

Mazina'igan

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Early season yields excellent treaty harvest

By Sue Erickson
Staff Writer

Odanah, Wis.—The 2010 off-reservation spring fishing season was bountiful. Nature offered the tribes an early start, fair weather and a generous supply of fish for family tables and upcoming feasts.

The March meltdown put Wisconsin tribal spearers on the lakes as early as March 31. First ones out, Lac Courte Oreilles tribal members speared 39 walleye on Sand Lake, Rusk County that night.

By the end of the season, tribal spearers brought home 34,157 walleye from Wisconsin ceded territory lakes. While this is the largest annual tribal harvest since the treaty, spring spearing season began in 1985, it is much less than the estimated annual state angler harvest of 257,000 walleye. In addition to walleye, tribal members harvested 333 muskellunge in ceded territory waters.

At Mille Lacs Lake both net and spear were used to harvest 123,956 pounds of walleye from a quota of 132,500 pounds and 9,743 pounds of northern pike from a quota of 12,496 pounds. This was the largest harvest since

the start of modern-day treaty fishing in Mille Lacs Lake in 1998.

Mille Lacs tribal members began netting early as ice began to crack and move out. However, according to GLIFWC Enforcement Chief Fred Maulson, the weekend of April 9-11 saw the season in full swing with tribal members from a number of participating treaty tribes arriving to set nets and spear.

In Michigan the Lac Vieux Desert Band also experienced a successful season, harvesting 4,798 walleye between April 1 and April 24 from about twenty lakes. Tribal members from the Keweenaw Bay Indian Community harvested 1,592 walleye from Portage Lake, Houghton County.

Monitoring/management

As in previous years, the opening of treaty spearing and netting triggers GLIFWC's intensive monitoring system that is maintained throughout the season. GLIFWC supplies monitoring teams for each landing where harvest takes place, bringing aboard and training limited term employees to work with permanent, full-time staff.

About 131 additional enforcement staff and seasonal creel clerks recorded the nightly catch and biological data. Many are veterans of past seasons, so



Preparing to set nets in Mille Lacs Lake, Lac du Flambeau fishermen enjoy a beautiful evening with glassy, calm water. Warm temperatures and mild winds for most of the season made for prime conditions as tribal members set and lifted nets on the big lake. (Photo by Wesley Ballinger.)

are very familiar with the operation as well as the regulations. However, each spring, GLIFWC sponsors a one-day training and orientation for these seasonal employees.

"GLIFWC staff takes seriously their responsibility to help manage the treaty spearing and netting seasons.

Starting in winter, staff works with state Departments of Natural Resources (DNR) to work out safe harvest figures and then work with tribes to establish quotas. This is in advance of the daily onsite monitoring work once landings are open and fishing begins in earnest. It's (See GLIFWC staff, page 23)

Climate talks heat up among GLIFWC, partners

By Charlie Otto Rasmussen
Staff Writer

Odanah, Wis. Native trout cruising cold water currents, rolling stands of broad sugar maple trees, moose high-stepping through lush wetlands; add a few more degrees Fahrenheit and these fundamental resources—plus many more—face a grim future. Climate change is indeed creeping along,

stimulated by rising annual temperatures. Among the most critical questions now: how high will it go?

"It's impossible to know exactly how much the climate will warm but we can present a range and quantify it," said Professor Dan Vimont, University of Wisconsin Center for Climate Research.

That simply means climatologists have pegged likely temperature increases in the decades ahead and

backed it up with hard data. Somewhere around the middle of the 21st Century, average temperatures in the region are expected to hover four-to-nine degrees higher than today. And the scale of environmental impacts that transpire between the low and high-ends of the rise is dramatic. Ceded territory waters—like small streams and shallow lakes—could experience increased seasonal shortages or disappear completely.

"Looking toward 2050, temperatures are going to increase. It's going to be important for communities, governments and climate scientists to work together. Adaption and mitigation are needed," Vimont explained to a February 4 gathering of fifteen natural resource managers from the Great Lakes Indian Fish & Wildlife Commission (GLIFWC) and a handful of its member tribes. "The goal is to encourage temperatures on the low end of the scale to avoid dangerous climate change."

Since activity like burning fossil fuels to produce electricity and power motor vehicles is a prime driver in climate change, humans can help put the breaks on how high temperatures rise. Wind, photovoltaic, and other clean energy sources being developed by private industry and governments—including many tribes—are crucial elements in

curbing the harmful buildup of airborne gasses.

"Large scale increases of CO2 in the atmosphere is caused by humans. No one really doubts that," said Vimont. Increasing the energy efficiency of buildings and cars will reduce emissions of carbon dioxide (CO2), which blankets the earth and creates a greenhouse effect by preventing heat from escaping the planet.

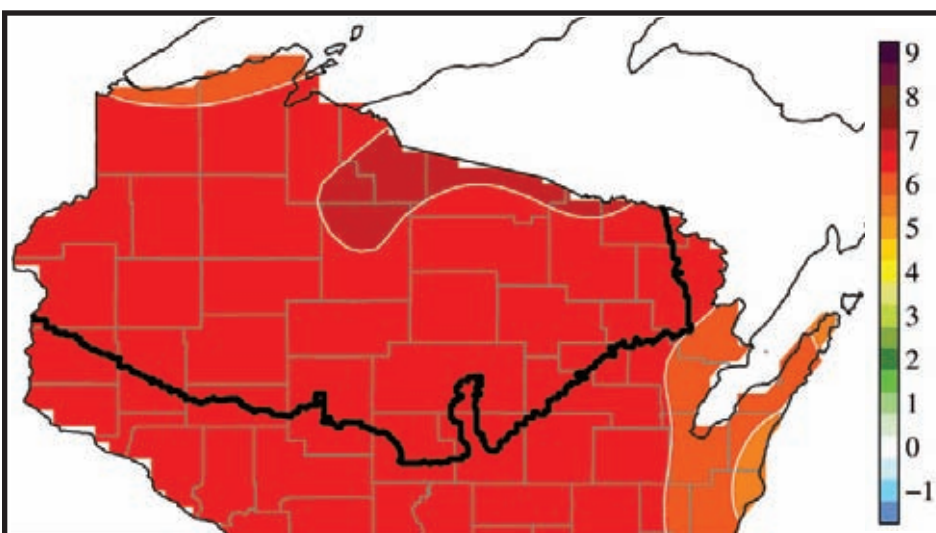
Rolling out a plan

As the snow season checked out of the ceded territory a month early this past winter, natural resource managers were busy brainstorming how to grapple with local climate change effects.

A United States Department of Agriculture-sponsored event held in Rhinelander February 24-25 drew more than 65 professionals from tribal, state, and federal agencies along with representatives from a number of stakeholder organizations. Participants—including GLIFWC's Esteban Chiriboga—reviewed the latest climate change projections for northern Wisconsin and pinpointed opportunities to work cooperatively including technology and information sharing, and ecosystem management.

