m. Q. Liu • Understanding of Reproductive Process in Wild Rice

4:30 p.m. – 4:50 p.m. D. Waller • Genetic Variation Among Populations of Wild Rice (*Zizania aquatica*) in Northern Wisconsin

### Evening Social

5:30 p.m. – 8:00 p.m. Sponsored by Lac du Flambeau Chippewa Tribe  
Presentation by Chairman T. Maulson and Visitation with poster display presenters

## Thursday, July 8

### Registration

7:30 a.m. – 9:00 a.m. Registration materials available

### Opening Remarks

8:30 a.m. – 8:40 a.m.

## Thursday, July 8 continued

### Session IV: Management Approaches and Tools

8:40 a.m. – 9:00 a.m. R. Norrgard • Current Management of Wild Rice Habitat by the Minnesota Department of Natural Resources

9:00 a.m. – 9:20 a.m. D. Vogt • Wild Rice: The 1854 Authority's Approach for Enhancement and Protection

9:20 a.m. – 9:40 a.m. P. David • An overview of GLIFWC's Wild Rice Management Program

9:40 a.m. – 10:00 a.m. L. Schwarzkopf • Rice Portage Wild Rice and Wetland Restoration Project

### Morning Break

10:00 a.m. – 10:20 a.m. Sponsored by Sokaogon Band of Chippewa

### Session IV Continued: Management Approaches and Tools

10:25 a.m. – 10:45 a.m. S. Mushkoob • The Rice Lake Ricing Committee: 300 Years on the Rice Lake National Wildlife Refuge

10:45 a.m. – 11:05 a.m. R. Dixon • Mapping and Monitoring Wild Rice in Manitoba with RADARSAT

11:05 a.m. – 11:25 a.m. R. Norrgard • Distribution of Wild Rice in Minnesota

11:25 a.m. – 11:45 a.m. R. Doyle • Assessment of Reintroduction Potential of Texas Wildrice (*Zizania texana*) into the San Marcos River

### Lunch

12:00 p.m. – 1:15 p.m. Lunch provided  
Food donated by Fond du Lac Band of Lake Superior Chippewa

### Session V: Conflict and Concern

1:20 p.m. – 1:40 p.m. F. Koshere • Riparian Use Conflicts and Management Associated with Natural and Introduced Stands of Wild Rice: Case Examples in Northern Wisconsin

1:40 p.m. – 2:00 p.m. E. Watson • The Potential Effects of Wild Rice (*Zizania Palustris* L.) Introductions on Fish in Kisseynew Lake, Manitoba

2:00 p.m. – 2:20 p.m. T. Tynan • The Impacts of Motorboats to Wild Rice: A MultiDisciplinary Investigation

2:20 – 2:40 p.m. J. Bennett • Heavy Metals in Wild Rice from North Central Wisconsin

### Conference Wrap-up

2:40 p.m. – 3:00 p.m. Ann McCammon Soltis and Peter David

### Optional Field Trip

3:30 p.m. – 5:30 p.m. Tour Fond du Lac Wild Rice Lakes and Water Control Structures

## Poster Presentations

S. Breslin • The History of Conservation and Monitoring of Texas Wild Rice  
C. Castle • Effects of Copper Metal on *Zizania aquatica*, Wild Rice Seedlings, from Mole Lake, Wisconsin

T. Dukerschein • Distribution of Wild Rice (*Zizania aquatica* L.) Before and After the Flood of 1993 in Backwaters of Navigation Pool 8, Upper Mississippi River (UMR) 1975, 1989, 1991-1998

D. Grinstead • A Comprehensive Minnesota Wild Rice Prototype

Minnesota DNR • Distribution of Wild Rice in Minnesota  
B. Nelson • Update of Minnesota Cultivated Wild Rice Council: Efforts and Opportunities for Collaboration [tentative]

## Registration and Hotel Accommodations

\$35.00 registration fee (fee includes all conference sessions, materials, lunches, and conference proceedings). Fees can be paid at the conference or mailed to us at the address below.

To pre-register send us your name, organization/title, mailing address (including city, state and zip), phone number and email address. Email lisad@win.bright.net; call (715) 682-6619; fax (715) 682-9294 or mail registration to: Wild Rice Conference, P.O. Box 9, Odanah, WI 54861. All lodging arrangements must be made directly to the Black Bear Casino and Hotel at (218) 878-7400 or (800) 553-0022.

## For more information

Visit the conference website at : [www.glifwc.org](http://www.glifwc.org)



# Joint effort produced walleye fingerlings for Kentuck Lake stocking effort

By Sue Erickson  
Staff Writer

Odanah, Wis.—Approximately 75,000 walleye fingerlings are scheduled to be stocked into Kentuck Lake, Vilas County on Wednesday, June 16th. Those will be the first to go in. Mid-July a second lot of fingerlings being reared at the Lac du Flambeau Tribal Fish Hatchery will be transported to their new home in Kentuck Lake.

The stocking resulted from a cooperative effort between the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), the Wisconsin Department

of Natural Resources (WDNR), the U.S. Fish and Wildlife Service (USFWS), and the Lac du Flambeau, Mole Lake, and Red Cliff tribal fish hatcheries.

The Kentuck Lake stocking effort responds to the lack of natural walleye reproduction noticed by GLIFWC electrofishing assessments in the early 1990s. The decline of significant year classes as well as a decline in the adult male fish alerted biologists to a problem with the walleye population in Kentuck Lake, says Glenn Miller, GLIFWC inland fisheries biologist.

The Sokaogon Chippewa (Mole Lake), a GLIFWC member band, urged GLIFWC to pursue a remedial action

which resulted in a series of meetings with the WDNR and ultimately the stocking initiative.

Eggs were collected from Kentuck Lake females and fertilized with milt from Butternut Lake, Forest County and taken to the Red Cliff and Mole Lake tribal hatcheries.

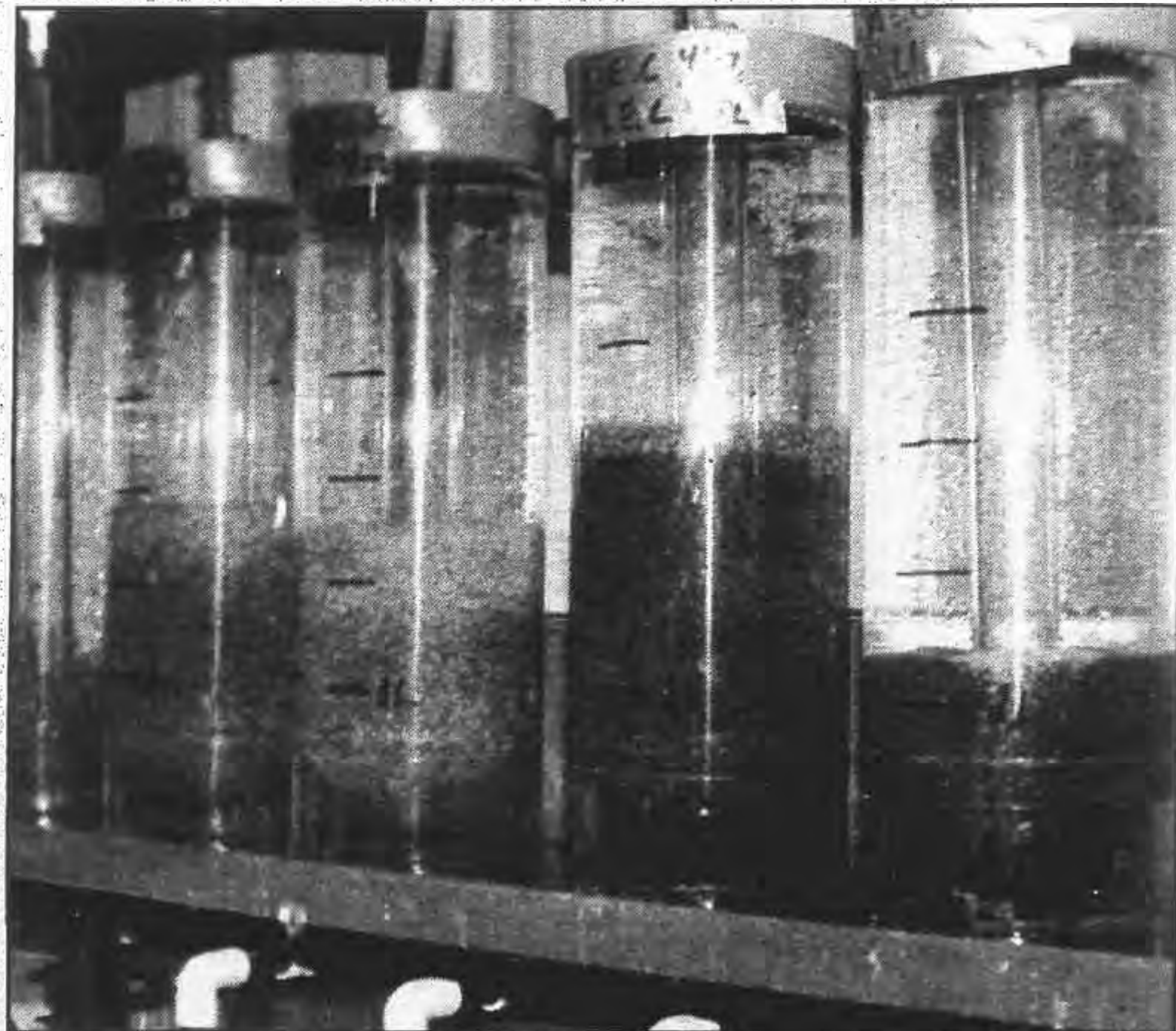
Once the eggs eyed, a number of them were transported from Red Cliff to the federal fish hatchery in Genoa, Wis. for hatching and fingerling pro-

duction. Others were hatched at Red Cliff and Mole Lake, marked with oxytetracycline and moved to the Lac du Flambeau Tribal Hatchery for fingerling production.

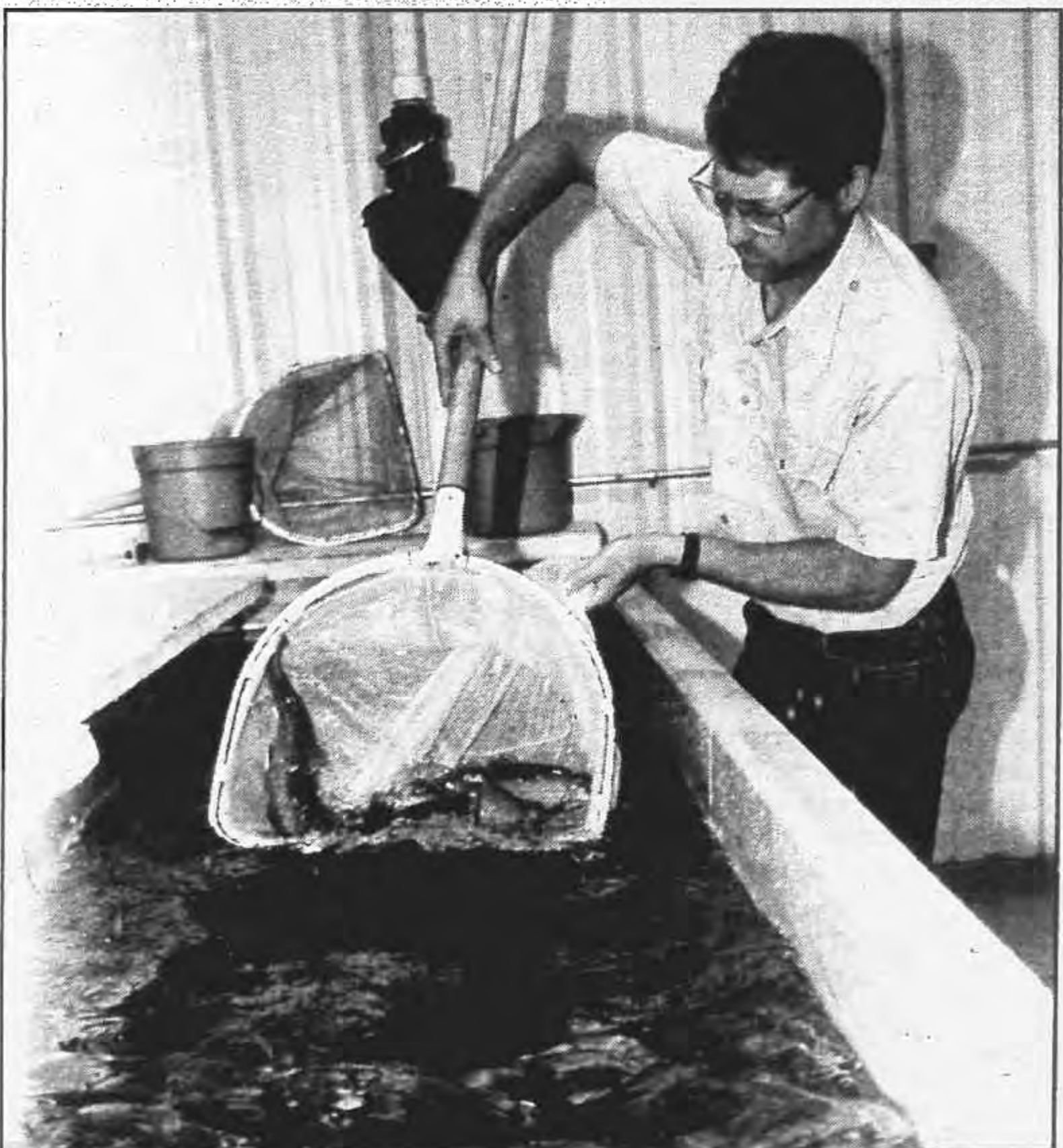
On June 16th fingerlings from the federal hatchery in Genoa, also marked with oxytetracycline, will be stocked into Kentuck Lake. Those remaining in the Lac du Flambeau Tribal Hatchery rearing ponds will be stocked after the first week of July, Miller says.



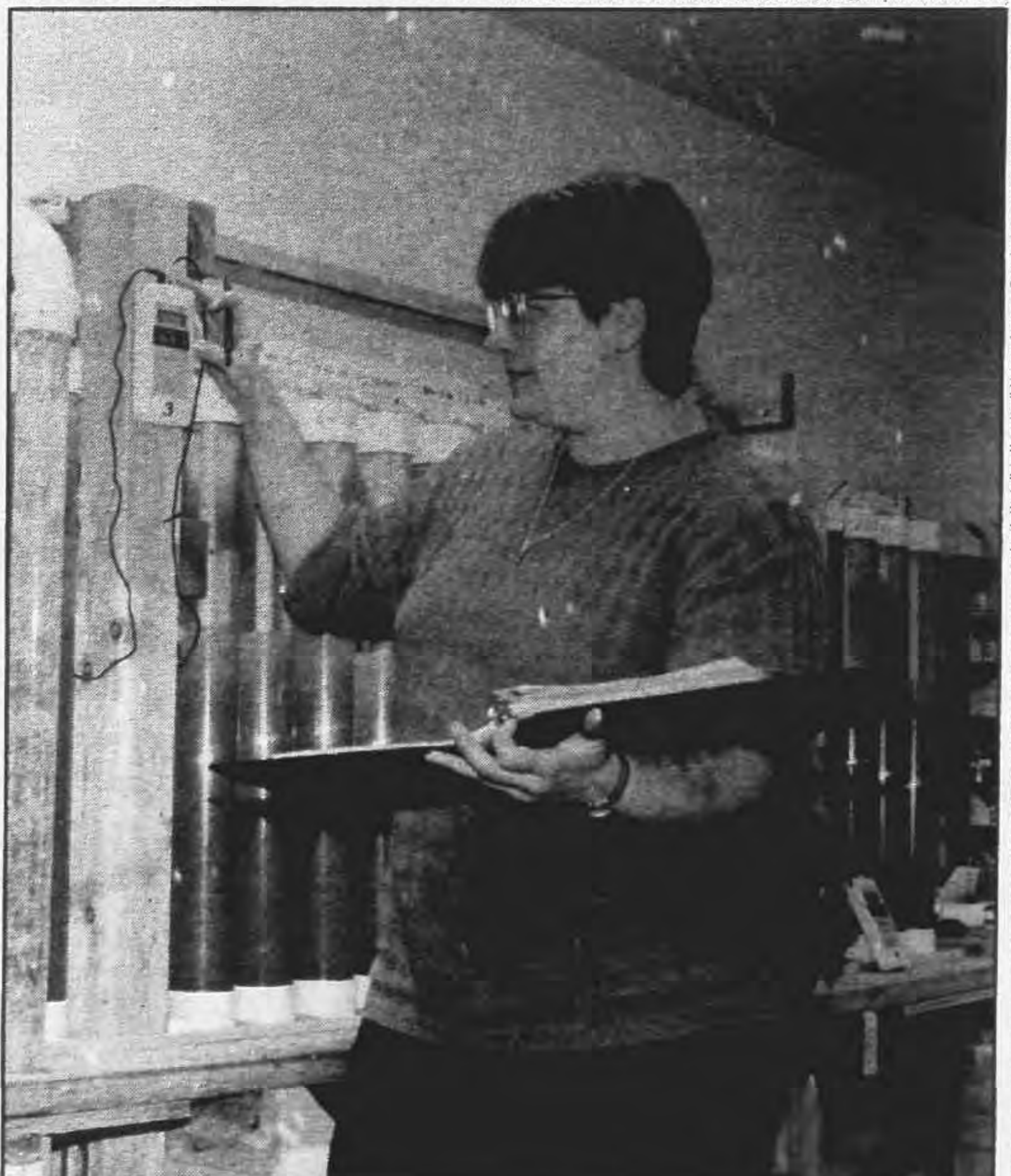
Hatching and rearing walleye for eventual stocking in Kentuck Lake, Vilas County has been a cooperative effort between tribal, state and federal agencies. Preparing to transport hatched fry from the Mole Lake Tribal Hatchery to the federal fish hatchery in Genoa, Wisconsin for rearing are Don Erickson, Mole Lake hatchery operator and Frank Stone, fisheries biologist/assistant program director, U.S. Fish & Wildlife Service, Ashland, Wis. (photo by Glenn Miller)



Incubating walleye eggs are watched carefully at the Red Cliff Tribal hatchery. The eggs were collected and fertilized as part of the Kentuck Lake stocking project. Part of the hatched walleye will be reared to fingerling size at the federal fish hatchery in Genoa, Wisconsin and the remainder will be reared at the Lac du Flambeau Tribal Hatchery. (photo by Sue Erickson)



Red Cliff Tribal Hatchery Manager Greg Fisher scoops coaster brook trout up from one of the hatchery's many raceways. One focus of the Red Cliff hatchery is rearing and stocking the coaster brook trout. The hatchery has developed its own brood stock from the Lake Nipigon strain of coasters. Reared fish have been transported to Michigan, Minnesota, Arizona and parts of Wisconsin. (photo by Sue Erickson)



St. Croix fisheries biologist Beth Greiff monitors the progress of walleye eggs at the tribal hatchery in Hertel. St. Croix has been raising fish since 1987. (photo by CO Rasmussen)





Green Bay Packers wide receiver Bill Schroeder (right) and his wife Rochelle (center) joined tribal, state, and federal fisheries managers for the annual "Partners in Fishing" event on the Chippewa Flowage. The informal gathering takes place on a different reservation each year, bringing together members of the Joint Assessment Steering Committee, a Wisconsin fisheries advisory group formed in 1990. (photo by CO Rasmussen)



Maybe you should stick to spearing, Mic! Mic Isham, Lac Courte Oreilles, didn't catch the smallest walleye at the annual "Partners in Fishing" event, but this one came close. It seems that "local knowledge" wasn't much of an advantage for Mic in fishing the Chippewa Flowage. All participants met at Herman's Landing, now owned by the Lac Courte Oreilles Band. From there they departed with fishing guides out onto the expansive flowage for a day of angling. Despite slightly inclement weather, participants in the annual event had a good time, with angling success variable. (photo by CO Rasmussen)

## Satz honored at naming ceremony, accepts new post at UW-Eau Claire

By Charlie Otto Rasmussen, Writer/Photographer

Eau Claire, Wis.—Springtime, or Ziigwan, is a time of renewal in the natural world. For the distinguished Ojibwe treaty rights scholar Ronald Satz, spring ushered in important changes as well.