(See Climate change, page 7)

Temperature increases by mid-century



Mean temperature will warm by 4/9 degrees Fahrenheit/century. (Map by WICCI.)



Treaty harvests really count in tough economic times

A commentary by Chairman Mic Isham, GLIFWC Board of Commissioners Aniin!

Spring came fast and warm, sending Tribal people to the lakes and sugar-bush early this year. Maple trees have been tapped and sugar made already. The Tribes have completed the spearing and netting season. According to the harvest figures so far, it was a bountiful harvest. It doesn't surprise me that many tribal members made use of the harvest opportunities. Due to the economic conditions in our communities and throughout the country, our Tribal people rely more on harvesting to help ensure their standard of living.

Our Chiefs who negotiated the treaties sure had foresight! They knew our reliance on the hunting, fishing, and gathering would get us through even the toughest of times. Times today are not as tough as they were for us in the late 1800's and early 1900's, but lately they have been pretty rough. Tribal revenues are down all over, and other funding sources are less readily available. Jobs for our people in cities have been lost due to massive layoffs. Our members have been coming back home to survive and fall back on our old reliable way of life. Chi-miigwech to our Chiefs for thinking seven generations into the future!

I must acknowledge all our creel teams, GLIFWC and tribal staff for the near flawless administering of this year's plentiful harvest, a modern-day record. They have always done a good job, and this year their skills were put to the test with an early, fast-moving season. Miigwech!

I also have to speak about the unsettling issue of the fish remains found dumped near Mille Lacs. These have been on the news stations and have fueled the sometimes hateful rhetoric and calls to action against tribal members and treaty rights on various blogs. I am pleased that the Fond du Lac Band has issued one citation to an individual who allegedly dumped a large amount of fish remains on private property. That person will be dealt with in their tribal court, and investigations into the other incidents will continue.

I know Tribes do not condone this kind of behavior and while justice will be meted out by the tribal court, convicted violators will also feel the sting of disapproval in tribal communities.

**Miigwech
Mic Isham, GLIFWC Chairman**



GLIFWC creel clerks John Patrick (left) and Todd Stone take data on fish netted off the Malmo landing on Mille Lacs Lake this spring. Creel teams are stationed at all open landings. (Photo by Wesley Ballinger.)



Fifteen-year-old Joe Szwerek Jr. looks back into the Harris Lake shallows after spearing a thirteen-inch walleye. He fished with dad Joe Sr. (seated) and cousin Philip Couture, who piloted the boat on the April 7 trip. The Bad River members said that in spite of the unusually early fishing season—nighttime temperatures were largely mild. (Photo by Charlie Otto Rasmussen.)



Looks like a good catch for Robert Chapman, Lac du Flambeau, as he hauls his net out of Mille Lacs Lake! Chapman along with other tribal members experienced a very successful season while fishing on Mille Lacs this spring. The unseasonably warm March got the 2010 season off to an early start, and tribal members found the fishing good even before the middle of April. The combined tribal harvest of walleye for the spring season totaled 123,956 pounds. (Photo by Wesley Ballinger.)

On the cover

Hiding, bagashkanzhiins (young American woodcock also known as timberdoodle) quietly blended into the wooded scenery of the Chequamegon-Nicolet National Forest floor when GLIFWC Wildlife Technician Tanya Aldred stumbled upon this youngster and siblings.

Aldred estimates the chick to be less than 14 days old because it was not ready to fly. A spring to fall resident of the northland, bagashkanzhiin heads south for the winter. (Photo by Tanya Aldred.)



Proudly displaying their catch for the night are eight-year-old Lac Courte Oreilles tribal members Joshua Hanlon and Anthony Conger. Anthony has been spearing for three years and patiently guided Joshua through the spearing process as it was his first year. The boys spent about three hours on the lake and were happy with their catch. The boys speared Little Yellow Lake, Burnett County on April 23rd with Ed Martin, also a LCO tribal member. "It was a great night to see two young boys out enjoying spearing," commented GLIFWC Warden Tom Kroepflin. (Photo by Tom Kroepflin.)

Over twenty years electrofishing Nets huge database on walleye population

By Sue Erickson, Staff Writer

Odanah, Wis. Veterans of numerous midnight patrols along the shores of ceded territory lakes, GLIFWC's electroshocking crew leaders Butch Mieloszyk and Ed White recall the days when GLIFWC had only one shocking boat, no radios, no cell phones, seemingly hand-drawn, incomplete maps from the Wisconsin Department of Natural Resources (WDNR) map archives, and not even a spare tire for their boat trailer. But what they did have was the determination to get the job done as the then fledging Commission sought to build its own data base on walleye populations in the ceded territory lakes.

When Mieloszyk joined GLIFWC staff as its first fishery technician, one of his first challenges was to construct an electroshocking boat. Using manuals, checking out the US Fish and Wildlife Service (USFWS) boat, and information Neil Kmiecik, Inland Fisheries Biologist at the time, obtained from the WDNR, the boat slowly transformed into an electrofishing boat replete with droppers. Wired by Bad River's Mitch Soulier, it was the first of 14 boats that Mieloszyk would help assemble over the years.

1985 Mieloszyk recounts was the trial year for the new boat and crew, getting familiar with the boat and its operation. It wasn't until 1987 that both spring and fall electrofishing assessments were undertaken.

"With only one boat, it took us sixteen weeks. Starting the third week in July, we electrofished until early November, experiencing the bugs and heat along with ice and snow that year."

In 1987, Ed White joined GLIFWC staff, starting in the middle of his birthday party on April 17. He was about to enjoy his cake and ice cream when Butch pulled up, and they were on the road, electrofishing boat in tow.

"That's one thing about the spring season; you don't know when it's going to start. Depends on ice-out, so you can't plan," Mieloszyk states.

In '87 electrofishing was also stirring some controversy, White recalls. For one, the WDNR was saying it was illegal to electrofish off the reservation and threatened to arrest the crew and confiscate their gear. The crew moved to on-reservation waters that night and kept on electrofishing, and that dispute got settled off the lakes, avoiding jail time and lost equipment.

Also, lake residents were sometimes alarmed when this strange looking boat with lights, spider-like appendages, and loud generator putted along their shoreline at night with Indians dip-netting fish into the boat. "There were complaints," Mieloszyk recalls, "And some people even thought we were a space ship."

Since the electrofishing season starts about the same time as the off-reservation spearing season, people assumed they were fishing with a shocking boat. Talking to the people helped, at least with those who would listen, he says.

With only one boat and crew, only a few lakes could be done in a year. But things picked up in 1989 when, through the efforts of Senator Daniel Inouye, some federal funds were made available for assessment work that would include federal and state participation as well.

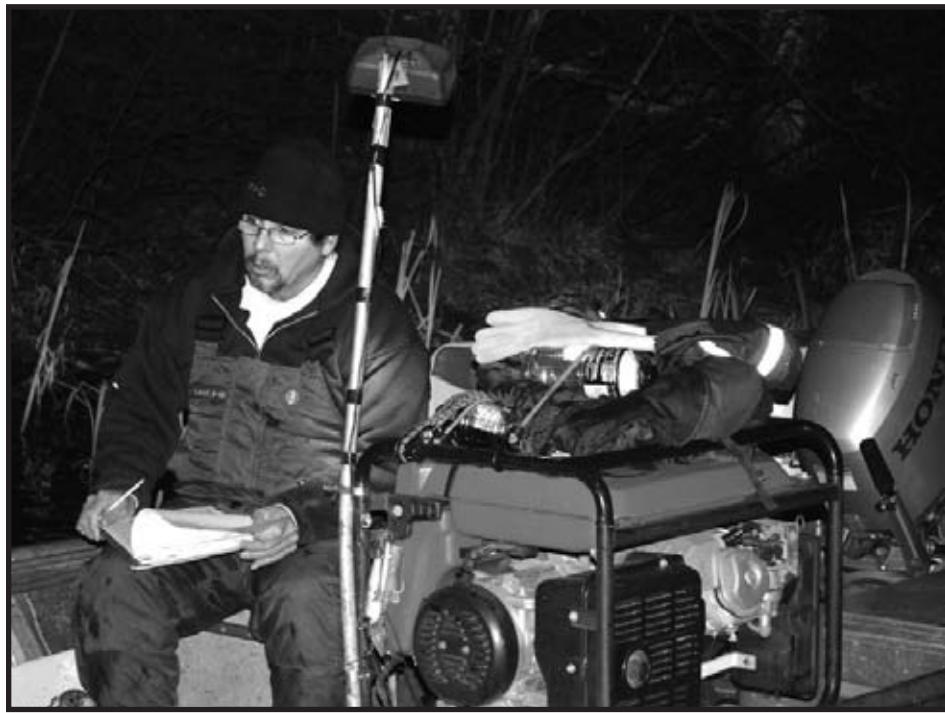
GLIFWC's Inland Fisheries Section got another electrofishing boat, and the fisheries tech crew was officially launched into the modern world with their very own computers. They were styling now!

A joint assessment performed in 1990 of ceded territory lakes resulted in the *Casting Light Upon the Waters* report, developed by federal, state and tribal fishery managers. Released in 1991 the report confirmed that spearing did not harm the fishery.

Today, GLIFWC operates four electrofishing boats. Both Mieloszyk and White are crew leaders. Temporary crew is hired for both the spring season (about two weeks) and the fall season (about six weeks). No more of those extended seasons from July to November! They are also joined by boats from the State of Wisconsin, the USFWS and four Ojibwe tribes—St. Croix, Sokaogon/Mole Lake, Bad River and Fond du Lac.



Time for clean-up after a busy spring season. Crew Leader Butch Mieloszyk cleans off an oxide build up that accumulates on the hull of the shocking boats. If left, the oxide layers impede the electroshocking mechanisms of the boat. (Photo by Sue Erickson.)



Crew Leader Ed White records data as crew "work-up" walleye aboard an electrofishing boat. Population estimates result from these mark-and-recapture surveys. The fish are marked on the first run and on the second run the number of recaptured, marked fish is recorded. (Photo by Sue Erickson.)

After twenty plus years plying northern lakes at night, both Mieloszyk and White still like their jobs. While weather conditions can make for a night of misery, they consider being out on water a good form of work. It's another world out there at night. "You see and hear things you normally don't," says White. And then again, sometimes things can seem extremely unusual, like sightings of Big Foot or the giant water pine snakes, this said tongue-in-cheek.

Immediately after 9/11 all the crews noticed the emptiness of the sky that was totally devoid of planes with the exception of the Lifeline copter. "It was strange. All air traffic stopped," Mieloszyk says. They've also witnessed fighter pilots from Duluth engaged in night-time war games when surveying Bond Falls Flowage. The wild world also comes alive at night and the crews encounter all kinds of wildlife as they make their ways along lakeshores. "Fish jump right in the boat. I even had a muskie land in my lap," White recalls.

Work pretty well goes on through thick and thin for the electrofishing boats, but occasionally they shut down. Usually, it's high winds or ice.

In 2002 during a joint assessment of Mille Lacs Lake, a USFWS boat actually sunk, and one of GLIFWC's boats was swamped, Mieloszyk recalls.

Icy conditions, too, may call for a shutdown. The wet floor of the boat turns into an icy sheet, so safety becomes a factor, and the switch mats which control the shockers freeze up. Sometimes a little sand from the shore helps with traction, but when this doesn't work, it's time to call it quits.

Besides the routine spring and fall assessments, GLIFWC's electrofishing crews have participated in a variety of other projects, including fyke netting assessments. They also netted male walleye from Butternut Lake, Forest County to fertilize eggs from Kentuck Lake, Vilas County, for future stocking in Kentuck as part of walleye rehabilitation project. On another venture they hand-carried huge, flopping male lake trout from the federal hatchery truck to stock into Round Lake, Sawyer County. "I really got slapped up on that one," White remembers.

They have also done stream shocking on foot, largely to provide a data base on fish species in specific streams and rivers in relation to proposed mining projects near Crandon and Ladysmith, Wisconsin.

They also annually collect walleye samples for mercury testing, which ultimately provide the information recorded on GLIFWC's mercury maps, and more recently assisted in the collection of muskie cleithra, cranial bone, used for aging.

Public relations is another aspect of their work. People have questions, and both White and Mieloszyk take time to answer them, even doing a few "ride alongs" over the years for lake association and Voigt Intertribal Task Force members. They've even given demonstrations to student groups, showing how an electrofishing boat operates.

Powerwashing the electroshocker when leaving for a different lake has been another PR/education opportunity. "People watch us and ask questions," Mieloszyk says, "so we get to do a little education on invasives."

Once the field work is complete, it's back in the office for the dreaded data entry—aging otoliths, spine and scale samples. But then there's also always maintenance work to do on the boats and nets.

You just never know what may come up in the life of a fishery technician—that "Other duties as assigned" part of the job description. White even got tapped to model for the cover of GLIFWC's book, *Ojibwe Journeys*, posing as a lightly-clad, traditional Ojibwe runner!

From day to day, you just never know.

What is known is that as a result of the many midnight hours marking and recapturing walleye, the data base on the ceded territory walleye today probably provides one of the most comprehensive pictures of a fishery in this nation—a huge, cooperative accomplishment! And, after twenty plus years on these lakes in spring and fall, White and Mieloszyk have a wealth of knowledge about those lake ecosystems, more than just about anybody.