During the month of April, Satz accepted the position of provost and vice chancellor at the University of Wisconsin-Eau Claire (UWEC) and was honored as Wasbishka Ogitchida—the White Warrior—in a naming ceremony conducted by Lac Courte Oreilles elder John Anderson.

"I was deeply honored by the comments made about my work on behalf of the reserved treaty rights of the Lake Superior Ojibwe people," Satz said.

As provost and vice-chancellor of academic affairs, Satz supervises UWEC's Colleges and Schools, which are comprised of 32 academic departments. In addition to a host of other administrative duties at the university, Satz is director of the Wisconsin Indian History, Culture, and Tribal Sovereignty Research Project.

Satz's landmark book, *Chippewa Treaty Rights: The Reserved Rights of Wisconsin's Chippewa Indians in Historical Perspective* (1991), was submitted to the U.S. Supreme Court last fall as evidence in the *Mille Lacs v. Minnesota* case. In a 5-4 decision, the high court affirmed Ojibwe treaty rights in the 1837 Minnesota ceded territory.

"The recent Supreme Court ruling upholding Ojibwe treaty rights is a great and long-overdue victory for the Ojibwe people," Satz said.

Soon after moving from Tennessee to Wisconsin in 1983 to serve as UW-Eau Claire's dean of Graduate Studies and University research, Satz was asked to join the Ad Hoc Commission on Racism of Lac Courte Oreilles Ojibwa Community College.

"That experience opened my eyes and led me to undertake extensive research in the history of Ojibwe treaties," Satz said.



Dr. Ronald Satz



Keweenaw Bay Biological Services Director Mike Donofrio (center) accepts a certificate of merit from Jim Somerville, Ottawa National Forest staff officer. Along with Robert Evans, wildlife biologist for the Ottawa (right), Donofrio worked on a Federal Energy Regulatory Commission (FERC) team to negotiate a watershed restoration project on the Ontonagon River in Upper Michigan. The FERC team negotiated with Upper Peninsula Power Company over a span of three years regarding the relicensing of the Bond Falls Hydroelectric Project on the Ottawa National Forest. (photo by CO Rasmussen)



# Sandy Lake, Minnesota

## Remembering a dark chapter in Ojibwe history

**McGregor, Minn.**—The tragedy is known by scholars as the "Wisconsin Death March." Charged with implementing President Zachary Taylor's Removal Order of 1850, government officials from the Office of Indian Affairs ordered Ojibwe Indians from Wisconsin and Upper Michigan to Sandy Lake, Minnesota in late autumn to collect their annuity payments. Intent on trapping the Ojibwe over the winter of 1850-1851, these officials hoped that the bands would ultimately abandon their home country and take up residence west of the Mississippi River, thus effecting removal from Wisconsin ceded territories.

Ultimately the scheme failed and caused immense suffering to the nearly 4,000 Indians that made the arduous journey. In the end, at least 400 Ojibwe were dead from disease, starvation, and exposure.

Seven generations later, on March 31, 1999, the ancestors of those fallen Ojibwe gathered at Sandy Lake to participate in a ceremony of closure. Ojibways of Onigaming spiritual leader Tobasonakwut Kinew conducted the ceremony on a small parcel of high ground overlooking the lake.

Representatives from Wisconsin, Minnesota, and Michigan Ojibwe bands were in attendance and received spirit sticks to be housed in their respective tribal centers to commemorate the sacrifice of those lost in 1850.

As the ceremony neared fulfillment, everyone danced, laughter drifted through the trees, over the resting places, and to the sky. Kinew said that the Ojibwe ancestors would hear these cheerful voices and find comfort.

The day ended with a feast at the Mille Lacs reservation where people dined on venison, northern pike, vegetables, and fry bread.

Based on historical records, scholarly publications, and personal interview, the following narrative explains how events unfolded more than 148 years ago.

### Introduction: 1850

Encouraged by Governor Ramsey, Minnesota territorial legislators and the Office of Indian Affairs, President Zachary Taylor issued an order in February 1850 calling for removal of Upper Michigan and Wisconsin Ojibwe to Minnesota. This ill-conceived executive order was in clear contradiction to the 1837 Treaty and was resisted by Ojibwe bands east of the Mississippi River.

Along with several other government officials, Alexander Ramsey, Territorial Governor and Superintendent of Indian Affairs in Minnesota, and Indian Subagent John Watrous devised a plan that would effect the removal, create personal wealth, and bring economic benefits to the Minnesota territory. By moving annuity payments from La Pointe to Sandy Lake, they planned on withholding payments until winter set in, freezing over canoe routes back east. Trapped far from home, the Indians would be forced to stay through winter and, ideally, continue to live in Minnesota close to the annuity distribution site.

Until the 1850 Sandy Lake disaster, annuity payments from the United States to Ojibwe signatories of the 1837 and 1842 Treaties were made at the village of La Pointe on Madeline Island, a site geographically centralized in Ojibwe country. It was at La Pointe where band members received annual payments of cash, food, and provisions in exchange for land the United States purchased.

Whether or not the federal government had the legal right to relocate the annuity disbursement site, Ramsey and Watrous were highly motivated by greed and instituted the move to Sandy Lake for reasons unrelated to legitimate public policy concerns.



*Playing an eagle bone whistle, Fred Ackley, Mole Lake, and the Little Otter Drummers from Mille Lacs contributed songs to the ceremony.*

Annuity payments were a business in which only a few profited—but not the Indians. A system of patronage developed between people like Ramsey who administered the annuities and the traders who provided the goods. Cash often moved from Ojibwe recipients directly to traders to repay credit debts. And traders were, of course, grateful to officials who designated them as suppliers to the bands. (See *Bitter experience*, page 17)

**As the ceremony neared fulfillment, everyone danced, laughter drifted through the trees, over the resting places, and to the sky. Kinew said that the Ojibwe ancestors would hear these cheerful voices and find comfort.**



*Tobasonakwut Kinew and Neil Kmiecik attach an eagle feather to a tree at Sandy Lake in memory of those lost in 1850.*



*Red Cliff firekeeper Leo LaFernier prepares the ceremonial fire.*

*Article and photos by:*  
**Charlie Otto Rasmussen, Writer/Photographer**



# Bitter experience at Sandy Lake made Wisconsin Ojibwe vow never to return

(Continued from page 16)  
**Sandy Lake**

One hundred forty-eight years ago, food and subsistence resources were in short supply around Sandy Lake. Wild game was scarce, no agriculture had been developed, fishing was poor, and unusually high water wiped out the wild rice crop. Here, Watrous and Ramsey maneuvered to bring thousands of Ojibwe to wait and, for many, to die.

In early October, Wisconsin and Upper Michigan Ojibwe bands learned that the annuity distribution site had been moved from La Pointe to Sandy Lake. Individuals were required to come in person to collect payment on October 25th.

With the lean winter months fast approaching, families had little time to consider the change in venue. Faced with a 450-mile-plus canoe trip late in the season, only a few individuals from Michigan communities agreed to go. The Wisconsin bands faced a range of 220-285 canoe miles to Sandy Lake and sent representatives—mostly men—from each band. Minnesota bands entitled to annuities lived a relatively short distance from Sandy Lake, prompting whole families to make the journey.

Time was of the essence, and people traveled lightly, forfeiting adequate supplies for ease and speed of travel. Some left behind rolled birchbark and materials used to construct temporary wigwams, and many even left behind firearms to lighten the load for the return trip carrying goods from Sandy Lake.

By mid-October, the Lake Superior Ojibwe began arriving at Sandy Lake only to learn that Agent Watrous had left the area. When the date for payment came,

some three thousand Indians waited, but Watrous was still gone, leaving no one with authorization to distribute the goods.

Ill equipped, without food, and confined in a water-logged area, the health of the assembled Ojibwe quickly deteriorated as infectious disease spread.

Methodist Episcopal missionary John Pitezel described the grim situation:

Disease had been making terrible ravages among them. It assumed a form of dysentery; some thought it to be a modification of cholera. Simultaneously the measles was prevailing.

Frequently seven or eight died in a day. So alarming was the mortality that the Indians complained that they could not bury their dead. All over the cleared land graves were to be seen in every direction, for miles distant, from Sandy Lake.

Eager to capitalize on the Ojibwe's misfortune, merchants sold them food which had spoiled on credit at highly inflated prices in exchange for their annuity payments.

As winter settled in, people began burning their canoes for firewood. Faced with disease and horrible living conditions, local Minnesota bands likely returned home before Watrous arrived and collected double annuities the following year. Weak, under-equipped, and without food, the eastern bands would have to wait.

Near the end of November, after the bands had been waiting six weeks, Watrous finally arrived and distributed the annuities on December 2nd. The

Ojibwe were left with a scant, three-day supply of food. With over a foot of snow on the ground and waterways frozen over, the Wisconsin bands broke camp on December 3, following the path to the east. People too sick to travel stayed behind along with a few strong band members that cared for them.

Prior to departing from Sandy Lake, the Ojibwe had lost about 170 people. A Mille Lacs elder related a scene as it was told to him: when spring came and the snow melted away, there were so many bodies wrapped in birch bark on the west side of the lake that it looked like snow was still piled on the bank. On the bitter trail back through Wisconsin another 230 Ojibwe people died. Survivors vowed they would never return to Sandy Lake and made it clear that they would not accept removal to Minnesota.

## Conclusion

When the public learned about the Sandy Lake debacle, newspapers, missionary groups, local citizens, and state legislators voiced support for the Indians and lobbied to keep them in Wisconsin.

Chief Buffalo of La Pointe championed Ojibwe efforts against removal and in his early nineties traveled by canoe and train to Washington, D.C. to push for establishment of tribal land in Wisconsin. Through an 1854 treaty with the United States, permanent reservations were created for many of the Ojibwe bands whose members suffered the Sandy Lake ordeal. The 1854 Treaty marked the end of federal efforts to remove the Ojibwe from Wisconsin and Michigan.

On December 2, 1998, exactly one hundred forty-eight years after the Ojibwe finally received their annuity payment at Sandy Lake, their descendants stood before the U.S. Supreme Court, arguing once again for their treaty rights.



After the ceremony a chain of spirit sticks was released into the Sandy River. People whispered prayers for the Death March victims and placed tobacco into the water.



Women prepare fruit for use during the ceremony at Sandy Lake.



People gathered in a large circle on a glacial mound overlooking Sandy Lake where American Indians and European settlers are buried.



# Native American bones are sent home

Harold S. Riter, *Ontonagon Herald*

**Ontonagon, Mich.**—In 1953, Ralph Leiviska, then a teenager, was digging a post hole to put up a bird house in the back yard of the family home on Michigan Avenue. The boy's shovel struck something about a foot beneath the surface. Upon investigation, a piece of human skull was extracted from the hole.

The Sheriff's Department was called, responded, and a number of human bones were taken from the site, placed in a bag, and taken to the state crime lab. Evidently, the lab, at that time wasn't interested in delving into the matter too deeply, because the bones were returned to Ontonagon County with a note suggesting that they were the remains of a 15-year old girl, probably a Native American.



Keweenaw Bay burial grounds. (photo by Sue Erickson)

The bag containing the bones was then passed on to the Ontonagon Historical Society and Judge Charlie Willman, then the curator, stashed the bones in a trunk upstairs of the old museum.

The bones were brought to the attention of some other of the Society members a few years later, and shortly before the museum was moved to its new location, Dr. Patrick Martin, U.P. Archeologist at Michigan Technological University, was given custody of the bones for analysis.

The bones were shipped downstate to Michigan State University, Department of Anthropology, and then misplaced! For four years the whereabouts of these human remains were unknown. Two years ago, Dr. Martin called and informed the Society that the bones had been relocated, a brief analysis made, and that they would be returned, along with the findings, to the Ontonagon County Historical Society Museum.

It would seem that, given attention to detail, the bones were found to NOT be simply the remains of a 15-year-old Indian girl. In fact, it was determined that the grave had actually contained the remains of four different people which had been disturbed by Ralph Leiviska's shovel over 40 years before.

The bones would appear to be that of several members of the same family, or clan, that were buried together in a single grave. This type of burial is known as a Oshawary, and if this is the case, the Ontonagon burial site is the only known Oshawary that has been found this far east of Sault Ste. Marie.

Long concerned about possessing these Native American remains, the Ontonagon County Historical Society contacted the Keweenaw Bay Indian Community (KBIC) regarding the proper handling of these remains, which are, in all likelihood, of Ojibway origin. The KBIC agreed to assume responsibility for the remains.

Native craftspeople from the KBIC constructed four cedar caskets. On Thursday afternoon, May 20, the four cedar caskets were brought to the Museum by Stan and Pauline Spruce. The bones had been sorted, in so far as possible without scientific readings of the DNA, and were placed in the cedar caskets. The bones were then turned over to the tribal representatives for proper handling.

Ozahwahanakwad presided at the actual interment which took place on Saturday, May 22, near Sand Pointe on the Keweenaw Bay reservation. The burial took place accompanied with the traditional observances of the Ojibway Nation. Now, possibly 170-200 years after being interred on a hill in what is now the Village of Ontonagon, the bones of these Native People who once walked the forests of the area, picked berries, built their simple homes by the great river which is now called the Ontonagon, and lived out their lives next to nature, will lie with those of their own people again.

(Reprinted with permission from *Ontonagon Herald*.)

## Harvesting manoomin

(Continued from page 12)

### Parching and threshing

In some camps the parching and threshing of the rice was done in the late afternoon and evening, and those who gathered the rice assisted in this portion of the work, but in a large camp this part of the process was carried on simultaneously with the gathering, those who remained in the camp parching and threshing while the rest were gathering.

When the canoes arrived the loads of rice were carried to the camp and spread on sheets of birch bark. These had been placed where the sun would shine upon them, but not with such directness as to heat the rice, which was frequently stirred so it would be evenly dried. This was important, as at the season of rice gathering the nights are frequently cold with very hot sun in the middle of the day.

About 24 hours was usually allowed for this preliminary drying, after which the rice was either parched in a kettle or dried over a slow fire. The first was the more common process, the rice being placed in a large kettle, or a metal tub, which was propped in a slanting position over the fire so that a woman seated beside it could stir the rice with a paddle. The fire was carefully regulated and considerable skill was required to parch the rice without burning it.

The quantity parched at a time was usually about a peck, and the required time about an hour. This parching loosened the husk and also imparted a flavor to the rice. The stirring paddle was slender and different in shape from that used with a canoe. The second is undoubtedly the oldest process, and produced what was known as "hard rice." This was greenish black in color, much darker than parched rice and requiring

longer to cook. This rice could be kept indefinitely, and could be used for seed. In preparing "hard rice," a frame was made similar to that on which berries were dried. It was covered by a layer of hay on which the rice, either on stalks or in the husk, was spread to a depth of about 3 inches. A slow fire was kept burning beneath the frame. In this manner the rice was dried as vegetables or berries are dried.

### Pounding the rice

The next process was the "pounding" of the rice. For this process the rice is frequently put into a barrel, but the best container for the purpose is a wooden mortar with sloping sides. This was about the size of an ordinary barrel, and was made by the Indians and kept for this purpose. With this were used wooden pestles somewhat pointed at the end.

In pounding the rice these moved up and down near the edge of the mortar, the pointed ends being adapted for this purpose. It is said these disturbed the kernels with the least breaking of the kernels. Another form of a pestle was blunt at the end, nearly resembling a mallet.

Both varieties were about 5 1/2 feet long and in the correct pounding of the rice they were not heavily forced downward but allowed to drop of their own weight. This process was supposed to loosen the husk entirely without breaking the kernel. If the work was done carefully, the rice kernel was entirely freed from the husk.

### Winnowing

The rice was then winnowed, either by tossing it in a tray or by pouring it slowly from a tray to birch bark put on the ground. The place chosen for this

work was a place where the breeze would assist the process by blowing away the chaff.

### Treading the rice

The final step in the process was the treading of the rice to dislodge the last fragments of the husk. For this purpose a small wooden receptacle, holding about a bushel, was partially sunk in the ground, and on either side of it was placed a stout pole, one end of which was fastened to a tree about 4 feet above the ground, the other end resting on the ground.

The treading was done by a man wearing clean moccasins, and the poles were for him to rest his arms upon during the process.

The sole of the foot was peculiarly adapted to this work, as the husks having been removed, the kernels would have been easily broken by wooden instruments. In treading rice the action resembles that of dancing, the entire body being in action, with the weight not heavily placed on the feet.

Leaning on the poles, straightening to full height, or moving his body with undulating, sinuous grace, the treader accomplished his part of the task. It is said that in old times a hole was dug in the ground and lined with deerskin, the rice being placed in this instead of a barrel.

The chaff from this treading was usually kept and cooked similarly to the rice, having much the flavor of the rice, and being considered somewhat of a delicacy.

### Storing the rice

The stored rice was sewn in bags of various sizes, which were somewhat similar in use to the makuks in which

maple sugar was stored. On top of the rice was laid straw, and the bags, like the makuks, were sewed across the top with basswood twine.

While rice making was an industry essential to the food supply, it had, like the sugar camp, a pleasant social phase, which was appreciated by old and young. Thus the writer in driving through the rice country late one afternoon came upon a camp of three or four tipis. The rice gatherers had returned from the fields, and the men were sitting on rush mats and smoking while the younger women stirred two parching kettles and an older woman tossed a winnowing tray.

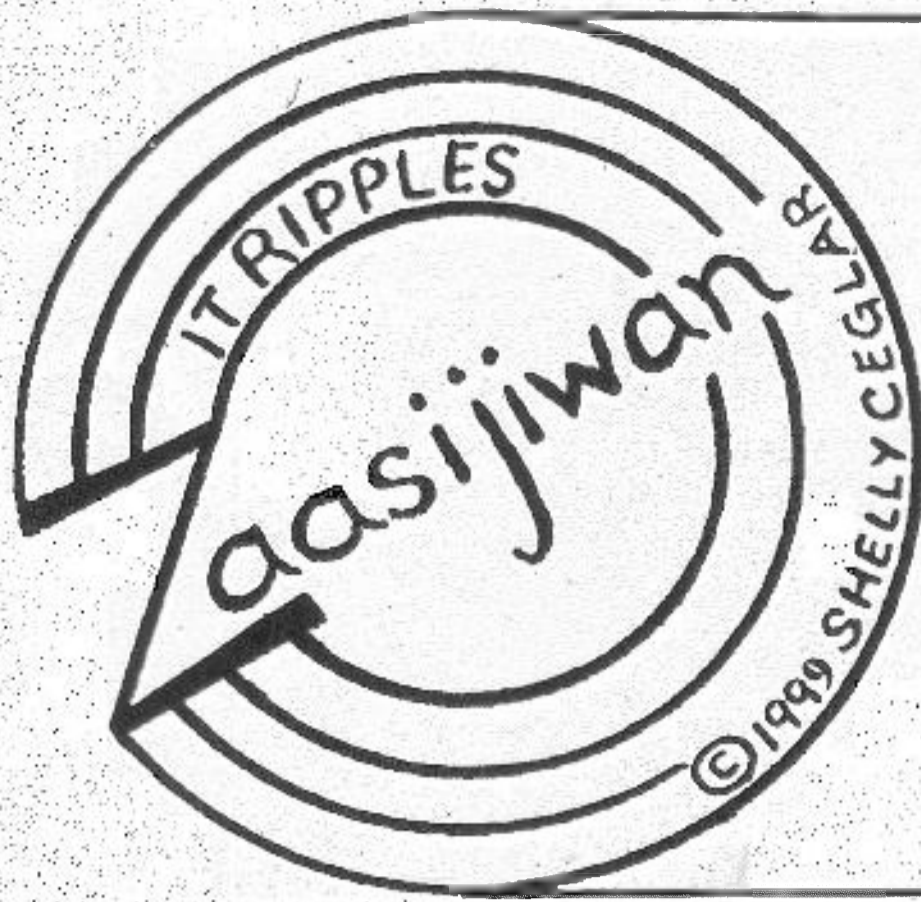
At a fire one woman was preparing the evening meal and at a distance another was seen chopping wood. Dogs and little children were running about, and the scene with its background of pines and shining lake was one of pleasure and activity.