(For more information see Spring walleye population estimates, page19)



Getting the job done:

Bad River targets walleye/yellow perch restoration

By Sue Erickson
Staff Writer

Odanah, Wis. With a soft splash the last of 500 walleye brood stock fish landed in one of the Bad River hatchery's eight outside holding cribs. With a flip of her tail, the female disappeared deep into the crib's water. This last fish signaled the end of fyke-netting for walleye, an activity that consumes the first several weeks of each season for Bad River's six-man hatchery crew.

For 2010 the Raymond 'Snooty' Couture Fish Hatchery got an early start to its 38th year since the hatchery building went up on the shores of the Kakagon River. With its walleye brood stock secured by April 12, the Kakagon would be once again open to tribal fishing.

The hatchery's stocking program focuses on walleye and yellow perch. According to Bad River Natural Resource Department (BRDNR) Director Ervin Soulier, walleye stocking has been a priority since a crash in the walleye population in the 1970s. The goal of the program has been to re-establish the population in order to sustain a tribal harvest, he says. Currently, opportunity has been restored for tribal harvesters, and the population appears healthy. However, Soulier believes a more comprehensive population study needs to be undertaken. "Current mark-and-recapture estimates just give us a glance at the big picture," he says, "and those are positive, but we need to get a better look at the population as a whole."

To get a more accurate read on the stocking impact, the hatchery will

begin marking fry with an antibiotic called oxytetracycline which makes an imprint in the fish's otolith (ear bone). The imprint can be detected if captured as an adult. "By doing this, we will be able to get a pretty accurate estimate on the survival rate of our stocked fish," Hatchery Foreman Ed Leoso says.

Yellow perch became a second target species when BRDNR staff noticed a significant decline in the species and simultaneously in the numbers of muskies in the Kakagon Sloughs.

The hatchery crew uses huge fyke nets to capture their brood stock. Held open by large, round, metal rings, the nets capture and hold fish swimming freely inside the mesh tunnel. Captured fish are taken aboard one of the hatchery's boats and then quickly transported in holding tanks to the hatchery's dock, where holding cribs stand ready in the Kakagon River.

Separated by sex and readiness to be milked, the walleye are sorted into one of the eight cribs, where they stay until eggs can be milked, fertilized and placed in Bell jars for incubation. Once milked for eggs and sperm, the fish are released back to the river.

After the walleye brood stock is captured, the fyke nets are set once again to snare "mom and pop" yellow perch, also for brood stock. After years of use, even the nets have their own identity. The crew refer to them by name—"Walleye Alley," "Big Round 1," or "Wood Creek," says Leoso. Each net also has its own location in the river.

Inside the hatchery, sounds of bubbling, flowing water can make it difficult to hear. The building is filled with rows



Hilary (Juni) Butler carefully tends walleye eggs incubating in Bad River's Raymond Snooty Couture Hatchery. The hatchery collected about 5.1 million walleye eggs this spring, a number which falls short of most previous years. Hatched fry will be stocked into reservation waters and some will be transferred to rearing ponds for further growth. (Photo by Sue Erickson.)

of Bell jars for incubating walleye eggs and also several turbine incubators used for the yellow perch, which require a unique system for incubation. Their eggs are released in strings that are stretched and laid out on layers of wide-mesh screening inside a water-filled turbine, Leoso explains.

The constant flow of water required throughout the delicate incubation process is solar and wind generated. However, several back-up energy sources are available in case of emergency. Both water flow and water temperature are critical to successful incubation. Hatchery personnel monitor the building 24-7 during the incubation period, and an alarm system is in place in case water flow slows or quits.

The hatchery supports 160 Bell jars, each holding two quarts of eggs. However, this year egg production was down. The hatchery saw fewer, but larger eggs, Leoso says. Consequently, the jars held about 1½ quarts of eggs, a total of 5.1 million. About a 66 percent hatch rate is anticipated which will equate to 3.4 million fry.

Once hatched, the fry are either stocked back to the on-reservation waters of the Kakagon and Bad Rivers or are among those moved to the outdoor rearing ponds. Leoso estimates about 840,000 fry will go into four walleye rearing ponds and about 340,000 perch fry will go into one perch pond.

Historically, the hatchery has raised walleye fry up to one-and-a-half to three inches for stocking reservation waters in July, the lack of funding preventing a longer growth period. However, this year the hatchery plans to rear fish into September, possibly October, producing the more viable five-to-six inchers.

While the hatchery operates largely on funds from the Bureau of Indian Affairs, grants have helped with special projects. For instance, a grant from the Administration for Native Americans enabled the hatchery to set-up the wind and solar power generation and a grant from the US Fish and Wildlife Service's Tribal Wildlife Grants program funded the rearing ponds.

Looking to the future, Leoso says the hatchery would like to establish a streamside hatchery for the production of lake sturgeon. This prehistoric fish, he says, is "water imprinted," so returns to the waters where it was born. For this reason, hatching the fish in the actual river would allow them to complete their natural return cycle. This, however, remains a goal for the future.

The hatchery's success owes much to Leoso's dedicated crew including: Ken Couture with 36 years on the job; Hilary Butler Jr. with 31 years; Tom Houle with 9 years; Ed Wiggins with 5 years, and Nicholas Blanchard with 2 years, and Tim Wilson, Bad River fisheries biologist and hatchery manager.

Raymond Couture Tribal Hatchery Production

Year	Walleye Eggs	Walleye Fingerlings	Yellow Perch Fingerlings
2004	16,197,930	451,505	0
2005	12,286,185	502,760	0
2006	13,906,500	323,231	0
2007	26,416,000	550,649	51,200
2008	19,812,000	300,752	99,324
2009	7,958,313	134,581	565,787



Ed Wiggins and Ed Leoso, crew at the Raymond S. Snooty Couture Hatchery, quickly released the last fish needed to complete the 2010 walleye broodstock into the holding pens. (Photo by Sue Erickson.)

EPA announces new Office of International & Tribal Affairs

Washington, DC. U.S. Environmental Protection Agency (EPA) has announced an internal restructuring that brings EPA's international and tribal programs together under one umbrella organization called the Office of International & Tribal Affairs (OITA). This restructuring was initiated in response to a request from the tribes to reconsider the proper location of the American Indian Environmental Office (AIEO).

"This change ensures that we approach our relationship with the sovereign tribal nations within our own country in the same way we approach our relationship with sovereign nations beyond U.S. borders," said EPA Administrator Lisa P. Jackson. "I am confident this move will result in new and positive directions for the EPA-Tribal partnership."

"Tribes and tribal lands face disproportionate environmental and public health concerns" said Michelle DePass, OITA assistant administrator. "It is my honor to assume leadership of the AIEO—and I look forward to working with tribal communities as partners in overall efforts to address these pressing issues."