An important part of the camp was its provisioning. Indians did not carry many supplies with them, and it is probable that in the old days many carried no provisions to a rice camp except maple sugar, which was used for seasoning all foods. At night the women set their fish nets and in the morning they drew them in, thus securing fish, some of which they dried.

In one of the camps visited by the writer the top branches of a young Norway pine had been broken, and it was said that fish had been dried on these branches, the splinters forming a convenient frame.

If ducks were available the hunters went out in the morning, and occasionally a deer was secured for the camp. The principal food, however, was the fresh rice, which was eaten either parched or boiled." □





# Niibin — It is Summer

Niibing, abaate. Noongom, gaawiin abaatesinoon. Zoogipon ina?  
 Gaawiin zoogiponzinoon agwajiing. Noodin ina?  
 Zaaga'iganing gaawiin noodinzinoon. Waabishkaanakwad.  
 Gaawiin miskwaanakwasinoon ishpiming.

(When it is summer, it is warming up. Today, now it is not warming up.  
 It is snowing? No, it is not snowing outside. Is it windy?  
 On the lake, no it is not windy. There are white clouds.  
 There are not red clouds in the sky.)

## Bezhiig—1

### OJIBWEMOWIN (Ojibwe Language)

Double vowel system of writing Ojibwemowin.

—Long vowels: AA, E, II, OO

Jibwaa — as in father

Zegizi — as in jay

Gaawijn — as in seen

Noodin — as in moon

—Short vowels: A, I, O

Wendad — as in about

[dash — as in tin

Onow — as in only

—A glottal stop is a voiceless nasal sound as in A'aw.

—Respectfully enlist an elder for help in pronunciation and dialect differences.

### VII's —Negation Verb/Inanimate/Intransitive

Call them the **it is** Verbs. First learn the root action word/verb. The action doesn't transfer to an object (intransitive). Simple negation—say no—Gaawiin and suffix -sinoon (drop the d), or zinoon (after n) on the verb.

Gimiwan — It is raining.  
 Gaawiin gimiwanzinoon. — It is not raining.  
 Mino-giizhigad — It is a good day.  
 Gaawin mino-giizhigasizoon.

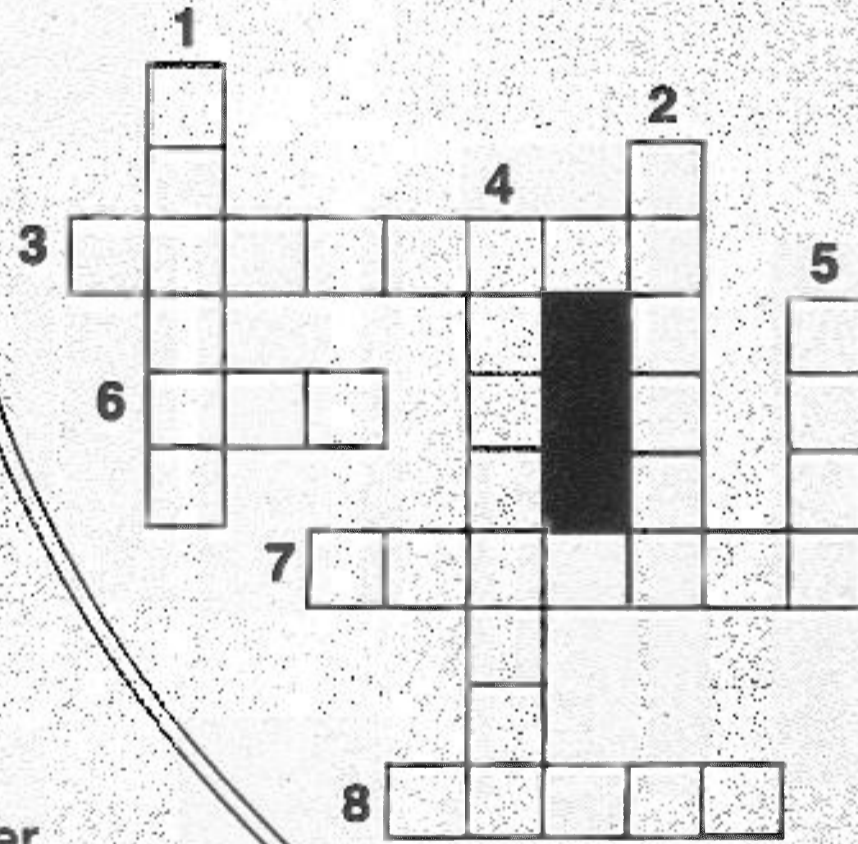
## Niizh—2

Circle the 10 underlined Ojibwe words in the letter maze. (translations below)

- A. Niminwendam niibing idash anwaatin.
- B. Gaawiin anwaatinzinoon gichi-izhiwebak.
- C. Ninzaagitoonan onow Ojibwewi-ikidowinan.
- D. Zegizi, inday, animikiikaag dibikak.
- E. Bijiinaago, gii-awan Noongom gaawiin awanzinoon.
- F. Awaanibiisaa. Gaawiin mizhakwasinoon.
- G. Naawakwe dash gizhaate.

N A N E  
 A D Z I B C  
 A N F E I G I  
 W K W J G B H Z  
 A G A A W I I N A  
 K L C H A M Z N Y N  
 W Q S B P T O I G X W  
 E A W A N Z I N O O N  
 D R T D N O O N G O M U  
 S I K I D O W I N A N V  
 A A W A N I B I I S A A

## Niswi—3



### IKIDOWIN ODAMINOWIN (word play)

Down:

- 1. It is summer.
- 2. S/he is scared.
- 4. It is calm weather.
- 5. It is foggy.

Across:

- 3. It is hot weather.
- 6. Question marker
- 7. No
- 8. My dog.

## Niwin—4

### Negating VII's

Gizhaate — It is hot weather.  
 Gichi-noodin — It is very windy.  
 Zanagad — It is difficult.  
 Wendad — It is easy.  
 Ishkwaa-naawakwe — It is afternoon.  
 Aabita-dibikad — It is mid-night.  
 Always voice no — GAAWIIN and add the suffix on the verb (VII)  
 Gaawiin gizhaatesinoon — It is not hot.  
 Gaawiin aabita-dibikasinoon — It is not midnight.

**Goojitoon! Try it!**  
**Translation below.**

- 1. Gaawiin zanaga \_\_\_\_\_.
- 2. Noongom \_\_\_\_\_ aabita-dibikasinoon.
- 3. Niibing gaawiin zoogipon \_\_\_\_\_.
- 4. Gaawiin gichi-\_\_\_\_\_ zinoon.
- 5. \_\_\_\_\_ ishkwaanaawakwesinoon. Jibwaa-naawakwe.

**Gaawiin  
Gaawiin  
noodin  
zinoon  
sinoon**

### Translations:

**Niizh—2** A. I am glad when it is summer and it is calm weather. B. No it is not calm when it is stormy (large weather condition). C. I love them these Ojibwe words. D. She is scared, my dog, when it thunders at night. E. Yesterday it was foggy. Today it is not foggy. F. It is a misty rain. It is not a clear sky. G. It is noon and it is hot weather.

**Niswi—3** Down: 1. Niibin 2. Zegizi 4. Anwaatin 5. Awan Across: 3. Gizhaate 6. Ina 7. Gaawiin 8. Inday

**Niwin—4** 1. It is not difficult. 2. Now it is not mid-night. 3. When it is summer it is not snowing. 4. No it is not very windy. 5. It is not afternoon. It is before-noon.

There are various Ojibwe dialects, check for correct usage in your area. Note that the English translation will lose it's natural flow as in any foreign language translation.

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# Keeping the water in the Great Lakes

## Diversions and legal loopholes concern GLIFWC tribes

By Sue Erickson  
Staff Writer

Odanah, Wis.—The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) board members took action during their May 25th meeting in Odanah on the issue of water diversion from the Great Lakes. A motion by Fond du Lac Commissioner Cliff Rabideaux to update a resolution registering GLIFWC's opposition to the sale or diversion of water from the Great Lakes was passed unanimously.

A 1988 GLIFWC resolution opposing water diversion from the Great Lakes already puts GLIFWC on record against diversions. At issue at the time was a proposed diversion from Lake Michigan to replenish the Illinois waterway and the Mississippi River.

A growing demand for water both nationally and internationally makes the vast water resources of the Great

Lakes very attractive to entrepreneurs eager to supply a market demand for water. Consequently, the need to protect the water resource in the Great Lakes is serious.

The World Bank predicts that by 2025 over 3 billion people in 52 countries will suffer from water shortages, and global thirst doubles every 21 years, according to a May 8th Associated Press article.

The article quoted Tom Bell, U.S. Water News, a Kansas-based trade publication, as proposing water be sold like a farm commodity such as grain. If there's a good crop, the farmer sells; if there is a small crop, the farmer sells less.

A proposal from a Canadian company to ship Lake Superior water to Asia last year prompted the U.S. and Canadian governments to get recommendations on water diversion from the International Joint Commission (IJC), an international body charged

with addressing issues related to the waters that form the boundary between the U.S. and Canada. The IJC report is due in August 1999.

The IJC is studying the impact of water consumption, bulk export of water and water diversions along the common U.S./Canadian border in the Great Lakes.

To facilitate studying the issue, the IJC held a public hearing in Duluth this spring. GLIFWC Policy Analyst Ann McCammon-Soltis provided comments on behalf of GLIFWC.

Ambiguity in the U.S. law implementing the 1909 Boundary Waters Treaty is an issue raised by GLIFWC. McCammon-Soltis says that the law is being interpreted by some to refer to only surface water, not groundwater. Under the current law, diversion of "water...of the Great Lakes" is prohibited without the consent of all eight Great Lakes governors, but this may not refer to groundwater.

"Science and common sense tell us that groundwater and surface water are connected; therefore, diminishment of groundwater will result in the diminishment of surface water," McCammon-Soltis says.

She stresses that the IJC must confirm this fact in order to close any loopholes in U.S. law currently existing. "Prohibitions on surface water diversions are meaningless without corresponding prohibitions on groundwater diversions," she says.

GLIFWC also cites possible damage to a variety of resources traditionally harvested by the Ojibwe as reason to stop efforts to divert Great Lakes water. Lowered water levels could harm fish populations, spawning grounds, wild rice beds and waterfowl habitat. The potential impact is unknown and risky.

(Information taken from Associated Press article run in *The Daily Press*, Ashland, Wis., May 8, 1999.)

# Great salt Lake Superior?

## Global warming's impacts predicted

By Marie Zhuikov  
Seiche Staff

Duluth, Minn.—The minus-20-degree temperatures outdoors the night of his presentation did not stop Sea Grant researcher Tom Johnson from discussing the effects global warming may be having on Lake Superior.

Johnson, director of the Large Lakes Observatory, at the University of Minnesota Duluth, interpreted findings from the National Oceanic and Atmospheric Administration (NOAA) and several research papers during the '98-'99 winter.

"Clearly we had a very hot 1998, but was it just normal variability?" Johnson queried.

"There's been a general warming trend since the 1890s, in part due to natural causes. But in recent decades,

researchers attribute the warming to an increase in greenhouse gases due to human activities—mainly energy use," Johnson said.

Greenhouse gases include methane, chlorofluorocarbons, carbon dioxide, ozone, and nitrous oxide.

NOAA data shows that 1998 was the warmest year on record at 58.1 degrees F—1.2 degrees hotter than normal, and that the 1990s have been the warmest decade on record.

Scientists can account for this by looking at natural temperature records preserved in tree-rings, locked in the skeletons of tropical coral reefs, frozen in glaciers and ice caps, and buried in the sediments of lakes and oceans.

This type of climate data can extend scientists' understanding far beyond the 140-year instrumental record provided by thermometers and rain gauges.

### Recent impacts on Lake Superior

The recent warming increased Lake Superior temperatures this past summer, which delighted swimmers but changed the dynamics of the lake. The annual fall turnover was late. According to Elise Ralph, also of the Large Lakes observatory, Lake Superior hadn't turned over by the end of December, when it usually starts by October.

Turnover is a mixing of surface and bottom water that begins each year when surface water reaches a temperature of 4 degrees Centigrade. Water is most dense at this temperature, and it begins to sink. This drives a circulation pattern that brings oxygen to the lower depths of the lake and affects many ecosystem processes.

Other Great Lakes were affected by the unusual climate in 1998. Precipitation over the basin was below normal, leading the U.S. Army Corps of Engineers to predict significantly lower water levels for Lake Erie in 1999. Most of Lake Erie's water enters through the Detroit River from the upper Great Lakes.

Low levels are also predicted for Lake Superior. Current projections are that the water level this July will be about eight inches below average, which is about three inches below what it was in July 1998.

This is bad news for the shipping industry, since lower water levels prevent cargo ships from carrying as much. According to Davis Helberg, director of the Seaway Port Authority of Duluth, a one-inch decrease in draft means a 250-ton decrease in the cargo a ship can carry.

### Future impacts predicted

Imagine a saltwater Lake Superior ringed by oaks and maples. That could well be the case in the far future if

climate model predictions are correct. Johnson discussed four scenarios developed by NOAA researchers that predict the amount of carbon dioxide in the atmosphere will double within the next century, leading to a 3-4 degree Centigrade increase in the high temperature for western Lake Superior and a 4-5 degree Centigrade increase in the high temperature for eastern Lake Superior.

Precipitation could increase 10-20 percent in the northern part of the lake, and up to 10 percent around the rest of the lake. However, this would be offset by increased evaporation, which could reduce basin runoff by up to 20 percent.

Winter ice cover is likely to be limited to the shore and shallow areas of the lake. And there may be more winters with no ice cover in these areas. This lack of ice could lead to year-round navigation, a reduction in the range of some fish species that depend on cold water (such as whitefish), a reduction in winter recreational activities, and an increase in winter lake evaporation.

Vegetation change scenarios predict global warming could alter forest composition so that the shores of Lake Superior will feature more southern species of trees (oaks and maples) or even prairie—if these plants are able to adapt to the different soils and day lengths found in the northern climes.

A global warming fact sheet produced by Ohio Sea Grant says that such changes would occur slowly in human terms. The effects may not become noticeable until 2040, or possibly as late as 2090.

"In the meantime," according to the fact sheet, "the established trees in the forest canopy could appear the same, giving the illusion that all is well."

However, changes in precipitation patterns may affect the frequency with which adult plants flower and fruit, lessening the chance of offspring survival. (See *Global warming*, page 21)



Lake Superior is prized for its commercial, recreational and aesthetic opportunities. However, as the demand for water heightens, pressure to divert water from Lake Superior and the other Great Lakes is likely to increase. (photo by CO Rasmussen)



# Fishing for a healthy meal on Gichigami

By **Charlie Otto Rasmussen**  
Writer/Photographer

**Superior, Wis.**—In response to new U.S. Food and Drug Administration (FDA) guidelines, GLIFWC is spearheading a study designed to ensure the health of people who eat Lake Superior fish and assist tribal commercial fishermen in providing a safe product.

Four varieties of Lake Superior fish are being studied to determine the extent of chemical contamination in fillets eaten by consumers.

The project targets species important to the tribal commercial fishery:

whitefish, lake trout, herring, and siscowet trout.

Along with GLIFWC staff, En Chem, and specialists at the Lake Superior Research Institute (LSRI), located on the University of Wisconsin-Superior campus, test fish samples for contaminants like mercury, chlordane, DDT, and PCBs.

Red Cliff tribal member Joe Duffy serves as a consultant at the LSRI laboratory.

A professional fisherman for more than 20 years, Duffy processes whole fish samples into commercial grade fillets. He slices away belly fat and skin from the fillet, enabling researchers to pinpoint where fish retain the most con-

taminants and how much.

To achieve an accurate chemical analysis, skin and fat samples are frozen in liquid nitrogen and ground into small bits. Fillets are ground down as well.

Each sample is then liquefied, allowing lab technicians to separate chemicals from fish tissue and measure contaminant levels.

Additional fillet samples are smoked, ground and tested.

"It's really amazing how much work is involved to remove the chemicals," Duffy said. "It makes you realize how important the work is."

Project manager Kory Groetsch said that the data collected will help

establish tribal fish processing guidelines to reduce chemical contaminants.

"Most Lake Superior fish contaminant data is collected by and for state fish consumption advisories which is a different purpose than the FDA's regulation of the sale of fish," said Groetsch, GLIFWC environmental biologist. "The fish advisory data may not necessarily consider commercial processing techniques such as trimming and smoking that reduce some fish contaminant levels."

Groetsch added that the commercial harvest of siscowet trout, which have elevated levels of chlordane, is restricted by states to fish under 18 inches in Michigan waters of Lake Superior and 20 inches in the Wisconsin portion of lake.

Chlordane levels in siscowet may potentially be reduced, however, by smoking and trimming fat, making larger safer to eat.

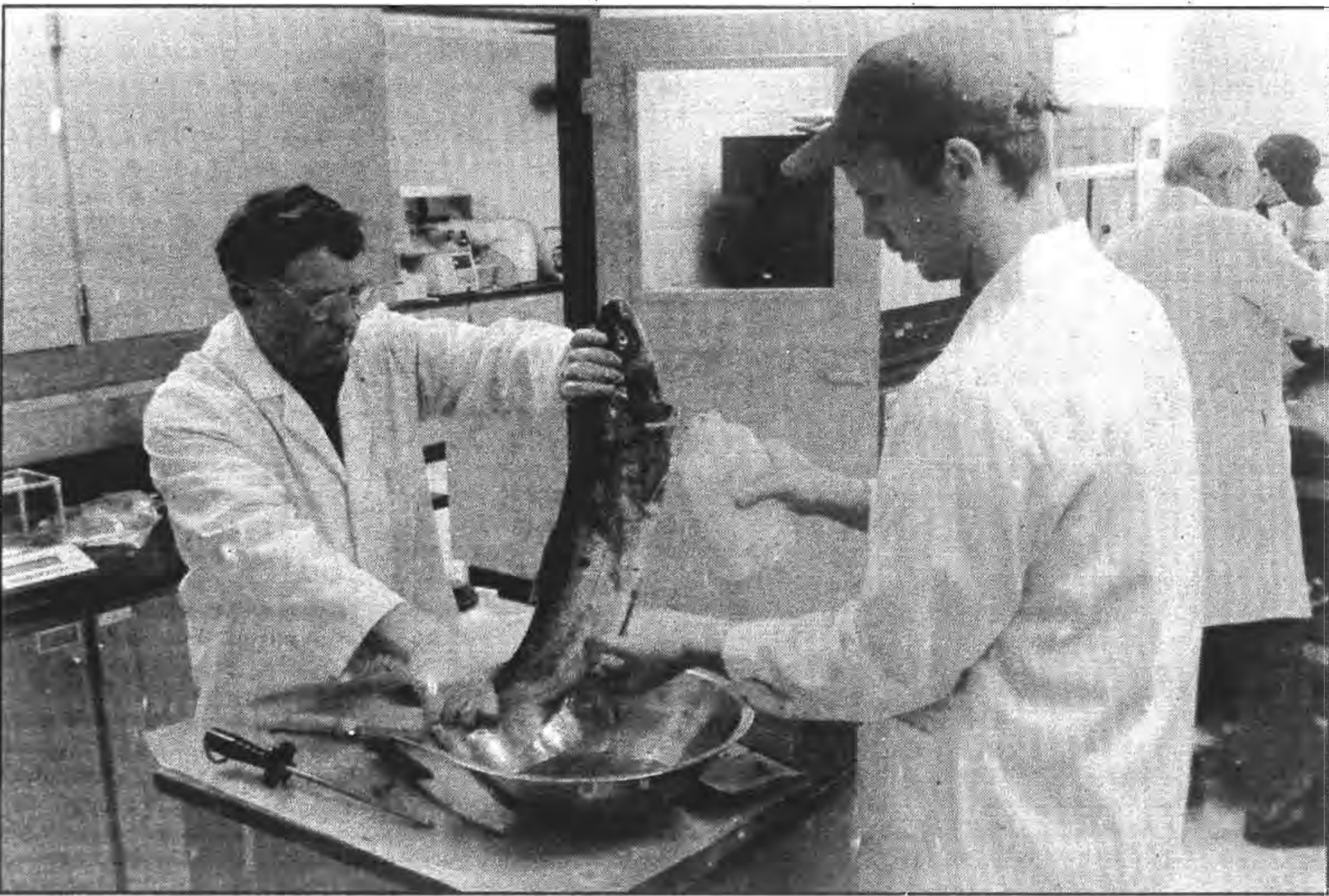
The FDA requires all seafood processors—both federal and domestic—to incorporate Hazard Analysis and Critical Control Point (HACCP) plans. A HACCP plan is basically a mechanism for addressing biological, physical, and chemical hazards associated with the commercial food industry, including seafood.

When the Lake Superior fishery study is complete next year, Groetsch said the scientific data will aid tribal governments in establishing a self-regulatory system that meets FDA requirements and ensures the continued viability of Lake Superior's tribal commercial fishery.

Staff from GLIFWC's Great Lakes section began collecting lake trout samples in October 1998. Over the following months, herring and whitefish samples were purchased from tribal fishermen and stored in locked freezers.

With the assistance of tribal fishermen, the Great Lakes section is scheduled to gather siscowet trout with deep-water nets this summer, completing the sample reserve.

Tribal members from Bay Mills, Keweenaw Bay, Bad River and Red Cliff are active in the Lake Superior commercial fishing industry. □



*UW-Superior undergraduate student Ben Pfaff assists Joe Duffy in rinsing debris from a lake trout in preparation for commercial-style processing. Duffy, a Red Cliff tribal member and commercial fisherman, serves as a consultant at the LSRI laboratory. (photo by CO Rasmussen)*

## Underwater logging update

Issues still pending in inland lakes and Lake Superior

By **Sue Erickson, Staff Writer**

**Odanah, Wis.**—On behalf of member bands Great Lakes Indian Fish and Wildlife Commission (GLIFWC) staff continue to monitor underwater logging activity in Lake Superior and Rib Lake, Taylor County. Tribal concerns regard the impact on fishery habitat and, in the case of Red Cliff, on disturbance of sacred/cultural sites.

Underwater logging entails retrieving logs which have been submerged from the time when logging was in its heyday in the north. The cold water has served to preserve some of the timber in a usable state; therefore it is a marketable commodity.

However, the logs are not only underwater, they are often under layers of sediment built up on the lakes' bottoms, sediments which may also contain contaminants. Tribes are concerned that when logs are uprooted, the sediment and contaminants will once again be distributed into the water and could impact water quality and the fishery.

Another concern related to the fishery is that the long-buried logs have formed significant habitat for fish and other aquatic species which will be disturbed when the logs are hoisted from their bed and pulled to the surface.

GLIFWC staff, including Kory Groetsch, environmental biologist, and Ann McCammon-Soltis, policy analyst, are currently preparing an analysis of a sediment sampling report from Rib Lake to determine what contaminants, if any, are present and should be of concern.

The Rib Lake Foundation has submitted a permit application to the Wisconsin Department of Natural Resources (WDNR) and the U.S. Army Corps of Engineers, triggering the permit process.

In both Lake Superior and Red Cliff, tribes are pursuing a government-to-government course with the state and federal governments relating to issues which are part of the state and federal permit process.

## Global warming's impacts predicted

(Continued from page 20)

vival. As a result, when the presently established trees become overmature and begin to die off naturally around 2090, there would be fewer young trees to take their place."

"The NOAA study predicts that lake levels will drop anywhere between 2-33 feet," said Johnson. "If the drop is indeed at the upper end of this range, the St. Marys River will no longer be able to flow, leading to Lake Superior becoming a closed basin and a salt lake," he said. Salt and dissolved solids entering the lake from rivers would slowly accumulate due to evaporation. "The turnover rate will decrease with the bottom becoming static" (or anoxic, meaning devoid of oxygen), said Johnson.

### Can the impacts be changed?

These climate change scenarios represent a range of possible futures.

"The models are crude and developing, but this is what they say now, and it worries me a lot," said Johnson. "This magnitude of environmental change bothers me deeply."

The audience at Johnson's presentation, sponsored by the Sigma Xi Society, Sierra Club and Northeastern Minnesotans for Wilderness, were concerned by these predictions and wanted to know what they could do to help prevent such an outcome. Johnson suggested people encourage their congressional representative to support international treaties that reduce carbon dioxide emissions into the atmosphere.

"Also, anything people can do on a personal level to reduce the consumption of fossil fuels is good," said Johnson. "Whether it's only running the dishwasher when it's full, to limiting the amount you drive."

(Reprinted from the University of Minnesota Sea Grant Program—Seiche newsletter April 1999.)



# The burden of 1872

## Why most communities can't say NO to mining

By Lisa ann de Lima  
Mineral Policy Center

Washington, D.C.—The deck is stacked. Communities face overwhelming odds in their efforts to protect special places, such as those featured in this issue of MPC News, from the dramatic and irreversible environmental impacts of modern mining.

The primary culprit—an antiquated mining law written in 1872 to promote mineral development in the age of the pick-and-shovel prospector. Today, 127 years later, the outdated armor of the 1872 Mining Law shields the mining industry from community concerns, from economic competitors, and from responsible environmental practice.

The provisions that pertain to hardrock minerals have never been changed to address new mining technologies and new values.

Mining gets priority-use of public lands, and has for 127 years. Written to benefit the individual prospector, the law now grants anyone, including multinational mining companies, the right to enter public lands to explore for hardrock minerals, by staking a claim, or multiple claims as required for today's large-scale mines.

Then, once a discovery of a "valuable" mineral is made, the miner has a right to extract minerals, essentially free of charge.

That's right, four stakes in the ground and you have a right to mine, which trumps all other uses of publicly owned lands.

The right to mine supercedes the rights of everyone else: community members seeking to protect scarce groundwater supplies, those who fish in local trout streams, vacationers who camp and hike in the area, native Americans who have sacred sites on the land, and the resource needs of future generations.

The only public lands where mining is restricted are recognized Wilderness Areas, the banks of Wild and Scenic Rivers, National Parks, and some National Wildlife Refuges.

Take the case of the proposed NICORE nickel mine located within the Siskiyou National Forest. The mine would irreversibly degrade the Rough and Ready Creek—formally recognized as an Area of Critical Environmental Concern; the Rough and Ready Creek

Botanical Area; the unprotected wilderness of the South Kalmiopsis Roadless Area; and the creek itself, which is a proposed National Wild and Scenic River.

Despite the obvious ecological and botanical importance of this watershed, there is little protection.

"Rough and Ready Creek and the South Kalmiopsis are a cherished and priceless part of this nation's natural heritage," said Barbara Ullian of the Siskiyou Regional Education Project in Southwest Oregon.

"It's inconceivable," added Ullian, "that a mining proposal to stockpile low-grade ore, for which there is no market, is given priority by the 1872 Mining Law, over irreplaceable resources such as clean water, wild steelhead trout, rare plant communities and wilderness."

In some instances the Clean Water Act, the Endangered Species Act, the National Historic Preservation Act, and state laws provide some protection. They should be fully utilized by communities, but they are often ineffective or do not directly address mining's impacts.

The Federal Land Policy and Management Act (FLPMA) was written to protect "unnecessary and undue degradation" of public lands. One could argue that FLPMA has potential. And it does.

The problem—land managers do not have the explicit regulatory tools or have not shown the political courage to use the full potential of FLPMA.

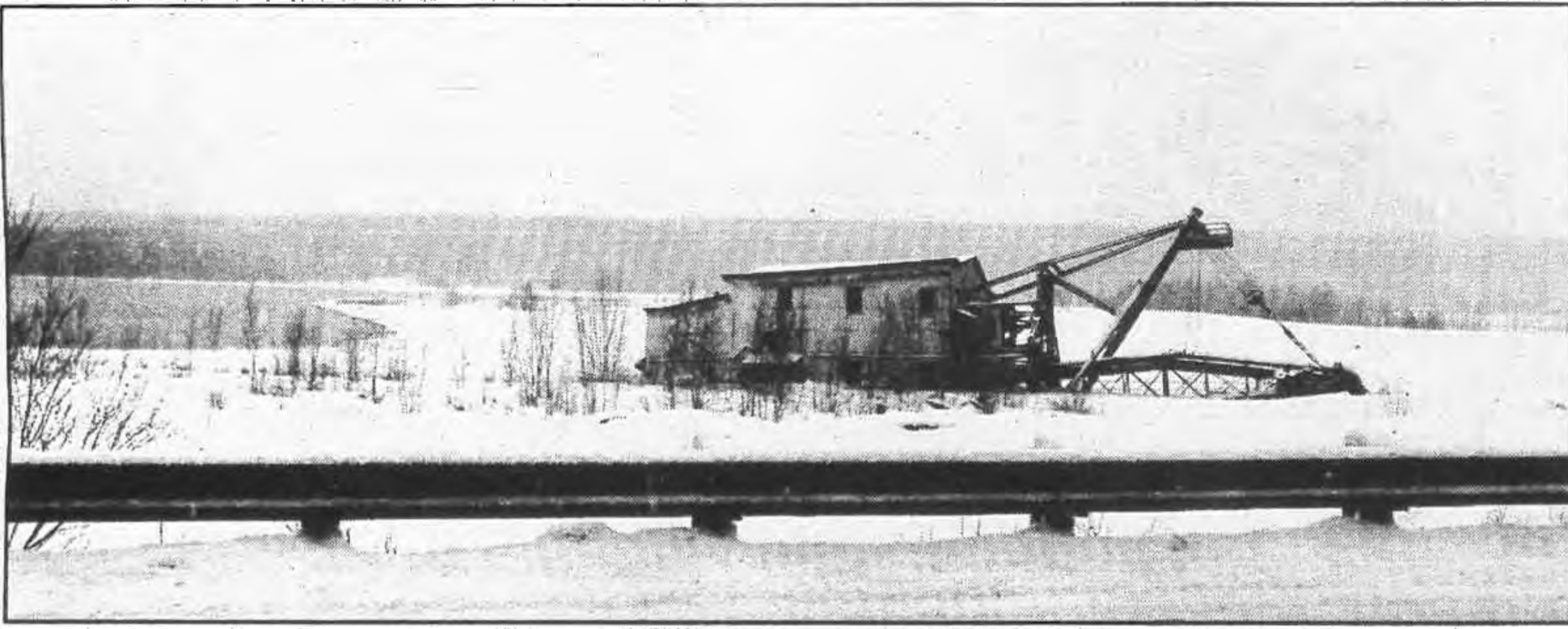
Is there hope? We think so. More and more communities are protesting the prerogatives and privileges of mining companies on our public lands. And more and more people are speaking out.

In February, USA Today editorialized that "taxpayers are getting snookered" and that "lawmakers should be furious over the squandering of public wealth."

In the end, protecting special public lands from mining will require three steps:

1. The Forest Service, the Bureau of Land Management and the Department of the Interior should fully utilize their authority to withdraw special places from future mineral development.
2. These agencies should be given the tools to fully utilize the authority granted under the Federal Land Policy and Management Act to prevent "unnecessary and undue degradation" of public lands.
3. Congress should reform the Mining Law so that mining is no longer given preferential use of our valuable public lands.

(Reprinted from MPC News, Spring 1999.)



Abandoned mine buildings such as these areas common sight across Michigan's Upper Peninsula, remnants of over a century of copper and iron mining. (photo by Amoose)

## EPA is developing strategy aimed at American Indians

Environmental Protection Agency's (EPAs) Office of Enforcement and Compliance Assurance (OECA) is working on a strategy to combat environmental problems on and around Indian reservations. Boosting tribal authorities will be part of the strategy.

Federal officials outlined a rough first draft of the plan before tribal representatives in March 1999 at a meeting in Alexandria, Va. The proposal intends to support the sovereignty of tribal governments and recognize them as the primary parties for managing environmental problems on tribal lands. The agency would retain authority to pursue action for criminal violations.

OECA hopes to have the strategy in final form by the end of the fiscal year (September 30), said Peter Rosenberg of OECA's environmental justice division. The agency is working with other federal agencies and tribal governments to hone the plan and strategy and develop work plans over a five-year span. Rosenberg spoke to the Tribal Affairs Workgroup of the Forum on states and Tribal Toxics Action.

The plan's first goal is to develop an accurate picture of environmental problems in Indian country. The draft calls for review of agency databases. EPA regions would compile inventories of public and private facilities in Indian Country that affect the environment.

The assessment would be coordinated with an OECA American Indian Lands Environmental Support Project (AILESP). The assessment would include drawing up Geographic Information Systems maps and matching them with the compliance histories of facilities on or near tribal areas.

Nine tribes are involved in AILESP. Ruth Miller of AILESP said other tribes are invited to comment.

Data currently show 850 facilities on Indian lands and 1,600 facilities within five kilometers. Approximately 50 percent of the facilities are sewage systems, crude petroleum and natural gas, industrial buildings and warehouses, nonresidential construction and gold ores. Fully 61 percent of the facilities have never been inspected.

Another strategy goal is to use

compliance assistance and incentives to inform facilities of federal requirements. The draft pledges OECA will try to expand the use of self-disclosure policies to resolve noncompliance by federal facilities, non-tribally owned private facilities and tribal facilities.

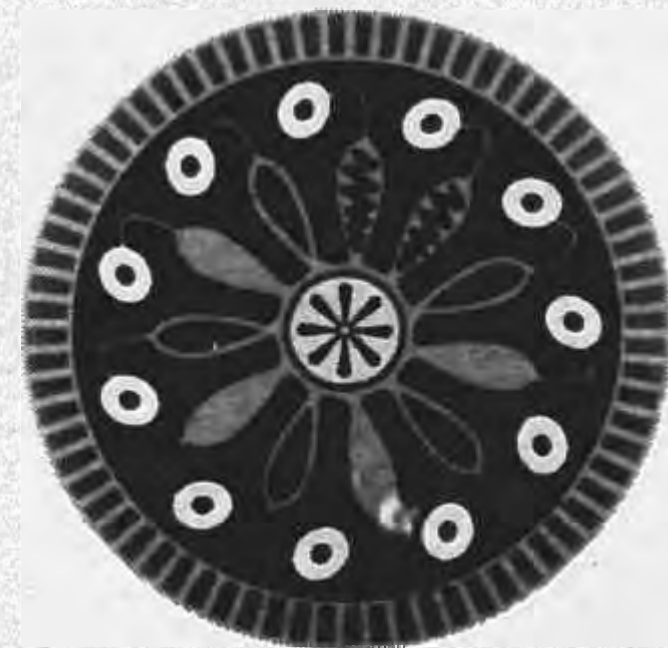
When these fall short, monitoring and enforcement are called for. OECA would help tribal governments develop their own enforcement and compliance monitoring programs.

Other goals include traditional environmental impact statement reviews, training programs for tribal governments and enhancing information available to tribes concerning enforcement actions.

As part of this strategy, OECA "will provide training to its employees on tribal history, culture and issues affecting environmental issues in Indian Country and Alaska," the draft said.

For more information contact Peter Rosenberg, (202) 564-2611; or Ruth Miller, (202) 564-4299.

(Reprinted from Native American Report, a publication of Business Publishers, Inc.)





# Crandon mine in midst of permit process

## GLIFWC questions reliability of groundwater models

By Sue Erickson  
Staff Writer

Red Cliff, Wis.—Flaws in Nicolet Mineral Company's (NMC) groundwater models lead to inaccurate predictions of the proposed Crandon Mine's impact on the environment, and this worries John Coleman, Great Lakes Indian Fish and Wildlife Commission (GLIFWC) mining impact specialist.

Coleman updated the Voigt Intertribal Task Force (VITF) on problems he perceives with the mining company's groundwater models during a meeting on June 3rd at the Red Cliff reservation.

Currently, several Environmental Impact Statements (EISs) are being prepared, one by the Wisconsin Department of Natural Resources (WDNR) and another by the U.S. Army Corps of Engineers (ACOE). The WDNR hopes to have a draft EIS by early 2000 and ACOE by mid 2000. Both are currently working on groundwater modeling.



John Coleman, GLIFWC mining impact specialist.

The EISs are used to provide information about the anticipated impacts of the project so that decision makers can make informed decisions about whether to permit the mine, or what the conditions of the permit will need to be.

Coleman has several concerns about the groundwater models submitted by NMC which he recently related to the Science Advisory Council, a council appointed by Governor Thompson to review the mining proposal and the technology to be used.

The Council is directed to make recommendations to the Secretary of the WDNR and those recommendations are to be considered in the EIS and the permit decisions.

Among the problems Coleman noted were:

- 1) incorrect predictions of the water table above the ore body;
- 2) incorrect predictions of the amount of drawdown at specific points in the cone of depression, which could relate to broader incorrect predictions of drawdown near Swamp Creek;
- 3) incorporation of a hypothetical low conductivity zone (hydraulic barrier) that prevents movement of water and would stop a prediction of drawdown near Swamp Creek, Hemlock Creek, and Rice Lake. Coleman says a prediction without the barrier should also be made because NMC is unsure a barrier is actually present.

Drawdown of water levels less than one foot, which are not mentioned by NMC, can still have an impact on the ecosystem of affected water bodies, Coleman says.

For instance, a ten inch water level reduction could harm wild rice beds, a resource culturally significant to the Sokaogon Chippewa.

# GLIFWC keeps eye on Flambeau Mine site

## 1200' pollution buffer zone includes the Flambeau River

By Sue Erickson  
Staff Writer

Odanah, Wis.—The Flambeau Mine near Ladysmith, Wis. has been closed now for nearly one year, but Great Lakes Indian Fish and Wildlife Commission (GLIFWC) Mining Impact Specialist John Coleman continues to monitor the Flambeau Mine reclamation process. Discharge of contaminated water into the Flambeau River is one of several issues.

The Flambeau Mine's proximity to the Flambeau River has been a concern since the mine was permitted. State mining regulations require mines to be set back 300' from a river, but the Wisconsin Department of Natural Resources (WDNR) granted an exemption from the provision to the Flambeau Mine, allowing it to operate at 140' from the river, less than half the regulatory distance.