New technique in lamprey control lures lovesick lampreys

By Bill Mattes, GLIFWC Great Lakes Biologist

Odanah, Wis. Thousands of lovesick lampreys find their way to a mate each spring. But how? Researchers are shedding light on just how. What they're finding....stinks. Well, it's pheromones to be exact.

Pheromones are substances shed by one lamprey and picked up by the olfactory senses of another lamprey (i.e. smelled). And starting in late-February, Chris Chosa, GLIFWC lamprey aid, began dripping pheromones into the Misery River on the west side of the Keweenaw Peninsula as part of a cooperative study.

2010 is year one of the three-year study being done under the direction of the US Fish and Wildlife Service's Marquette Biological Station and funded by the Great Lakes Fishery Commission. The study looks to answer two questions: Will lampreys select a stream

with pheromones being added to it? Can lampreys be lured to traps baited with pheromones?

The implications to lamprey control in the Great Lakes are large. Catching lampreys in some streams is easier than in others. For instance, in the Misery River a barrier exists, and 60% of the spawning lampreys are captured annually. Compare this to the Bad River, which is an open system where only 10% of the spawning lampreys are captured annually.

One can readily see the benefit of drawing lampreys away from an open system and into a river with a barrier. Also, if lamprey can be drawn to a trap, catches would be increased in an open system as well.

For now, the verdict is still out on whether or not pheromones will be another tool in the lamprey control toolbox and whether or not pheromones will be effective. Hopefully, the lovesick lampreys' noses will blindly lead them into those smelly, pheromone-baited traps.



GLIFWC LTEs Chris Chosa (background), Ken Spruce (front left), and KBIC Technician Shawn Seppanen set a fyke-net for spawning lamprey in the Firesteel River near Ontonagon, Michigan. (Photo by Gene Mensch.)



Great Lakes Fishery Section Leader Bill Mattes and Mike Plucinski, fishery technician, weigh, measure and record data on sea lampreys trapped in the Bad River this spring. GLIFWC's lamprey trapping is part of a long term cooperative effort with the USFWS Sea Lamprey Control Program to monitor and control lamprey populations in Great Lakes tributaries. (Photo by SE.)

Keep the carp out The search for Asian carp

By Bill Mattes, GLIFWC Great Lakes Biologist

Chicago, Ill.— March came in like a....fish? Well at least this was true for the multi-agency field crews sampling the Chicago area waterways for Asian carp. It was an early start to what promises to be an active field season for those searching for the elusive carp whose DNA was found upstream of a barrier designed to prevent its passage from the Mississippi into the Great Lakes.

March went out like a....water haul. No Asian carp were found upstream of the barrier after 60 hours of electrofishing and 5.6 miles of net being lifted. Currently, more plans are being made to continue the search and hopefully the destruction of any unwanted carp.

Asian carp refers to four recently introduced carps: silver, bighead, black, and grass. Three other carp native to Asia have been here for years; common carp, goldfish, and crucian. It is the silver carp that is famous for jumping into boats and wacking people. In U.S. waterways, silver carp are widespread and abundant. Bighead carp are found in the wilds, but in the U.S. most are raised in ponds as a commercial food-fish and sold in local fish markets as well as exported abroad.

According to the Food and Agriculture Organization (FAO) of the United Nations, the U.S. is a major producer of bighead carp in the world market. Grass and black carp also have commercial applications; they are used in commercial ponds as a bio-control to keep unwanted plants and mussels at low numbers. Carp found outside of fish farm ponds have been introduced as a result of both stocking and escape from ponds during floods.

Native or exotic: Which do you prefer?

By Bill Mattes, GLIFWC Great Lakes Biologist

Odanah, Wis. Great Lakes fish managers are facing hard choices these days, like the choice between native or exotic fish species. Native fish thrive when exotic fish diminish, so argues an article recently published in the North American Journal of Fisheries Management. The article (see below) asserts that having an abundance of exotic smelt and alewife will lead to a shortage of native lake trout and cisco (a.k.a. lake herring).

In Lake Superior, the choice for native species was made nearly a generation ago. Millions of lake trout were stocked which resulted in a "topdown" approach to reducing the number of rainbow smelt. Lake trout eat smelt, therefore more lake trout equals less smelt growing to a ripe old age. That's not to say smelt are all gone. One only needs to drive to the shores of Lake Superior in the spring to see smelt still being caught. But the "hey-days" days of old are largely in the past as long as lake trout, walleye, northern pike and other fish eaters remain in good numbers.

Although lake trout eat smelt they are not the best food for lake trout. The best food is cisco. Smelt are like french fries whereas cisco are like a four course meal. Smelt eat larval fish. So it was not until smelt numbers fell that cisco and whitefish numbers increased in Lake Superior. If lake trout numbers were to decline, the numbers of young cisco and whitefish would also likely decline due to increased predation by smelt.

Ciscos live throughout Lake Superior and, like lake trout, have both shallow and deep-water forms. From the mid-1920's to the mid-1960's thousands of pounds of cisco were harvested from Lake Superior. It is likely that the high harvests were maintained due to the 'fishing-up' of cisco living in different areas of the lake. Harvests first peaked in Minnesota followed by Wisconsin and finally Michigan. In addition, the large numbers of cisco available for harvest were likely related to a 'release' from predation by lake trout, as lake trout too were being systematically removed from the lake.

So with the restoration of lake trout and the added stress of the exotic smelt—a return to historic harvests is unlikely. However, a productive fishery still occurs annually in Minnesota and Wisconsin waters of Lake Superior. And it is not uncommon to see large schools of cisco swimming by when ice fishing the local bays.

Whitefish also inhabit much of Lake Superior, but unlike cisco, lake trout do not eat them in large numbers. Whitefish numbers and harvests are at all time highs in Lake Superior and in some areas of the lake it seems to be the only fish around in recent years. A productive commercial fishery for whitefish has been maintained since the mid-1970's and more recently sport fishers have been attracted to whitefish as an angling opportunity especially during the ice fishing season.

(This article refers to the following report: Stockwell, Jason D., Mark P. Ebener, Jeff A. Black, Owen T. Gorman, Thomas R. Hrabik, Ronald E. Kinnunen, William P. Mattes, Jason K. Oyadomari, Stephen T. Schram, Donald R. Schreiner, Michael J. Seider, Shawn P. Sitar, and Daniel L. Yule. 2009. *A synthesis of cisco recovery in Lake Superior: implications for native fish rehabilitation in the Laurentian Great Lakes*. North American Journal of Fisheries Management 29(3): 626652. Contribution # 1510.)



Sweetgrass or vernal sweetgrass?