Reporting to the Voigt Inter-tribal Task Force (VITF) at their June 3rd meeting in Red Cliff, Coleman noted

that the compliance zone, a 1200' strip encircling the mine beyond which contaminant levels must comply with state codes, actually includes the river.

Many presumed that the river's edge would comprise the western perimeter of the compliance zone as a matter of protecting the water quality of the river. However, the river runs right through the zone, allowing contaminated groundwater to be discharged into the river.

Due to the design of the Flambeau Mine site, even if high levels of contaminants are present in the mine, the flow of the contaminated groundwater into the river within the compliance zone will dilute the contaminant sufficiently to meet state regulations.

The mine has been filled with waste rock and is being monitored by several

wells. Testing reveals that metal levels are higher than levels predicted by the company for copper and much higher for manganese and iron. Sulfate levels are close to predictions, Coleman says.

"Even if the contaminant levels are high at the mine site, or at the point where it flows into the river, the river would dilute the contaminant sufficiently to meet state regulations. So, the Flambeau Mine is protected from violating their permit, even though their metal levels exceed their predictions," Coleman says.

Coleman also expressed concern that no testing has been done for mercury levels as yet. He also notes that the inaccuracy of contaminant level predictions is apparent at Flambeau Mine and should serve as a warning when considering other mine permits.



The permitting process for the proposed copper/zinc mine near Crandon is lengthy. Currently, the Environmental Impact Statements (EISs) are being prepared by the Wisconsin Department of Natural Resources (WDNR) and the Army Corps of Engineers. Above, WDNR Secretary George Meyer answers questions during a public hearing in Nashville several years ago. (photo by Amoose)



State regulations designed to protect our environment can be undermined by variances such as the one which allowed the Flambeau Mine near Ladysmith, Wisconsin to mine within 140 feet of the Flambeau River. (photo by Bob Olsgard)

For more information on mining and other environmental issues concerning GLIFWC member tribes contact John Coleman, GLIFWC mining impact specialist at 608-256-8164 or email [colemanj@calshp.cals.wisc.edu](mailto:colemanj@calshp.cals.wisc.edu).



# District Court upholds "Treatment as State" status for Sokaogon Ojibwe

By Sue Erickson  
Staff Writer

**Mole Lake, Wis.**—On April 28th the U.S. District Court in the Eastern District of Wisconsin upheld the "Treatment as State (TAS)" status granted to the Sokaogon Chippewa Community by the Environmental Protection Agency (EPA) under the Clean Water Act (CWA). The Court granted the EPA's motion for summary judgment and denied the state's.

The case is significant because it challenged the right of the tribe to regulate its on-reservation water quality. "The Court's decision reaffirms the authority of tribes to regulate water quality on the reservation. It also reassures other tribes that they can receive TAS status on their reservations," says Ann McCammon-Soltis, policy analyst

for the Great Lakes Indian Fish and Wildlife Commission (GLIFWC).

In the lawsuit, Wisconsin contended that only the state has jurisdiction over all the navigable waters within state boundaries.

The Court noted that the case did not challenge any particular water quality standard, but rather the EPA's approval of the Sokaogon's TAS status. In that regard, the Court found that the EPA was well within its bounds, and the Sokaogon Chippewa Community met the qualifications set in the CWA for the TAS status.

Glenn Stoddard, attorney for the Sokaogon Chippewa Community, says the victory in District Court is significant to the tribe because "it affirms what the EPA had decided earlier and puts the tribe in a good position to defend its water quality standards. It also affirms the tribe's right under the

CWA to be treated on an equal level as the state to protect water quality."

The underlying concern of the tribe is the potential impact of the proposed mine near Crandon, according to Stoddard. "That is why they wanted their own water quality standards."

"The state's suit demonstrates its insensitivity to the tribe's concerns, especially in relation to protecting historic ricing beds such as Rice Lake and Swamp Creek," Stoddard says.

Wisconsin may appeal the District Court's ruling. There is also another case filed by the State of Wisconsin which objects to the tribe's water quality standards. Stoddard says that case is still pending and has been on hold until the first case is complete.

Stoddard says the case is important also because it is the first time this issue was raised in Wisconsin. There have been other cases in other states where the tribes have prevailed, he says.

The TAS status for tribes is a result of a 1987 Congressional amendment to the CWA authorizing the EPA to permit tribes to be treated as a state for the purposes of promulgating the water quality standards.

In 1991 the EPA instituted rules to be used in processing tribal applica-

tions for TAS status, based upon requirements set in the amendment to the CWA.

In order for a tribe to be granted TAS status it must meet EPA criteria which are described in the District Court Opinion as follows:

1) The tribe must be federally recognized and exercising governmental authority;

2) The tribe must have a governing body carrying out substantial governmental duties and powers;

3) The water quality standards program which the tribe seeks to administer must 'pertain to the management and protection of water resources,' which are 'within the borders of an Indian reservation.'

4) The Indian tribe is reasonably expected to be capable of carrying out the functions of effective water quality standards program in a manner consistent with the terms and purposes of the CWA and regulations.

In 1995 the EPA approved the tribe's application for TAS status. In 1996 Wisconsin filed suit against the EPA and the Sokaogon Chippewa intervened in the suit. In 1999 the tribe prevailed.

## Menominee Nation supports amendment to proposed DNR budget

**Keshena, Wis.**—The Wisconsin State Legislature's Joint Committee on Finance recently adopted an amendment to the Wisconsin Department of Natural Resources (WDNR) budget that could have impacts on Nicolet Minerals Company's (NMC) proposed Crandon Mine.

If NMC receives federal and State mining permits, they will be allowed to extract over 55 million tons of gold, silver, copper, and zinc ore from the Crandon deposit located at the headwaters of the Wolf River. The amendment would allow local governments to renegotiate local agreements with mining companies.

As part of the WDNR budget, the Committee's adopted an amendment stating, "an agreement between a local government and the operator of a proposed mine is subject to amendment at the request of either party if additional information relevant to issues is obtained after the agreement takes effect but before the hearing held by the WDNR on whether to issue a permit for a mine." This would give the Town of Nashville the right to renegotiate their local agreement.

NMC is currently suing the Town of Nashville for rescinding their local agreement on the Crandon Mine Project.

In an interview with Town of Nashville Chairman Chuck Sleeter, he said, "We've won this battle but we haven't won the war because the Republican Assembly will visit this issue and has in the past shown pro-mining votes."

The vote on the amendment was 9-7 where all those voting 'no' were Republican.

The Menominee Nation fully supports the Joint Committee on Finance's decision to adopt this amendment. Menominee Nation Chairman Apesanhkwat responded, "There is a notion that Republicans are big business and tend to forget about the average citizens. I'm a Republican and when big business takes advantage of small governments I have to do what's best for the people and not my political party. Small governments, in this case Nashville and their controversial local agreement under the circumstances, should have the ability to renegotiate. NMC, the steelyard bully, has been sent a loud and clear message."

## Supreme Court continued

(Continued from page 2)

### Syllabus

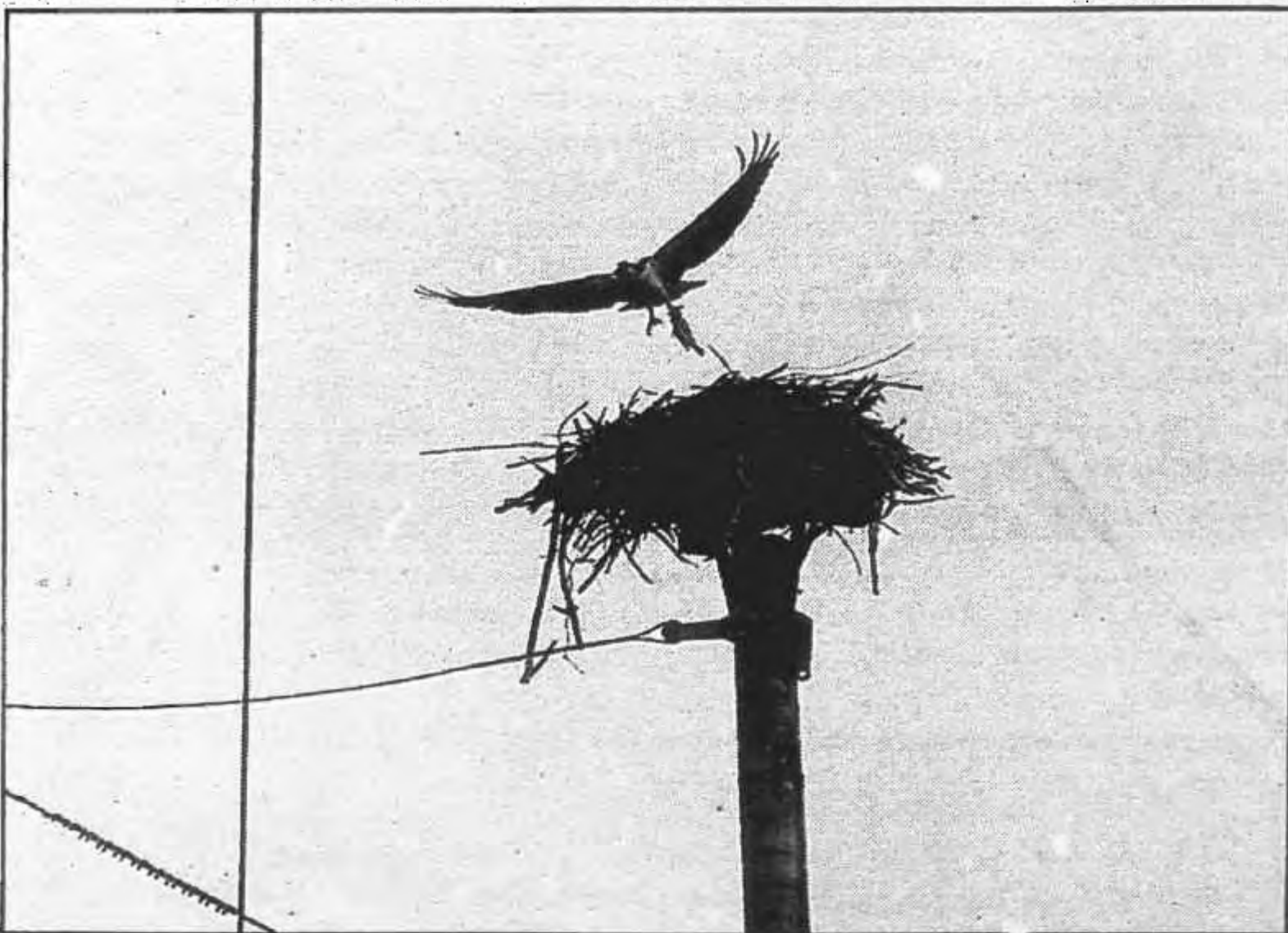
Pursuant to an 1837 Treaty, several Chippewa Bands ceded land in present-day Minnesota and Wisconsin to the United States. The United States, in turn, guaranteed to the Indians certain hunting, fishing, and gathering rights on the ceded land "during the pleasure of the President of the United States." In an 1850 Executive Order, President Taylor ordered the Chippewa's removal from the ceded territory and revoked their usufructuary rights. The United States ultimately abandoned its removal policy, but its attempts to acquire Chippewa lands continued. An 1855 Treaty set aside lands as reservations for the Mille Lacs Band, but made no mention of, among other things, whether it abolished rights guaranteed by previous treaties. Minnesota was admitted to the Union in 1858. In 1990, the Mille Lacs Band and several members sued Minnesota, its Department of Natural Resources, and state officials (collectively State), seeking, among other things, a declaratory judgment that they retained their usufructuary rights and an injunction to prevent the State's interference with those rights.

The United States and several counties and landowners intervened. In later stages of the case, several Wisconsin Bands of Chippewa intervened and the District Court consolidated the Mille Lacs Band litigation with the portion of another suit involving usufructuary rights under the 1837 Treaty. The District Court ultimately concluded that the Chippewa retained their usufructuary rights under the 1837 Treaty and resolved several resource allocation and regulation issues. The Eighth Circuit affirmed. As relevant here, it rejected the State's argument that the 1850 Executive Order abrogated the usufructuary rights guaranteed by the 1837 Treaty, concluded that the 1855 Treaty did not extinguish those privileges for the Mille Lacs Band, and rejected the State's argument that, under the "equal footing

doctrine," Minnesota's entrance into the Union extinguished any Indian treaty rights.

**Held:** The Chippewa retain the usufructuary rights guaranteed to them by the 1837 Treaty. Pp. 15—35.

(a) The 1850 Executive Order was ineffective to terminate Chippewa usufructuary rights. The President's power to issue an Executive Order must stem either from an Act of Congress or from the Constitution itself. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 585. The Court of Appeals concluded that the 1830 Removal Act did not authorize the removal order, and no party challenges that conclusion here. Even if the 1830 Removal Act did not forbid the removal order, it did not authorize the order. There is no support for the landowners' claim that the 1837 Treaty authorized the removal order. The Treaty made no mention of removal, and the issue was not discussed during Treaty negotiations. The Treaty's silence is consistent with the United States' objectives in negotiating the Treaty: the purchase of Chippewa land. The State argues that, even if the order's removal portion was invalid, the Treaty privileges were nevertheless revoked because the invalid removal order was severable from the portion of the order revoking usufructuary rights. Assuming, *arguendo*, that the severability standard for statutes—whether the legislature would not have taken the valid action independently of the invalid action, *e.g.*, *Champlin Refining Co. v. Corporation Comm'n of Okla.*, 286 U.S. 210, 234—also applies to Executive Orders, the historical evidence indicates that President Taylor intended the 1850 order to stand or fall as a whole. That order embodied a single, coherent policy, the primary purpose of which was the Chippewa's removal. The revocation of usufructuary rights was an integral part of this policy, for the order tells the Indians to "go" and not to (See Minnesota, page 26)



An osprey carries a fish back to a nest precariously perched on electrical poles. (photo by Larry Plucinski)



# Keweenaw Bay and Coast Guard sign agreement on commercial fishing vessel safety

By Sue Erickson  
Staff Writer

Baraga, Mich.—The Keweenaw Bay Indian Community (KBIC) and the United States Coast Guard (USCG) took pen in hand on June 4th and signed a Memorandum of Understanding (MOU) to further the interests of commercial fishing vessel safety.

The MOU covers the treaty ceded waters of Lake Superior on which the

Coast Guard and the KBIC have concurrent jurisdiction. Under the MOU, the Coast Guard will forward any violations cited on tribal vessels into tribal court if an equivalent regulation is part of the tribal code.

A reciprocal agreement exists for violations cited by tribal authorities on non-tribal vessels in the zone.

The tribe currently licenses four large boat fishermen (30'-40') and sixteen small boat fishermen (10'-20') who fish from Black River Harbor to

Marquette, Michigan.

Also, the MOU provides for information sharing regarding commercial vessel safety programs.

One commercial fishing vessel safety training session preempted the signing of the MOU.

In preparation for boarding and inspecting commercial fishing vessels for safety requirements, tribal, state and local enforcement officers took part in a one day commercial fishing vessels training session provided by the USGS May 27th at the Keweenaw Bay Indian Community.

Most of the participants were literally immersed in the training, which required in-the-water usage of survival crafts. However, they were spared the chill of Lake Superior water and practiced inflating life rafts in the comfort of Ojibwa Motel's warm pool.

Great Lakes Indian Fish and Wildlife Commission (GLIFWC) wardens at Keweenaw Bay, Tim Tilson, Susan Jondreau and Jim Rasanen, and Bay Mills Warden Duane Parish joined officers from the Keweenaw Bay Tribal Police, the Michigan Department of Natural Resources, and the Marquette

County Sheriff's Department in the training session.

The training was cosponsored by the Keweenaw Bay Tribal Police and the USCG Marine Safety Office, Duluth, Minn.

CWO Edward N. Madura, USCG Marine Safety Office, Duluth, Minn. presented the training session, which provided the basics on boarding and inspecting a fishing vessel. This included an overview of regulations, types of vessels as well as vessel equipment.

Operation of equipment, including personal floatation devices, survival craft distress signals and fire extinguishers were all reviewed. Besides hands-on experience with floatation devices and survival craft, participants set off a variety of distress flares commonly carried aboard fishing vessels.

Emphasis on commercial fishing vessel safety follows tragic fishing vessel losses last winter. The loss of several commercial fishing vessels, including one on Lake Michigan, brought the issue to the forefront.

(Information excerpted from a USCG press release, June 1, 1999; Marine Safety Office, Duluth, Minnesota)



GLIFWC Warden Duane Parish, Bay Mills, releases flares as part of a commercial vessel safety training class presented by the U.S. Coast Guard Marine Safety Office, Duluth, Minnesota at the Keweenaw Bay reservation this spring. (photo by Sue Erickson)

**DWP wins awards at Greater Wisconsin's ITVA 12<sup>th</sup> Annual Cameofest**

St. Germain, Wis.—Discover Wisconsin Productions (DWP) won the Gold Award in the External Communications category for a special video production entitled "Lake Superior's Fishery—The Big Water" at the Greater Wisconsin ITVA's 12th Annual Cameofest which was held in Wausau, Wisconsin on May 7, 1999.

DWP also received a Special Achievement Award in the External Communication category for script writing and talent in the program, "Treaty Rights and Tribal Sovereignty." These special programs were created in association with the Bureau of Indian Affairs.

Those honored at DWP for both of the award winning Cameofest programs were Bob Jackson, Bureau of Indian Affairs and DWP Producer/Writer Bob Rozoff of Green Bay.

To find out more about the "Lake Superior's Fishery—The Big Water" and "Treaty Rights and Tribal Sovereignty" programs call 1-800-236-WISC. Additional information can be obtained by visiting Discover Wisconsin's website at [diswis.com](http://diswis.com).

# GLIFWC's Ojibwa Lady gets a facelift Enforcement craft gets total overhaul

Baraga, Mich.—The Ojibwa Lady (to the right) proudly sports two new Optimax outboards on her stern.

After thirteen years in hard service with Great Lakes Indian Fish & Wildlife Commission's (GLIFWC) Enforcement and Biological Services Divisions, the Ojibwa Lady, a 25' Boston Whaler, was ready for some renovation. And that she got.

Her entire electronic system was pulled and replaced this spring. Her GPS was updated with a new locator attached. Her net-lifting motor was replaced.

She's decked out with a new radio, antenna, new winch, and new prop. She's a totally new lady with only a paint job ahead to complete the look this summer.

The Ojibwa Lady is used to monitor tribal commercial fishing in the western waters of Lake Superior and for biological fishery assessment work.

Improvements for the Ojibwa Lady were funded through a HACCP grant. (photo by Sue Erickson)





# Land-into-trust regs, budget cuts on the burners in Congress

By Megan Taylor, HONOR

## New land-into-trust regulations

On April 12, the Department of Interior (DOI) proposed a draft version of changes in the way land can be taken into trust for tribes. These regulations were intended to simplify a confusing process; however, the new land-into-trust regulations have several areas of concern to tribes who are attempting to restore their historic land base or reclaim sacred sites.

The current system for tribes to obtain jurisdiction over land is for the tribe to purchase the land, then undergo a complex application process with the DOI. The DOI reviews the application and decides whether or not to take the land "into trust" for the tribe. Tribal advocates' main concern is that the new regulations do far more than just simplify the process. The draft regulations distinguish between applications to take land into trust on-reservation and off-reservation, giving greater weight to objections by non-Indian governments and communities for off-reservation requests for land into trust. The regulations are vague in defining what "within reservation boundaries" means and the increased weight given to non-Indian complaints against lands into trust applications "off-reservation" may seriously undermine the process of restoring tribal land bases.

Another concern is the likelihood of the complex application process required under the new regulations forcing tribes to hire an array of specialized assistance such as lawyers, archaeologists, environmental engineers, surveyors, etc., which small or less wealthy tribes would find nearly impossible to afford.

Also, the new regulations do not account for the unique religious concerns of tribes that wish to restore sacred sites to their reservations. In some instances, with no existing federal protections for sites, tribes' only recourse to prevent their destruction may be to buy their sacred places and put them into trust. These regulations would infringe on tribal rights to religious freedom in cases where tribes chose to protect the location and nature of sacred sites by leaving them no choice but to disclose information so it can be taken into consideration in the land-into-trust decision.

Finally, in the new regulations, Alaskan tribes would still be prohibited from taking land into trust.

The Bureau of Indian Affairs (BIA) is holding meetings to get tribal input on the new regulations. The first was held May 7 in Albuquerque, New Mexico. A second meeting was held May 27 in St. Paul, Minnesota. A third is scheduled for June 29 in Sacramento, California. A final meeting will be held in Mesa, Arizona on June 30.

For more information on land-into-trust regulations contact the BIA Office of Trust Responsibility at (202) 208-5831.

## Budget concerns

In the budget resolution passed by Congress in early April, both the House of Representatives and the Senate agreed to cuts in spending to keep the budget in line with the Balanced Budget Act of 1997.

In general, the impact of this budget resolution for Indian nations will likely mean funding decreases to the Department of Interior's various agencies and bureau program budgets. Specifically, the resolution calls for a 28.5% maximum reduction to the budget area that includes most BIA programs, including Tribal Priority Allocations.

Although this budget resolution is only a guide and the actual allocations will be made in various subcommittees, it is an agreement between both sides of Congress about the spending levels they hope to maintain.

In accordance with the agreement, on May 19, the House Appropriations Committee adopted spending allocations for its subcommittees for FY2000 appropriations that follow 1997 balanced budget caps. This means that overall, next year's budget has \$8.2 billion less than last year's. This overall lower budget also includes \$17 billion in defense spending. In order to fund this expense, major cuts have to come from somewhere else—including areas that fund tribal programs.

Specifically, under the House version of the budget, the DOI's entire budget would be \$11.3 billion, about a 20% decrease from last year's funding level. This amount is well below what the President had initially requested. The Administration's budget request was for an 11% increase over last year. This increase would be the amount needed just to meet the minimum needs in Interior programs. Tribes will certainly feel funding cuts as most of federal funding for tribal programs comes from appropriations bills that are being cut to make up for defense spending.

These budget figures are just on the House side. The Senate is looking at even more severe cutting into nondefense discretionary spending. All in all, it is not a positive outlook for funding for tribal programs.

## NAGPRA hearings

On April 20, the Senate Committee on Indian Affairs held hearings on the implementation of the Native American Graves Protection and Repatriation Act (NAGPRA). Sen. Daniel Inouye called for the hearing in response to concerns expressed by a number of tribes, the National Congress of American Indians and other tribal and Native Hawaiian organizations.

Most of the concerns expressed by witnesses focused on the status of the NAGPRA program within the National Park Service and the apparent conflict of interest with its placement in the Department of Archaeology and Ethnography. Tribal witnesses testified regarding their concern over the lack of proper tribal funding under NAGPRA and questioned compliance with the law by museums, federal agencies and states.

NAGPRA was signed into law in 1990 to ensure that Native American human remains and sacred objects retained by federal, state and local governments, universities and the museum community are returned to the appropriate tribes and/or descendants. The law also ensures that burial sites on tribal and federal lands are properly protected.

## Taxing tribes postponed for now

Two years ago Congress attempted to place a tax on tribal governments called the Unrelated Business Income Tax (UBIT). This bill would have taxed the revenue of Indian Nations in a manner similar to nonprofit organizations, rather than recognizing the sovereign status of Tribes.

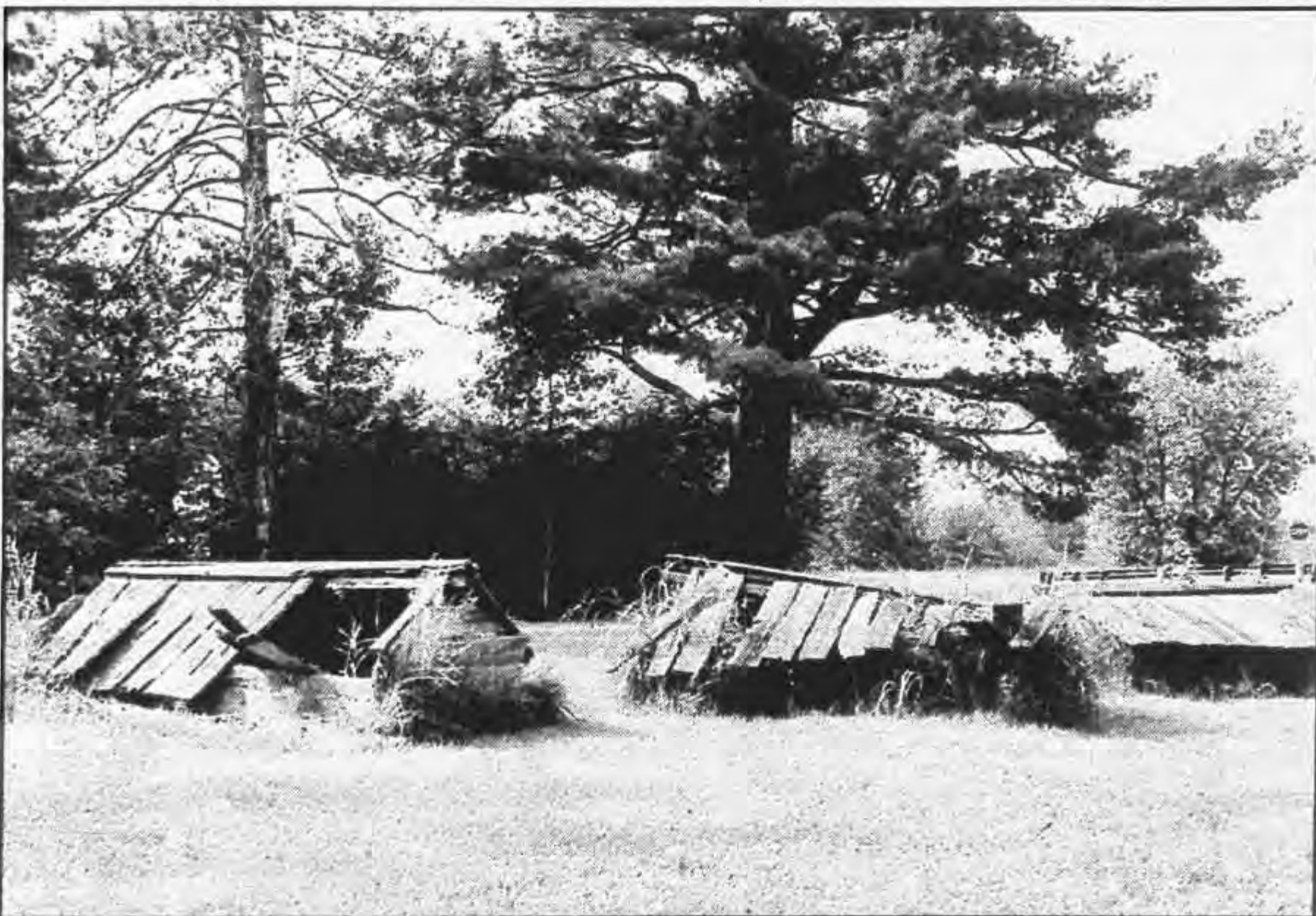
Although the bill was defeated, the intention to tax tribal governments lives on. Rep. Bill Archer, Chairman of the House Ways and Means Committee had scheduled a hearing on the tax status of tribes in early June. Archer has decided to delay the hearings until later in the year. Sooner or later, these questions on tribal taxation will arise again.

## Small steps toward government-to-government relations

Effective March 15, the responsibility for Indian Affairs at the White House will be elevated to the Chief of Staff's office. Currently, this position is an assistant to the office of Intergovernmental Affairs. The new role will make the position a senior advisor on Indian Affairs to the Chief of Staff. In White House protocol, the Chief of Staff's office is second only to the President's office.

## For more information

For more information on any of these or other national issues, please contact: HONOR Advocacy, 224 2nd St. SE, Washington, DC 20003. Phone: 202-546-8340; Fax: 202-546-1684 or e-mail: honor@dgsys.com



Ojibwe spirit houses on the Bad River reservation. The Senate Committee on Indian Affairs recently held hearings on the implementation of the Native American Graves Protection and Repatriation Act (NAGPRA), which ensures protection of burial sites on tribal and federal lands. Tribes question compliance to NAGPRA by museums, federal and state agencies. (photo by CO Rasmussen)

## Spearfishing

(Continued from page 1)

ting and lifting of nets as well as nightly spearing activities at Mille Lacs Lake.

An accident early in the season due to icy conditions, took GLIFWC Warden George Felix, stationed at Mille Lacs, out for the spring season. Consequently, GLIFWC Wardens Ken Pardun, St. Croix, and Vern Stone, Bad River, helped out, putting in many hours throughout the busy season.

Despite the sometimes grueling hours, staff were pleasant and helpful to the people who came to exercise their rights, many from Wisconsin who were netting for the first time, Schlender said. "From a management perspective and from a fisherman's perspective, this season was exceptional. The job got done well."





# Menominee treaty case rejected by Supreme Court But tribe will tell its story

By Sue Erickson  
Staff Writer

Washington, D.C.—On April 19th the U.S. Supreme Court denied a petition from Menominee to review a 7th Circuit Court decision dismissing Menominee's treaty claims in Wisconsin. This came on the heels of a U.S. Supreme Court of Appeals ruling which upheld the treaty rights of eight Ojibwe bands in Minnesota's 1837 Treaty ceded territory.

The Menominee Tribe originally brought suit in January 1995 against a number of Wisconsin officials on the basis of language in an 1831 Treaty between the Menominee and the United States. The treaty states that certain lands in what is now Wisconsin "will remain to them [Menominee] as heretofore, for a hunting ground, until the President of the United States, shall deem it expedient to extinguish their title."

In U.S. District Court Judge Barbara Crabb dismissed the Menominee's petition to recognize its rights as reserved in the 1831 Treaty. The Menominee then appealed to the 7th Circuit, but the 7th Circuit affirmed the lower court's decision to dismiss.

Finally, the Menominee petitioned

the Supreme Court to 1) reconsider the case, particularly to examine the lower courts' holding that a later treaty extinguished the treaty rights; and 2) reaffirm fundamental principles of treaty interpretation.

Menominee contended the lower courts dismissed the case, a case involving Indian treaties, on the basis of treaty language alone without a factual record of historical circumstances or a determination of what the parties to the treaty understood at the time.

The Supreme Court refusal to reconsider the case leaves no other legal recourse for the tribe, according to Ken Fish, Director, Menominee Treaty Rights and Mining Impact Office.

"We never really had any opportunity to establish a record on how the Menominee interpreted the treaty. Not one shred of that testimony was allowed to be part of the court record," Fish says.

Fish says the tribe plans to publish much of the history surrounding the 1831 Treaty, using historical information and expert testimony that were never allowed to be part of the record in court. The account will document conditions of duress and how Menominee leaders interpreted the 1831 Treaty. Fish hopes the account will be complete for a fall 1999 publication.

# Where the River is Wide Pahquahwong and the Chippewa Flowage

*Where the River is Wide: Pahquahwong and the Chippewa Flowage* is available from the public information office at GLIFWC.

Written by Charlie Otto Rasmussen, *Where the River is Wide* traces the history of the Chippewa Flowage region in northwest Wisconsin. From early Ojibwe Indian life to the rise of the resort industry, Rasmussen vividly describes the human and environmental impact of the Chippewa Flowage.

"The Chippewa Flowage today stands as an unsurpassed haven for anglers and outdoor enthusiasts in a wil-

dermess setting. *Where the River is Wide* presents a telling account which chronicles the struggle of a people attempting to hang onto their homeland.

...it is important that we recognize at what cost this sprawling body of water was created," says John Dettloff, Sawyer County historian.

This book includes rare black and white photographs along with detailed maps.

The book is available for \$12.00 (including postage & handling) through the Public Information Office at GLIFWC.

## Where the River is Wide Pahquahwong and the Chippewa Flowage

Name \_\_\_\_\_

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Quantity ordered: \_\_\_\_\_

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# Minnesota v. Mille Lacs Band of Chippewa Indians

(Continued from page 24)

return to the ceded lands to hunt or fish. There is also little historical evidence that the Treaty privileges themselves—rather than the Indians' presence—caused problems necessitating revocation of the privileges. Pp. 15—21.

(b) The Mille Lacs Band did not relinquish its 1837 Treaty rights in the 1855 Treaty by agreeing to "fully and entirely relinquish and convey to the United States, any and all right, title, and interest, of whatsoever nature the same may be, which they may now have in, and to any other lands in the Territory of Minnesota or elsewhere." That sentence does not mention the 1837 Treaty or hunting, fishing, and gathering rights. In fact, the entire 1855 Treaty is devoid of any language expressly mentioning usufructuary rights or providing money for abrogation of those rights. These are telling omissions, since federal treaty drafters had the sophistication and experience to use express language when abrogating treaty rights. The historical record, purpose, and context of the negotiations all support the conclusion that the 1855 Treaty was designed to transfer Chippewa land to the United States, not terminate usufructuary rights. *Oregon Dept. of Fish and Wildlife v. Klamath Tribe*, 473 U.S. 753, distinguished. Pp. 21—29.

(c) The Chippewa's usufructuary rights were not extinguished when Minnesota was admitted to the Union. Congress must clearly express an intent to abrogate Indian treaty rights, *United States v. Dion*, 476 U.S. 734, 734—740, and there is no clear evidence of such an intent here. The State concedes that Minnesota's enabling Act is silent about treaty rights and points to no legislative history describing the Act's effect on such rights. The State's reliance on *Ward v. Race Horse*, 163 U.S. 504, is misplaced. The Court's holding that a Treaty reserving to a Tribe "the right to hunt on the unoccupied lands of the United States, so long as game may be found thereon, and so long as peace subsists among the whites and Indians on the borders of the hunting districts" terminated when Wyoming became a State, id., at 507, has been qualified by this Court's later decisions. The first part of the *Race Horse* holding—that the Treaty rights conflicted irreconcilably with state natural resources regulation such that they could not survive Wyoming's admission to the Union on an "equal footing" with the 13 original States—rested on a false premise, for this Court has subsequently made clear that a tribe's treaty rights to hunt, fish, and gather on state land can coexist with state natural resources management, see, e.g., *Washington v. Washington State Commercial Passenger Fishing Vessel Assn.*, 443 U.S. 658. Thus, statehood by itself is insufficient to extinguish such rights. *Race Horse's* alternative holding—that the Treaty rights at issue were not intended to survive Wyoming's statehood—also does not help the State here. There is no suggestion in the 1837 Treaty that the Senate intended the rights here to terminate when a State was established in the area; there is no fixed termination point contemplated in that Treaty; and treaty rights are not impliedly terminated at statehood, e.g., *Wisconsin v. Hitchcock*, 201 U.S. 202, 213—214. Pp. 29—35.



Ashley Leoso, Bad River, demonstrates her skill at hoop dancing during a powwow held at the Lake Superior Elementary and Intermediate School in Ashland, Wisconsin on May 20th. Students, teachers and parents participated in the event. (photo by Lynn Plucinski)





# Makah exercise treaty right for 1<sup>st</sup> time in 70 years

By Vanessa McGrady, Reuters Ltd.

Neah Bay, Wash.—Makah Indians killed their first gray whale in more than 70 years on Monday, May 17, using hand-thrown harpoons and a .50 caliber rifle to successfully conclude a week-long hunt tribe members said was intended to reinvigorate cultural traditions.

Shortly after dawn, seven members of the Makah whaling team paddling a hand-carved cedar canoe approached a whale in the Pacific Ocean off the tip of the Olympic Peninsula and began the kill by throwing the first of two 11-foot harpoons.

Television footage showed a tribal motorboat circling the wounded whale as other members of the hunting party fired three .50-caliber rifle shots, and within about 10 minutes the animal was dead.

Nearly 12 hours later, a crowd of about 500 cheering people lined the beach near the small tribal town of Neah Bay, Washington, as a triumphant procession of five dugout canoes towed the carcass to shore.

"It went like clockwork—how we prayed, how we dreamed it would," said Eric Johnson, part of the support crew. "It was a nice, humane kill."

The whaling team was expected to butcher the whale and distribute the meat and blubber to the tribe's 2,200 members.

The Makah, who claim U.S. treaty whaling rights dating to 1855, had not killed a whale since the 1920s when the practice was banned after gray whales had been hunted nearly to extinction by whalers.

But the species has grown to more than 20,000, and in 1994 gray whales were removed from the federal endangered species list. In 1997 the International Whaling Commission granted a quota permitting the Makah to harvest up to 20 whales over five years.

Environmental activists, who had tried hard to disrupt the hunt, said they were outraged by the kill.

"There's nothing traditional about what they're doing out there," said Paul Watson, president of Sea Shepherd Conservation Society. "I think their ancestors would certainly be ashamed of what they're doing."

Tribal leaders were unapologetic.

"We're going to do it all over again," tribal Chairman Ben Johnson said.

## HONOR affirms Makah rights Deplores racial backlash

Washington, D.C.—On the morning of Monday, May 17, members of the Makah tribe exercised their treaty right to hunt whale, taking a gray whale off the Neah Bay Coast in Washington. This was the first whale hunted by the tribe in more than 70 years. Since then, the tribe has received angry calls, e-mails and has even become the target of death threats. According to the Makah tribal police chief, the graphic and racist nature of the calls is escalating at an alarming rate.

HONOR understands the difficulty of the situation and respects the concern expressed for the whale. However, using this sensitive issue as a tool to increase racial tensions against American Indians is uncalled for and shows blatant disregard for Indian treaty rights.

HONOR has followed this treaty issue for several years and in response to the recent influx of activity surrounding the Makah Tribe's exercising their right to hunt gray whale, HONOR offers these facts. Please share them with your organization, friends and families to ensure accuracy on this issue.