The answer is blowin' in the wind

By Steve Garske, *Invasive Plant Specialist*

Odanah, Wis. “I can smell the sweetgrass all around me. I know it’s there, but I just can’t find it!” said the caller last fall. Maybe you’ve heard someone say something like this, or even thought it yourself. With its distinctive and pungent fragrance, sweetgrass is one of those plants that you can detect by smell as well as by sight. But there may be more sweet smells blowing in the wind than just sweetgrass these days.

Sweetgrass (*Hierochloa odorata*, or *H. hirta* subsp. *arctica*) is an attractive perennial grass that flowers early in the spring. It’s a circumboreal species, meaning that it’s native across northern North America as well as Europe and Asia (Eurasia). In the wild it grows in moist meadows, along wetland and bog edges, and along lakeshores and streambanks. Sun-loving and somewhat disturbance-adapted, it is sometimes inhabits moist roadsides as well.

The flowering shoots of sweetgrass usually grow to about 1-2 feet tall, but can reach twice that height. Sweetgrass plants produce relatively few seeds, and the seeds have low viability (often less than 5%). Patches expand primarily vegetatively, through the growth of underground rhizomes. Sweetgrass has a sweet, vanilla-like fragrance that comes from a chemical called coumarin. Once the leaves are dry, they retain their fragrance for many years.

From time immemorial sweetgrass has been regarded as a sacred plant by tribes across North America. Native Americans have used sweetgrass for a variety of purposes, ranging from treatment for windburn and sore throats to “bug repellent” to stuffing for pillows and mattresses.

Traditional Ojibwe people think of sweetgrass as the hair of Mother Earth. The long midsummer leaves are gathered and burned at the beginning of ceremonies. Because it is the hair of Mother Earth, it is usually braided soon after gathering so that it looks nice. Sweetgrass is commonly burned as a purifying essence, similar to incense. The smoke carries our thoughts and prayers to the Creator. Sweetgrass smoke also keeps evil away from one’s home and keeps one safe when traveling.

The Ojibwe also use sweetgrass for basketry and braid it for ornamental pieces. Coiled baskets made with sweetgrass and strips of birch bark typically are relatively small and similar to bowls. Some of these baskets include a lid. Mats and shallow trays were also woven from sweetgrass and birch bark.

The most widely used Ojibwe word for sweetgrass is wiingashk, from the root words wii, which means spicy or aromatic, and also to bind or twist, and gashk, which means herb. The Ojibwe word wicko’bimucko’si refers to sweetgrass that is being used in basketry.

The Europeans have long used sweetgrass as well. In northern Europe it was traditionally placed in front of church doors on Saint’s days. It has also been used in a variety of foods and perfumes. The Polish vodka Zubrówka is still flavored with sweetgrass.

Does any other sweetgrass smell as sweet?

Sweet vernal grass (*Anthoxanthum odoratum*) was introduced to North America from Europe in the late 1700s. Imported as a pasture grass, this short-lived Eurasian perennial predictably escaped to begin its journey across the continent.

Sweet vernal grass is now found across northeast Wisconsin and Upper Michigan, where it inhabits roadsides, fields, and woods edges. It readily colonizes disturbed ground and grows well on poor soils. A close relative of true sweetgrass, sweet vernal grass also has a sweet, vanilla-like smell that intensifies upon drying.

Sweet vernal grass can easily be distinguished from true sweetgrass by its dense cylindrical (as opposed to spreading and triangular) flowerheads. It tends to have narrower leaves and somewhat shorter stature, rarely growing to more than about 2 feet tall. Unlike sweetgrass, sweet vernal grass is not rhizomatous, so individual plants form discrete clumps instead of spreading patches. The seeds of sweet vernal grass have high viability and live for many years in the soil.

Sweet vernal grass is now much more common in the ceded territory than sweetgrass. It grows for miles along roads in rural northern Wisconsin and Upper Michigan, even in relatively remote areas such as the Chequamegon National Forest.

With so much sweet vernal grass around, it’s no wonder how it can be so hard to find the source of that “sweetgrass” fragrance blowin’ in the wind!

Sweetgrass in a changing world

Wild sweetgrass is declining in abundance in the northeastern US, and may be declining here in the upper Great Lakes region as well. Draining of wetlands and development are important causes of sweetgrass decline.

Fire (natural and man-made) was once an important force on the North American landscape, and fire suppression has allowed some open wetlands and wet meadows that once supported sweetgrass to be taken over by woody vegetation.

Gatherers who have not been taught the proper way to harvest sweetgrass, and who pull the underground rhizomes out with the leaves (instead of pinching the leaves off at or above ground level), may unintentionally contribute to the decline of sweetgrass populations.

(See Sweetgrass, page 18)



Sweetgrass in bloom in Gogebic County, Michigan. Inset: Sweetgrass flowers. (Photos by Steve Garske.)



Sweet vernal grass going to seed in late August. (Early-season heads are green.) Inset: Ripe sweet vernal grass seedheads. (Photos by Steve Garske.)

Tribal managers to monitor key species

(Continued from page 1)

“Working with other agencies is a key part of climate change mitigation,” said Naomi Tillison, Bad River Natural Resources Department and workshop participant. “Climate change is going to affect everyone, and the only way we we’re going to meet the coming challenges is by pooling our efforts.”

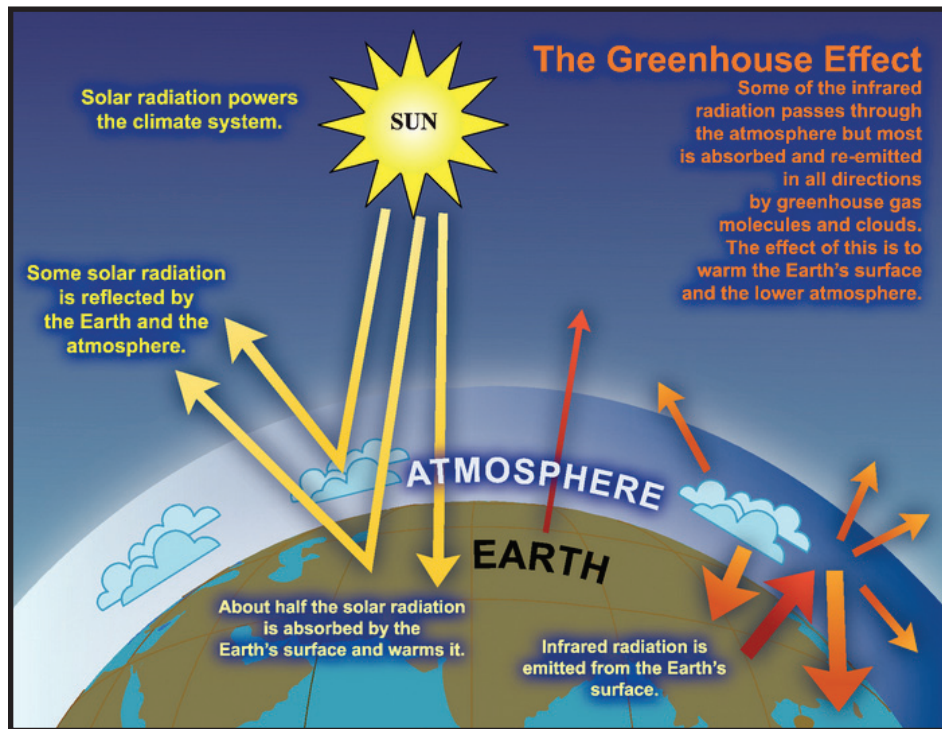
Tillison specializes in water resources in and around the Bad River Reservation and serves as a tribal representative for the Environmental Protection Agency’s Region 5 climate change council. “We’re looking closely at how to adapt our management strategies to encourage species particularly threatened by the changing climate.”