### HONOR Principles

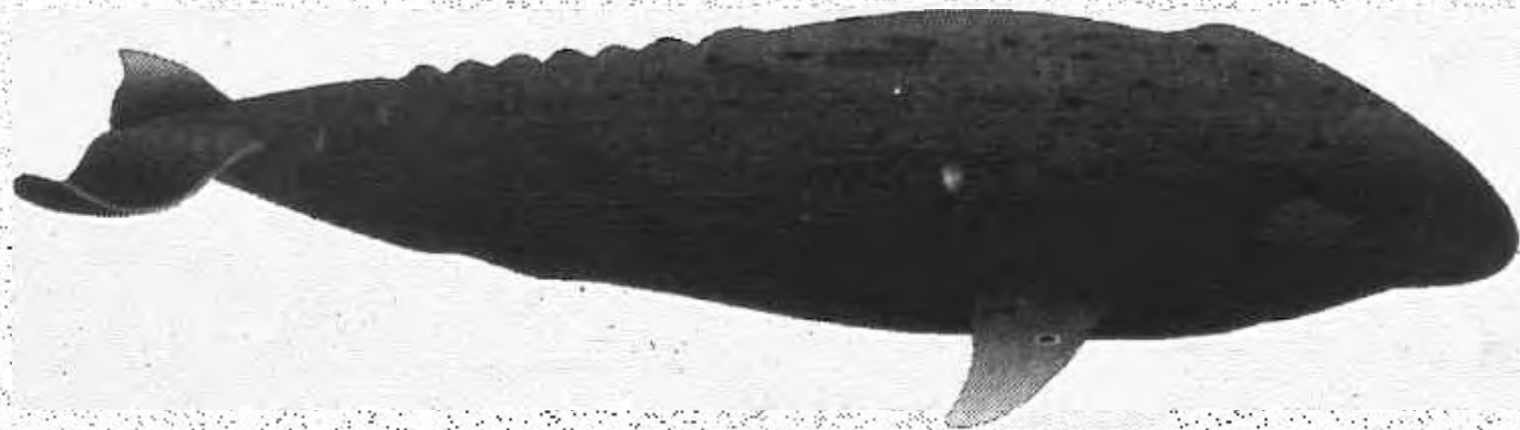
2. To affirm treaties
3. To conduct ourselves in a manner respectful of all people

### In accordance with these principles, we offer the following FACTS:

#### Respecting whaling as a treaty right

Under the 1855 Treaty of Neah Bay between the United States and the Makahs, the U.S. promised to secure to the Makahs the right to engage in whaling. The treaty was ratified by Congress, is the law of the land under the U.S. Constitution and has been upheld by the federal courts and the U.S. Supreme Court. The tribe was forced to stop in the 1920's due to the decimation of gray whales caused by commercial whaling. When gray whales were removed from the Endangered Species List in 1994, the tribe sought to reactivate their treaty right to resume whale hunts. The Makahs were granted international permission to take up to five whales per year.

(See whaling, page 29)



## Everyone should celebrate the Makah whale hunt

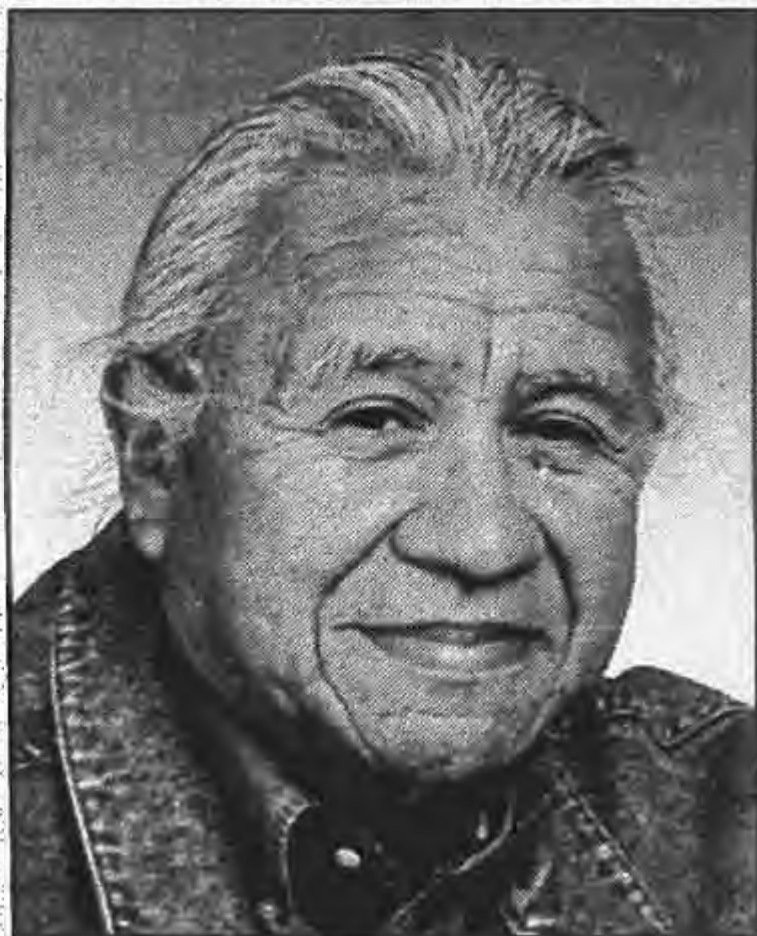
By Billy Frank, Jr.  
Chairman, Northwest Indian Fisheries Commission

Whoever you are, you should join the Makah Tribe in celebrating its harvest of a gray whale. You should celebrate this return of a sacred practice to some of the most culturally connected people in the world.

You should celebrate the return of justice and vitality to a tribe that has been repressed over this past century, and celebrate the recovery of gray whale populations to the historic levels needed to sustain harvest.

You should understand that life begets life, and that the spirit of the whale lives on in the Makah people. It lives in the rejoicing of the elders, the strength of the warriors and the rekindled excitement of the children. It lives on because that is the way the Creator intended it to be.

It is hypocritical to condemn the Makahs for taking the whale, as some members of the mainstream society have done. The Makahs did not take the whale simply because they had the treaty-protected right to do so. That right has always existed.



Billy Frank, Jr.

The tribe made a conscious and very painful choice to forgo its sacred tradition over the years because non-Indian commercial harvesters devastated whale populations.

Just this year, many gray whales have died and washed up on the shores of this state. These whales may have been poisoned by the wastes of mainstream society. If so, you know the Indian did not do this. The Makahs are

the Whale People, and they chose not to hunt through the years because of their love and respect for the whale. They chose not to hunt all these years because they, like other tribes, have always striven to be caretakers of the natural world.

Those who do not understand the Makah will question the logic of hunting an animal that means so much to them. Yet the principle is the same for all species of fish and wildlife. Non-Indians have always tried to force their way of life on the Indian.

Yet we have lived here for thousands of years, in harmony with nature. Many non-Indian ways are strange to us.

They permit their children to think their food comes from Safeway. They let their children dine on meat without teaching them to be grateful to the animals that died to feed them. Even vegetarians can be hypocritical.

Agricultural practices kill more of nature's creatures through habitat destruction than fishing and hunting ever will.

Televised scenes of the whale harvest disturbed some people, but it is the same as harvesting a salmon, deer or elk. This whale gave itself to the Makah, and the Makah respect that whale in ways many non-Indians do not understand. What people saw on television was the living culture and legacy of this land that long preceded today's concrete and asphalt world.

The harvest of the whale and the celebration of the Makah people revived a critical cultural tradition. In their wisdom, tribal leaders who signed the treaties with the U.S. government in the 1850s reserved those things that

were most important for the tribe's continued physical, spiritual and cultural survival: fish, shellfish, game and, in the case of the Makah, whales. It's important to understand that the tribes kept these rights when they signed the treaties. They never gave them up. They never will.

Even though the tribe has a clear treaty right to hunt whales, the Makah chose to work through accepted channels. They obtained permission to hunt from the federal government and the International Whaling Commission (IWC).

Those who were surprised to see the whale shot after being harpooned should realize that this was part of the agreement with the IWC, to assure that the kill was quick and humane.

For its own purposes, the tribe chose to make the hunt as traditional as possible, using a dugout cedar canoe and hand-thrust harpoon to initiate the hunt.

The tribe received its quota from a quota that had already been granted to a group of indigenous Russian people. In other words, the Makah quota did not increase the number of whales earmarked for hunting through the IWC.

As stipulated in the quota agreement, the tribe will not sell any of the whale meat. It is to be used only for traditional ceremonies. The single exception can be carvings made from the whale's bones by Makah artisans.

The Makah Tribe was completely above board with this hunt. It wanted every aspect of this historic return of their culture to be done right, and so it was.

I congratulate the Makahs, and encourage others to do the same.

"Whoever you are, you should join the Makah Tribe in celebrating its harvest of a gray whale. You should celebrate this return of a sacred practice to some of the most culturally connected people in the world."

—Billy Frank, Jr., Chairman  
Northwest Indian Fisheries Commission





# Rez Talk



What do you prefer, netting or spearing and why?



**Wayne LaBine, Sokaogon Chippewa**

This spring was my first time netting. I prefer it to spearing. It's definitely more efficient and less labor intensive. But most important was the great experience I had. It was very satisfying because of the cooperation between all the tribes. It was more social than spearing, more of an intertribal event. People from different tribes helped each other. We helped them; they helped us. Everyone was smiling, happy, and there was a great deal of fellowship.

I definitely plan to go next year and probably make it a family outing, maybe stay a little longer considering the distance.

I did less spearing this year, but only because of my schedule. I did take my nine-year-old son out spearing for the first time this year, and he definitely prefers spearing to angling!

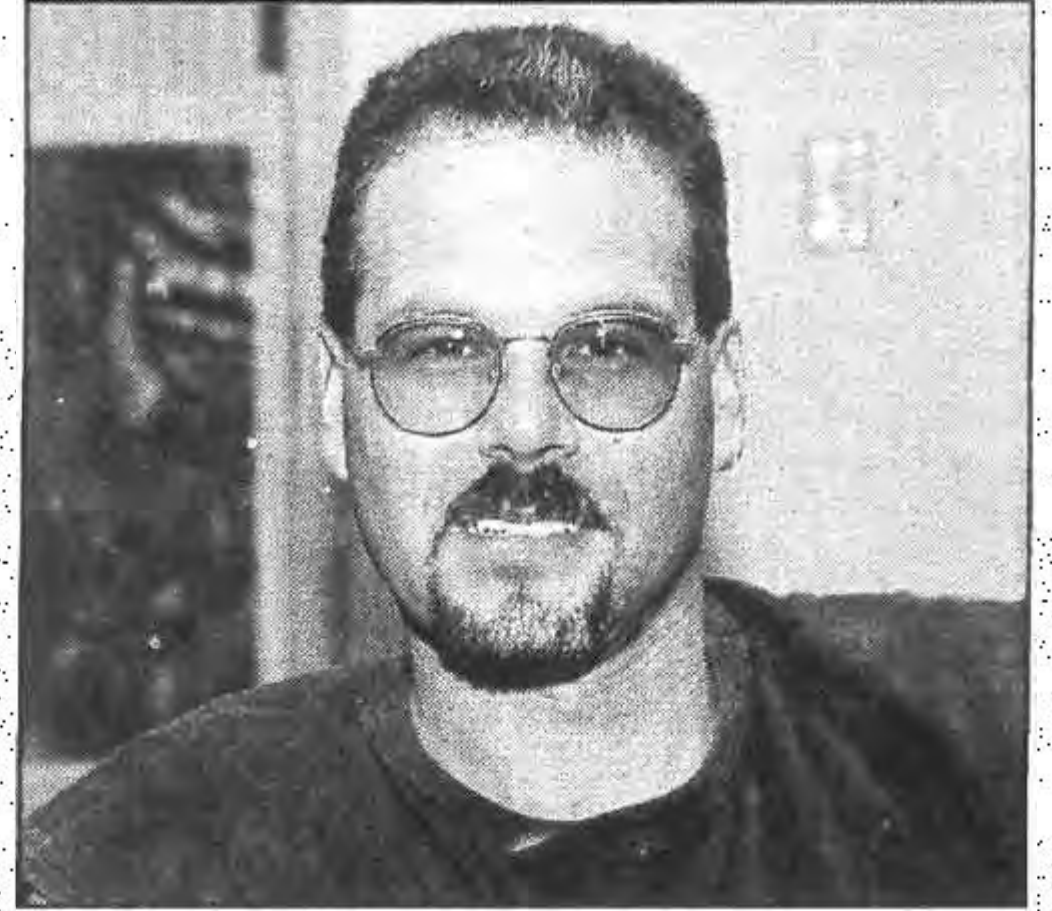


**John Mojica, Mille Lacs**

I personally would have to say I prefer netting over spearing. I have limited experience when it comes to spearing and to me that seems like more of a challenge. I do like netting because of the challenge and the surprise.

The challenge comes from setting the net, which can be challenging if the lake is choppy. The surprise comes in the morning when the net is lifted. I have pulled nets that looked like they were full of walleye, and when I got the net closer to the surface, I realized that the fish were all perch! So, netting can be surprising.

Plus I enjoy eating the walleye and providing walleye for my mom, my aunts and my uncles.



**Dan North, Bad River**

I love to spear. For me, the real enjoyment comes from spending time out on the water and the comradery of other people, no matter how successful I am.

This is my oldest boys' first year, and spearing is something fun we can do together rather than just pulling in a net and picking out the fish. He's 11 years old now and speared his first fish on Lake Mille Lacs. It's more like hunting walleye.

As far as efficiency goes, you get a lot more fish with a net. But spearing offers more action, more fun.

## Masinaigan reader encourages support of Makah Sees similarities to Wisconsin in the 1980's

**Dear Editor:**

I am writing in support of the Makah Nation and their efforts to re-establish their cultural practices. I am concerned that certain environmental groups, the Sea Shepard in particular, are inciting racial hatred to promote their environmental protection agenda.

I am writing from the perspective of one who has experienced the same conflict in the Upper Midwest. Here, the Anishinaabe people have been struggling to regain their treaty harvest rights for over 15 years. Many of the same arguments were heard from those who opposed treaty harvests.

The arguments include: the Indians should be using traditional methods; the Indians don't need to hunt whales for cultural reasons; the hunt is supported by only a small fraction of Makah nationals; the Makah are not supported by other indigenous nations; the Indians will deplete the resource; the treaties are old and should not be enforced, etc.

I think the most important point is that the US Supreme Court has affirmed the rights of indigenous nations to their treaty harvests as recently as March 1999. The native people of the Pacific Northwest have the force of law on their side, and we cannot violate their rights without jeopardizing our own.

Treaties are the supreme law of the land and do not become invalid with age, nor are they static. The U.S. Constitution is a case in point; it is a treaty that is in full force and is older than the Indian treaties in dispute. A treaty does not obligate the signatories to remain frozen in time culturally or technologically.

If this were the case, then non-indigenous people would be required to live in the past as well. Technological advancement does not diminish tradition. Modern Christian society uses twinkle lights instead of candles on their Christmas trees. The tradition is not diminished.

Non-indigenous people do not have the right to determine what another people may or may not do to observe their culture. To assume that the members of Sea Shepard or

any other group have a moral authority to dictate another culture's practices is paternalistic, ethnocentric and racist.

I can assure you that the Makah efforts to begin hunting are supported by a great number of people, indigenous and non-indigenous alike. While the anti-treaty rhetoric is often loud and vocal, in the Midwest and Pacific Northwest experiences, it was voiced by a small minority.

Here in the Midwest, many non-native support groups sprang up to support the Anishinaabe and continued to work against racism and violence over the years. The State of Wisconsin has lived with the shame of state-sanctioned racism for the last ten years to the detriment of tourism and commercial development.

I urge you to learn from that mistake.

The threat of native people depleting the resource is a smoke screen. Non-indigenous people are responsible for the depletion of the whale, the salmon, the Atlantic cod, the lake trout and numerous other species. Over-harvesting and environmental degradation caused by non-indigenous societies bears the responsibility for the loss of species.

To claim that the Makah taking four whales will harm the resource is ludicrous in the extreme. I would suggest that environmental groups shift their focus to commercial harvesting and industrial development and pollution; far more serious threats to the survival of the whale.

I urge you to research the facts, understand the issues and work to promote understanding and cooperation. I am at your service if you require more information.

Regards,  
**Christine Penney, Director  
PLUS Center, Duluth, Minnesota  
cpenney@css.edu**

**For more information visit the official Makah website at [www.makah.com](http://www.makah.com)**

## Whaling

(Continued from page 28)

### Respecting whaling as cultural right

Whaling has been a tradition of the Makah for more than 2,000 years and has remained central to the culture. Whales are in the songs, dances, designs and basketry. The Makah societal structure is based on traditional whaling families. The conduct of a whale hunt requires rituals and ceremonies which are deeply spiritual. Whale hunting imposes a purpose and a discipline which the Makahs believe will benefit the entire community.

### Answering opposition's concerns

*Makah whaling does not pose a threat to the gray whale species.* Scientists have observed the species for many years and in 1993 determined that the population had exceeded the number existing before industrial whaling began. The 1996 population estimate was 22,263 whales. The population continues to increase at a rate of about 2.5 percent per year, despite continuous harvesting of about 165 whales a year by Russian aborigines for the last 30 to 40 years.

The Makah whaling management plan limits the number of whales over a five-year period to 20—an average of four per year. So even if the Makah fulfill the quota allowed by the management plan, they will not come close to affecting even the population growth rate.

*The Makah hunt will not open flood-gates to commercial whaling.* Tribal and federal law both prohibit any sale of whale meat or whale products, except for artifacts made by Makah carvers out of whale bone. Meat will be distributed to all members of the tribe—presently numbering about 1,800 people.

*(The above facts were provided by the Makah Nation.)*



# Keeping tabs on sea lamprey

## An aquatic exotic with a taste for fish

By Charlie Otto Rasmussen, Writer/Photographer

**Odanah, Wis.**—The freakish image of Medusa's snake-covered head comes to mind when you first see them. One hundred or more sea lamprey balled up in a wire trap, twisting and writhing as they are lifted from the water.

Mike Plucinski and Dan North, GLIFWC Great Lakes section, did the honors, pulling a steel cage from the rapids of the Bad River falls. They were joined by Northland College student intern Kristen Anderson in a population survey of adult lamprey traveling from Lake Superior and up the Bad River to spawn on the gravel streambed.

The trio transferred captured lamprey from three traps into plastic bins and carted them downstream. Most lamprey were marked by clipping the double lobed dorsal fin and released back into the river.

Recaptured lamprey—those marked on an earlier survey—were measured, weighed, and tossed into a trash bag. Because sea lamprey retain high amounts of mercury, they pose a potential health risk for predators like eagles and otters. Excess specimens are taken out of the environment and disposed of in a landfill.

The Bad River spawning survey is part of the lamprey control program, a regional effort initiated by fish management agencies around the Great Lakes to reduce the impact lamprey have on the Lake Superior ecosystem.



Sea lamprey traveling through the Bad River falls to upriver spawning areas are captured in cage traps. Dan North (right) and Mike Plucinski, GLIFWC Great Lakes fisheries section, hoist a load of lamprey while intern Kristen Anderson prepares to transfer the catch into a plastic bin. (photo by CO Rasmussen)

The Bad River population estimate, coupled with estimates from other Lake Superior tributaries, allow American, Canadian, and tribal fisheries managers to better gauge the effectiveness of lamprey control measures.

"Through the use of TFM chemical applications, barrier dams on rivers, and other techniques, we've reduced the lamprey population by around 90% of their pre-control numbers," said Bill Mattes, Great Lakes section leader. "Once an exotic species is established, its nearly impossible to eradicate it. You have to learn to live with it."

Nature did not intend for the lamprey to inhabit Lake Superior country, but they managed to find their way following shipping routes from the Atlantic Ocean and through the Great Lakes early in the twentieth century. Like other exotic species that have followed this course, lamprey are harmful to indigenous species.

Averaging around 20 inches long, lamprey most often prey upon large fish like lake trout, whitefish, and salmon. While the eel-like creatures still pose a threat to sport and commercial fishing, their long-term numbers seem to be manageable.

"An exotic species like the spiny water flea is difficult to control in Lake Superior," Mattes explained. "But lamprey are unique because they come into rivers where we are better able to control their numbers."

The most effective means to keep lamprey in check is the chemical agent TFM, Mattes said. On the Bad River, TFM is applied to the water in the fall, killing lamprey larvae. The chemical does not appear harmful to sturgeon, and the fall treatment occurs when most of the ancient fish have returned to Lake Superior.

Another proven control measure are barrier dams located on Lake Superior tributaries. These custom designed dams prevent adult lamprey from reaching suitable spawning areas.

The Great Lakes section monitors barrier dams on the Middle River near Poplar, Wisconsin and the Misery River near Twin Falls, Michigan.

Anyone wishing to take a dip in lamprey waters can rest assured. Mattes said they pass on swimmers in favor of cold-blooded fish.