Along with area Bureau of Indian Affairs foresters, Tillison and other Bad River resource staff have convened yet another workgroup to focus on culturally important species on the 142,000-acre reservation. Not surprisingly, the future vitality of the tribe’s famed wild rice stands is a primary concern.

“We’ll be keeping a close eye on our wild rice and sugar maple resource,” Tillison said. “We’re also developing a series of indicator species—plants and animals—that can tell us how healthy the ecosystem is. The presence and range of the wood turtle is one example.”



Climate scientist Dan Vimont updates the Voigt Intertribal Task Force last February on recent planning efforts to help reduce negative impacts from climate change. A University of Wisconsin professor, Vimont also serves as a group leader in the Wisconsin Initiative on Climate Change Impacts (WICCI), which focuses on strategies to deal with the ongoing rise of annual temperatures and associated environmental effects. GLIFWC’s Esteban Chiraboga (pictured left) is a member of the WICCI advisory council. (Photo by COR.)



This model of the greenhouse effect illustrates how the sun powers earth’s climate through solar energy. Certain gas emissions like carbon dioxide (CO₂) prevent the solar radiation from escaping back into space, warming the planet surface and lower atmosphere. Adding more CO₂ into the atmosphere via activities like operating automobiles and burning coal intensifies the greenhouse effect. (Illustration by Intergovernmental Panel on Climate Change.)

What can you do?

What can we do about climate change? Two approaches are needed, according to climate scientist Dan Vimont. We need to reduce CO₂ emissions at a global scale, and prepare locally to adapt to the inevitable amount of climate change that we will face.

The good news is that Wisconsin is already on the path to adaptation through the Wisconsin Initiative on Climate Change Impacts, or WICCI, an organization that brings climate scientists together with resource managers and policymakers throughout the state. GLIFWC has been involved with WICCI since its beginning.

“We can’t do this alone,” Vimont cautions. “As a climate scientist, I need to work with natural resource managers like those in GLIFWC who have the expertise and on-the-ground knowledge to really help direct our adaptation efforts.”

A rite of spring: Tapping the sugarbush



Leon Valliere, Lac du Flambeau, tends the vat of simmering zünzibaakwadwaaboo (maple sap), using a balsam branch to calm the boil if it rises up. Zünzibaakwadwaaboo is collected in the early spring when days warm up allowing the flow of sap through the tree’s trunk, but nights still freeze. (Photo by biskakone Johnson.)



The sweet aroma of maple filled the air at a Lac du Flambeau sugarbush this spring where collected zünzibaakwadwaaboo (maple sap) slowly simmered into syrup and was even further cooked down into zünzibaakwad (sugar). Ultimately, it is placed into forms to be molded into sugar cakes or cones (inset photo). (Photo by biskakone Johnson.)



Have trailer will travel

Enforcement brings outdoor skills to youth

By Sue Erickson, Staff Writer

Odanah, Wis.—GLIFWC Enforcement Division's "Youth Trailer" has been on the go this winter bringing opportunities to learn outdoor skills to native and non-native youth alike. Skills necessary during bibeon (winter) like snowshoeing, trapping and fishing through the ice were the focus.

Loaded with gear, the Youth Trailer is equipped to tackle any season. "We've got snow shoes, ricing equipment, maple sugaring equipment, spears for spearing through the ice, fur kits, traps, track identification kits, decoys, and general fishing gear," says GLIFWC Enforcement Chief Fred Maulson, a staunch believer in outdoor youth education. "And this winter we made use of it," he emphasizes.

Working with the Intercultural Leadership Initiative (ILI) in Wisconsin's Lakeland School District, GLIFWC Enforcement staff presented sessions to 5th, 6th and 7th graders last winter at Camp Jorn, Manitowish Waters, Wisconsin. January 11-12, they provided a two-day training for 6th graders, including sessions on winter survival, ice-spearing, and trapping.

On January 25-26, the 7th graders got a turn, learning how to use Global Positioning System (GPS) technology, including participation in a treasure hunt game called geocaching. The "treasures" are found through use of GPS. 7th graders also got treated to a session on fire-building along with a storytelling time around the fire.

On February 8-9 it was the 5th graders' turn to get outdoors, but on snowshoes—a first for most of them. Linda Winn, Wisconsin Department of Natural Resources, presented a session on fur identification and, with GLIFWC Warden Tom Kropel assisting, a session on track identification.

Discover Wisconsin film team also arrived in time to get footage of the snowshoeing and Lac du Flambeau's Ernest St. Germaine demonstrating how to build an igloo.

Participants in ILI came from Arbor Vitae, Woodruff, Lac du Flambeau and North Lakeland elementary schools. GLIFWC Enforcement staff assisting with ILI included Fred Maulson, Heather Naigus, Dan North and Tom Kropel.

In addition to ILI experiences this winter, GLIFWC Warden Vern Stone offered a kid's fishing day on the Bad River reservation on January 30. Following a demonstration of tip-up techniques at the community center, he took the group out on the ice for some real-time ice fishing.

Similarly, Enforcement personnel Fred Maulson, Jim Stone and Mike Soulier assisted Red Cliff's George Newago with an ice fishing workshop for Red Cliff tribal members on February 25-26. The two-day class attracted six tribal youth and family. Starting with demonstrations and continuing to hands-on action, the group fished from a Lake Superior tepee and landed a muskie. "We try to not only demonstrate fishing techniques, including some traditional methods, but also include some of the cultural practices, like offering asemaa (tobacco) before we fish," Maulson says.

Further south in Mole Lake, Maulson put on an ice spearing demonstration for Sokaogon/Mole Lake tribal members, using traditional, hand-carved decoys. The workshop included a demonstration of the decoys and discussion on how they are used and made as well as the use of the spear through the ice. Following instruction, five tents were erected on the ice for a first time try, and the group came home with a muskie.