Sea lamprey are marked by clipping the double lobed dorsal fin. (photo by CO Rasmussen)

# Combating alien invasions

## Tribes part of united effort to thwart spread of non-native species

By Sue Erickson  
Staff Writer

**Odanah, Wis.**—Protecting the resources in treaty ceded territories is very important for tribes, because without a healthy resource, treaty rights to harvest off-reservation are diminished.

For this reason the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and its member tribes have been working in conjunction with state, federal, and local resource managers to combat several invasive exotic plants and animals in the ceded territory over the past ten years.

Non-native (exotic) species such as lamprey eel, purple loosestrife and zebra mussel, threaten native resources, such as manoomin (wild rice) and lake trout, which are important to the tribes both as a food source and culturally.

Several years ago, tribes became involved at the national level when an ex officio status on the Aquatic Nuisance Species Task Force was granted to the Native American Fish and Wildlife Society (NAFWS), a national tribal organization involved in resource management.

The NAFWS seat was jointly filled by Faith McGruther, Chippewa Ottawa Treaty Fishery Management Authority (COTFMA) executive director and GLIFWC Biological Services Director Neil Kmiecik. The ex officio seat provides for tribal input, comments and recommendations, but is a non-voting seat.

GLIFWC staff have worked cooperatively on population estimates for both the lamprey eel and studies on river ruffe in Lake Superior and its tributaries. GLIFWC has also long been involved in efforts to eradicate and control purple loosestrife, which threat-

ens habitat for waterfowl, wildlife and wild rice in the Lake Superior region.

More recently, GLIFWC began participating in an effort to consider ways to prevent the spread of zebra mussel both in inland lakes and uninfested areas of Lake Superior.

Cooperation with tribes, states and local organizations is part of new national initiative recently announced by President Clinton. In recognition of the growing problems caused by exotic species, Clinton issued an executive order expanding the national effort to combat the unwanted host of alien plants, animals and insects.

The order creates the Invasive Species Council and directs it to develop a comprehensive plan: 1) to minimize the negative impact of invasive species on human health, the environment, and on economics; and 2) to determine measures required to prevent further intro-

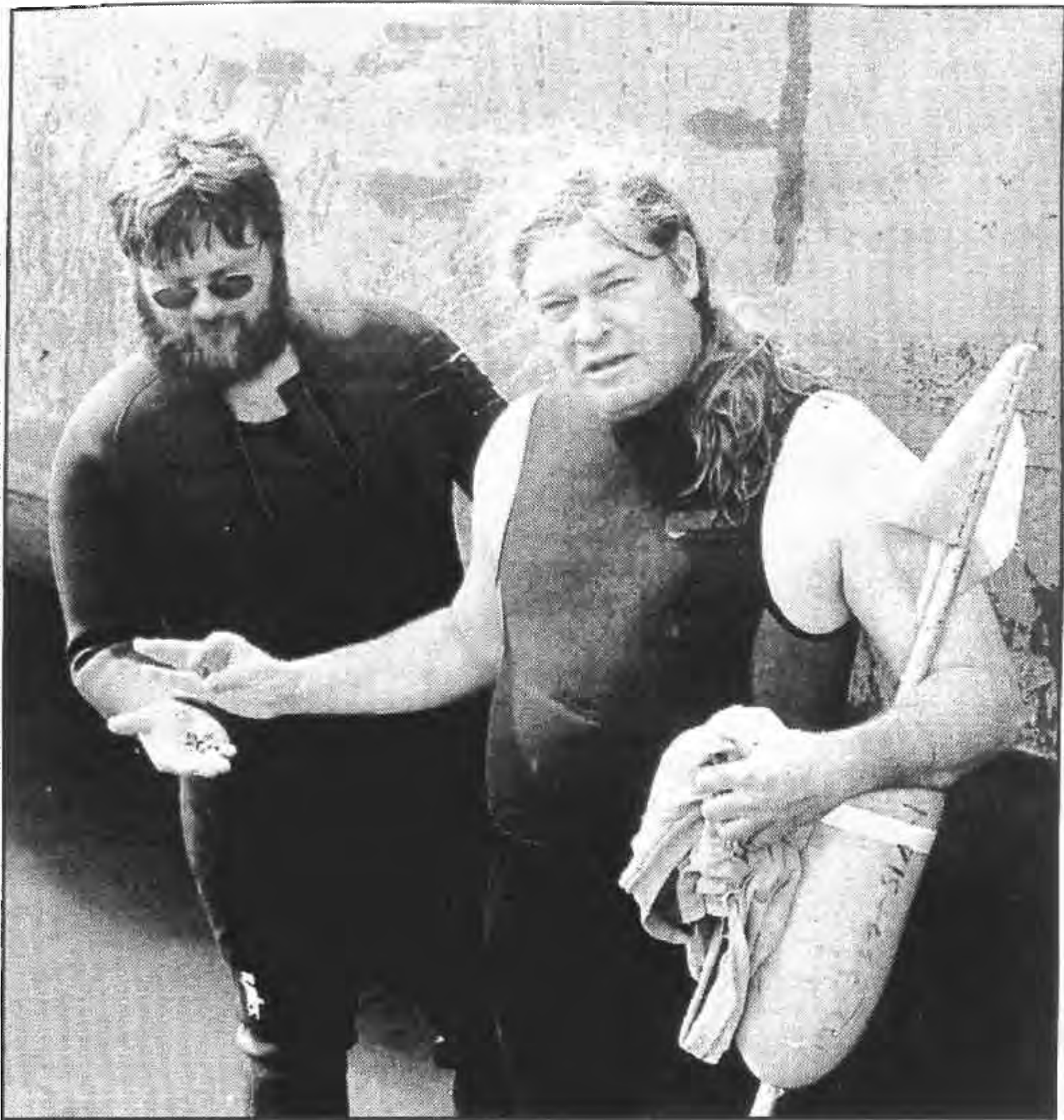
duction and spread of invasive species.

The Council, jointly chaired by Agriculture Secretary Dan Glickman, Interior Secretary Bruce Babbitt, and Commerce Under Secretary James Baker, is directed to work cooperatively with numerous groups including states, tribes, scientists, universities, environmental groups, farm organizations, shipping interests, and the business community.

In support of the national war on invasive species, Clinton proposed a \$28.8 million increase in funding for the fiscal year 2000. This includes increased funds for combating exotic pests and diseases as well as accelerating research on habitat restoration and pest management strategies.

(Information was excerpted from a joint press release Feb. 3rd from the U.S. Departments of Interior, Agriculture and Commerce.)





## New zebra mussel task force in Chequamegon Bay pushes for improved state regulation

By Sue Erickson, Staff Writer

**Red Cliff, Wis.**—The need for more stringent regulations aimed to prevent the spread of zebra mussels to Wisconsin's inland lakes and rivers was brought to the attention of the Voigt Intertribal Task Force (VITF) by Erv Soulier, Director, Bad River Natural Resources Department (BRNRD) during a June 3rd meeting at Red Cliff, Wisconsin.

The VITF is a standing committee of the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) concerned with the treaty rights and natural resource management in the inland treaty ceded territories under the Voigt decision.

Soulier requested and received support from the VITF to encourage the Wisconsin Department of Natural Resources (WDNR) to develop a more effective control program, possibly using the Minnesota zebra mussel control program as a model.

Soulier reported that divers recently found zebra mussels attached to a barge which had been moored near the hot pond in Ashland, Wisconsin for about a year. Some of the mussels had loosened from the barge and started colonizing in the Chequamegon Bay.

A recently formed Zebra Mussel Task Force organized to monitor the presence of zebra mussels in the Chequamegon Bay area. Representatives from the BRNRD, GLIFWC, WDNR, U.S. Fish and Wildlife Service, the U.S. National Park Service, and the U.S. Bureau of Indian Affairs comprise the task force.

Soulier said the task force soon discovered that the state has few regulations preventing the spread of the mussels into inland rivers and lakes, with the exception of the St. Croix area where there already is an active task force. Rules and regulations are already in place to protect the Lower St. Croix and its diverse native fresh water mussels.

Soulier said that the Bad River Tribe's primary concern is to protect the Kakagon River and Slough and the walleye fishery.

Since zebra mussels can change the water chemistry and destroy existing, native mussel populations, the potential to change the walleye habitat is a concern to tribal resource managers.

## Plan to combat zebra mussel spread into St. Croix released

**Odanah, Wis.**—Despite growing populations of zebra mussels in the Mississippi River, this harmful exotic has not yet managed to infest the St. Croix River. An action plan recently released by the St. Croix Zebra Mussel Task Force hopes to keep it that way.

"Last summer's diving and sampling showed no evidence that zebra mussels have moved into the river, so the St. Croix River remains uninfested" said Glenn Miller, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Inland Fisheries Biologist.

"With continued help from the recreational community we hope to make sure that this exotic animal does not establish itself in the river," Miller said.

Enforcement efforts, including random inspections of boats moored anywhere on the river will be continued this year. If divers find a boat that has zebra mussels attached, the boater will be ordered to have his/her boat removed and cleaned and could face fines from either Minnesota or Wisconsin.

The National Park Service (NPS) will continue to restrict access to north-bound boats at their checkpoint, about six miles north of Stillwater, Minnesota. Boaters wishing to travel above this area must have their boats cleaned and receive an inspection certificate.

The Zebra Mussel Task Force coordinates actions among resource management agencies and others to prevent the spread of zebra mussels into the St. Croix River.

The Task Force membership includes: the Minnesota and Wisconsin Departments of Natural Resources, NPS, U.S. Fish and Wildlife Service (USFWS), GLIFWC and the Minnesota-Wisconsin Boundary Area Commission.

A copy of the 1998 Action Plan can be obtained from any of the Task Force agencies by calling:

Minnesota DNR—888-646-6367 or 612-296-2835; Wisconsin DNR—608-785-9000; NPS—715-483-3284; USFWS (LaCrosse)—608-783-8450; GLIFWC—715-682-6619; Minnesota-Wisconsin Boundary Area Commission—612-436-7131 or 715-386-9444.

For more information contact Glenn Miller, at the above listed number; email gmiller@glifwc.org or write to P.O. Box 9, Odanah, WI 54861.



*Most zebra mussels are thumbnail-sized, but they can reach two inches long in their 2-year life span. The above graphic is larger than actual size. (Reprinted from the University of Wisconsin Sea Grant Institute.)*

## Zebra mussel overview

(Editor's note: The following information has been excerpted from the Sparktec Environmental Inc. website at [www.sparktec.com/zebra.htm](http://www.sparktec.com/zebra.htm).)

Zebra mussels (*Dreissena polymorpha* Pallas) are native to the Black, Caspian, and Azov seas of southern Europe and Asia. They are abundant in freshwater lakes, rivers, canals and estuaries of Great Britain, Germany, Eastern Europe and the western Soviet Union following introduction some 150 years ago.

The mussels were first discovered in North America in 1988 in a benthic sample from Lake St. Clair. All indications point to their arrival through the ballast water of a European freighter in 1985 or 1986.

Following their discovery in Lake St. Clair in 1988, zebra mussels have quickly spread throughout the Great Lakes and into inland freshwater lakes, rivers and canals throughout Ontario, Quebec, and the eastern states.

### Life stages

Two stages of the life cycle of the zebra mussel are of particular importance. The first stage, the veliger stage, is a juvenile stage of the mussel's life cycle. This is the only life stage that is planktonic in nature (characterized by free swimming activity). Veligers are microscopic in size, ranging from 40-70 micron in diameter at hatching, growing to 180-290 micron in diameter at the point of settlement. The veliger stage is an adaptation to allow the dispersion and settlement of zebra mussels over wide ranges. This life stage lasts for approximately 2 to 3 weeks. During this stage, settling in suitable habitats occurs, and the growth and feeding necessary to reach the adult reproductive stage begins.

The adult life stage represents the reproductive stage of the zebra mussel life cycle. Adult zebra mussels are extremely prolific, with adult females being capable of producing 30,000 to 40,000 eggs per brood. In warmer climates, where stable temperatures extend the length of the breeding seasons, adult females can lay up to 1,000,000 eggs during the length of the reproductive season.

### Impact

Upon attachment to a suitable substrate, zebra mussels lay byssal threads to secure themselves. Healthy mussels can lay 5-6 threads per hour, rapidly forming firm attachments. Their ability to colonize in densities of 300,000 to 1,000,000 per square meter, forming thick layers over top of each other, has led to significant difficulties for water users.

The impact of zebra mussels, the most serious invader of the Great lakes, was quickly realized on both an ecological and financial front Shortly following their discovery in Lake St. Clair, industrial and municipal water users began to experience operational difficulties. Intake screens and pipes, forebays, once through cooling systems and a variety of system waters (i.e., bearing cooling systems, fire systems, etc.) have all been affected.



# Invasive purple loosestrife threatens wetlands

## GLIFWC website used in loosestrife control effort

By Miles Falck  
GLIFWC Wildlife Biologist

**Odanah, Wis.**—Purple loosestrife is a perennial herb native to Europe that has become established in many North American wetlands. Purple loosestrife can be identified by its large purple flowering spike which blooms from mid-July through mid-September.

Loosestrife reproduces primarily from seed, but mature plants will also develop from adventitious roots and root fragments. Moist soils exposed to direct sunlight provide the best germination sites for the water-dispersed seeds of purple loosestrife.

Within its native European range, purple loosestrife comprises a minor component of wetland communities. In contrast, North American loosestrife populations are invasive, and once established, can quickly form dense stands that displace native plant species.

Researchers have hypothesized that purple loosestrife out-competes North American flora because 1) the plant's natural enemies are absent, 2) native plants have not coevolved with loosestrife, and 3) cattail herbivory consumption by muskrats (which are absent from Europe) may provide an additional competitive advantage.

The first record of loosestrife in the Chippewa ceded territories was on the Keweenaw peninsula near Houghton, Michigan in 1900. By 1940 loosestrife had reached Wisconsin near Milwaukee, and by 1985, it was distributed throughout most of Michigan, Wisconsin, and Minnesota. Many of these loosestrife populations have been present for years and are self-reproducing, a situation not seen in Europe where loosestrife is native. In fact, the Houghton population mentioned above is still thriving and expanding today, nearly 100 years after its initial detection.

Wetlands are considered the most diverse and productive ecosystems in North America. The close interspersed of diverse plants, the physical structure they comprise, and an abundance of fresh water provides numerous niches that support a multitude of aquatic and terrestrial organisms. Wetlands also provide physical functions that benefit adjacent biological communities. Wetlands slow the flow of water, allowing impurities to settle out, and they absorb excess run-off, reducing the hazards of flooding.

The draining and filling of wetlands for the purpose of farming their rich soils has already reduced North America's wetland acreage by over 50%. Purple loosestrife threatens North America's remaining wetlands by displacing the native plant community and the wildlife habitat they provide. It is unknown what effect loosestrife will have on the physical functions of wetlands, but they are likely to be altered as well.

### Introduction of loosestrife

Purple loosestrife was introduced unintentionally on the east coast in the 1800's via shipping ballast and livestock bedding, and intentionally by herbalists and beekeepers. The two major routes of seed dispersal are by waterways and road systems. Seeds found in ship ballast and livestock bedding were dispersed over



A mature purple loosestrife plant. The distinctive flowering spike blooms from mid July through early September in the upper Great Lakes region. (Photo by M.J. Kewley)

long distances via commercial boat traffic. Waterborne seeds disperse locally following the shorelines of lakes and streams. The canals and locks that facilitated greater access to the Upper Great Lakes contributed significantly to the expansion of purple loosestrife into the Midwest. Later, roadways became a major dispersal route by providing a nearly continuous corridor of optimal growing conditions (i.e. the moist, open habitats found in roadside ditches). Today, additional routes of seed dispersal include recreational boats and ATV tires.

GLIFWC's involvement with purple loosestrife control began in 1988 with a pilot project in Fish Creek Slough near Ashland, Wisconsin. The success of this project has resulted in an expanded effort to include the entire Bad River-Chequamegon Bay watershed, the Chippewa Flowage, and inventories of the western Upper Peninsula in Michigan and northeastern Wisconsin for anticipated work in the future.

### Purple loosestrife control

The protection and restoration of critical wetland habitats are dependent on the effective control of purple loosestrife. Various means of loosestrife control are available depending on the extent of loosestrife infestation and the characteristics of the site.

**Cutting flower heads**—removing the flower heads before they mature will prevent dispersal and additional plants in the future.

**Digging & hand pulling**—small infestations consisting of young plants in loose soils can be successfully treated if the entire rootstock is removed. However, the roots of large plants or plants

in compacted soils will break and grow into new plants, thereby exasperating the problem.

**Herbicide**—Many sites have been effectively treated with varying formulations of Glyphosate (available commercially as "Roundup" and "Rodeo") or Triclopyr (available commercially as "Garlon 3A") depending on site characteristics. Consult your local resource agency for advice prior to treating any loosestrife infestations with herbicide.

**Biocontrol**—Four insects native to Europe that feed exclusively on purple loosestrife have recently been approved by the U.S. Dept. of Agriculture for release in the U.S. Although biological control will not eradicate purple loosestrife entirely, preliminary results suggest that these insects may reduce purple loosestrife infestations by as much as 90%.

Due to the prolific nature of purple loosestrife, its ability to disperse long distances, and the diversity of public and private land owners involved, effective long-term control requires a coordinated and cooperative effort.

### Interactive website

Towards this end, GLIFWC has established an interactive website for disseminating information, reporting purple loosestrife infestations, and tracking regional control efforts. The web site can be viewed at: [www.glifwc.org](http://www.glifwc.org).

In the future, GLIFWC will be updating this website to include information on additional exotics to watch out for in our region.

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Susan Erickson ..... Editor  
Lynn Plucinski ..... Assistant Editor  
Charlie Otto Rasmussen ..... Writer/Photographer

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## GLIFWC MEMBER TRIBES

Jeff Parker, Chairman  
Bay Mills Indian Community  
Route 1, Box 313  
Brimley, MI 49715  
(906) 248-3241

Donald Moore, Chairman  
Bad River Chippewa Band  
P.O. Box 39  
Odanah, WI 54861  
(715) 682-7111

Roger McGeshick, Jr. Chair.  
Sokaogon Chippewa Tribe  
Route 1, Box 625  
Crandon, WI 54520  
(715) 478-2604

### Minnesota

Robert Peacock, Chairman  
Fond du Lac Chippewa Band  
1720 Big Lake Road  
Cloquet, MN 55720  
(218) 879-4593

Marge Anderson, Chief Exec.  
Mille Lacs Chippewa Tribe  
HCR 67, Box 194  
Onamia, MN 56359  
(320) 532-4181

### Michigan

Wayne Swartz, Chairman  
Keweenaw Bay Indian Comm.  
107 Bear Town Road  
Baraga, MI 49908  
(906) 353-6623

Richard Williams, Chairman  
Lac Vieux Desert Band  
P.O. Box 249  
Watersmeet, MI 49969  
(906) 358-4577

### Wisconsin

gaiashkibos, Chairman  
Lac Courte Oreilles Band  
2700 LCO Tribal Government  
13394 W. Trepania Road  
Hayward, WI 54843  
(715) 634-8934

Tom Maulson, Chairman  
Lac du Flambeau Band  
P.O. Box 67  
481 Little Pines Road  
Lac du Flambeau, WI 54538  
(715) 588-3303

George Newago, Chairman  
Red Cliff Chippewa Band  
P.O. Box 529  
Bayfield, WI 54814  
(715) 779-3700

Lewis Taylor, Chairman  
St. Croix Chippewa Band  
P.O. Box 287  
Hertel, WI 54845  
(715) 349-2195