Maulson hopes to continue and expand the youth outdoor learning program. "There's a lot of concern these days about 'couch potato' youth, glued to the tube



GLIFWC Warden Vern Stone coordinated a kids' fishing day on the Bad River reservation in January. Proud of their catch, Loren Nelis, Christian Delgado and Justin Miller display the walleye they caught through the ice. (Photo by Vern Stone.)



A successful first try at spearing through the ice landed Red Cliff's Zach Defoe a nice muskie. Shown with instructor George Newago, Zach was one of six who participated in a two-day ice fishing workshop. (Photo by Fred Maulson.)

or video games. We're trying to counteract that and encourage a more healthy lifestyle that includes meaningful outdoor activities. Winter is a season to enjoy outside. Let's get the kids out there! Let them 'bring home some deer meat'—or fish or fur or syrup or rice or whatever!" Maulson says.



Hands-on experience is part of the Intercultural Leadership Initiative (ILI) program. Above, 7th grade participants try their hands at emergency fire-starting. GLIFWC Enforcement staff presented three different ILI sessions during the winter. (Photo by Fred Maulson.)



Participants in the Intercultural Leadership Initiative program learned how to snowshoe, plus how to construct emergency snowshoes out of balsam boughs during a session presented by GLIFWC Enforcement staff. (Photo by Fred Maulson.)



Getting set-up for an ice fishing demonstration at the Sokaogon/Mole Lake reservation last winter, participants first constructed an ice fishing tent. The session was instructed by GLIFWC Enforcement Chief Fred Maulson, far right. (Photo by Miranda Maulson.)



Sick pups? Biologists explore role of canine diseases in fishers

By *Charlie Otto Rasmussen*
Staff Writer

Odanah, Wis.—A collection of diseases familiar to dog owners may be contributing to the wavering fisher population in northern Wisconsin. Although wildlife biologists had a hunch that disease may be a factor in reduced fisher abundance, preliminary test results came as a surprise.

“More than half the animals sampled in the ceded territory tested positive for parvovirus,” said Jonathon Gilbert, Great Lakes Indian Fish & Wildlife Commission (GLIFWC) wildlife section leader. Parvovirus includes a wide range of symptoms, attacking the intestines, or heart where it is often fatal. “We’re basically finding canine diseases in weasel-like animals. And seeing such a high prevalence is unexpected.”

In association with the University of California-Davis, GLIFWC is preparing to test a new round of 84 trapper-harvested fishers from the Wisconsin ceded territory. The forthcoming data set should help shed light on previous test results generated by the Wisconsin Department of Natural Resources. Analysis from that 2005-06 ceded territory study confirmed the presence of several harmful diseases including parvo, distemper, leptosporosis, adenovirus, toxoplasmosis and lymes. Additional downstate fisher testing in the Black River area produced similar disease findings, said WDNR Furbearer Biologist John Olson.

Gilbert said treaty trappers from Red Cliff were among the first to note a potentially waning fisher population in Bayfield County in the early 2000s. Meanwhile the powerful carnivores were colonizing new forests to the south and west. Recently established populations appear to be robust.

“These dramatic changes in relative abundance warrants an in-depth biological study,” Gilbert said. “Disease seems to play a role, but the jury is still out until we get more results.”

Gilbert and Wildlife Technician Micah Cain methodically removed blood, flesh and tooth samples from each animal in the Commission’s Odanah laboratory after the 2009-10 trapping season. Eye and nose swabs were also collected.

While the health effects of canine pathogens in fishers are currently unclear, wildlife experts have reported the phenomenon across a wide geographic swath.

Animals sampled in Pennsylvania and California hosted many of the same diseases found in Wisconsin fishers. The long, agile member of the weasel family ranges from northeastern American forests, through the northern Rocky Mountains and includes a number of isolated West Coast locations.

“Wildlife health monitoring efforts will help us forecast the future of these elusive animals,” said The DNR’s Olson. “Fishers occur in low density populations and whenever we can collect carcasses and learn more, it’s going to help us.”



Jonathan Gilbert removes a fisher jaw bone with help from Technician Micah Cain. The GLIFWC wildlife section pair later extracted a tooth from the bone for age and biological testing. (Photo by Charlie Otto Rasmussen.)

Modern day fisher range recently expanded to Tennessee with help from GLIFWC and a pair of Red Cliff trappers. When the two-year translocation project began in autumn 2001, it took only four days to live-trap 31 Bayfield County fishers. Biologists selected 20

animals, which Tennessee wildlife officials airlifted to a state wildlife area. The trap-and-transfer of another 20 fishers was repeated in 2002. Now less than a decade later, some area trappers forego fisher trapping altogether because of the animal’s low abundance.

News Briefs

By *Charlie Otto Rasmussen*, Staff Writer

Bay Mills harvest includes walleye, one sturgeon

Brimley, Mich.—Kids wearing sneakers and adults in waterproof waders harvested 383 walleye from Escanaba River during a ten-day stretch in early April. The Bay Mills members fished the Lake Michigan tributary for the second consecutive year. “Some new kids fished this year and had a great time,” said Terry Carrick, Bay Mills enforcement officer. “Everybody’s looking forward to next year already.” Carrick said tribal officials issued several hook-and-line permits that yielded twenty walleye. The balance of the harvest was taken by spear.

In Lower Michigan’s Black Lake, a Bay Mills member filled the band’s single lake sturgeon permit—a hefty 62-inch male, Carrick said.

GLIFWC officers work Mille Lacs ice tourney

Garrison, Minn.—A pair of GLIFWC conservation officers answered a request to regulate traffic and enforce rules during an ice fishing tournament on Lake Mille Lacs February 20. Following a call from Ducks Unlimited (DU) officials, officers Robin Arunagiri and Adam McGeshick donated time to work the annual fishing event that raises funds for conservation projects in the Mille Lacs area.

More than 2,500 fishermen turned out to participate in DU-sponsored fundraiser. Arunagiri said the officers fielded a lot of questions from fishermen and community members about treaty harvesting and tribal activities in the ceded territory. “It turned out to be a nice opportunity to explain our law enforcement responsibilities,” Arunagiri said. “Community outreach really helps provide accurate information about treaty rights.”

Fish disease enters Gichigami

Bayfield, Wis.—Researchers discovered the fish-killing virus, viral hemorrhagic Septicemia (VHS) in Lake Superior fish last winter including cisco (lake herring), from the Apostle Islands area. The virus has now been documented in all five Great Lakes. VHS poses no health risk to humans but causes fatal anemia and hemorrhaging in at least 28 fish species. Since it was first detected in Lake St. Clair in 2003, VHS outbreaks have caused large die offs in species ranging from muskellunge to freshwater drum. On Gichigami, however, no mass VHS-related mortalities have been reported to date.

GLIFWC fisheries biologists say ceded territory inland waters are increasingly susceptible to VHS from lake-hopping boaters and fishermen. Authorities strongly encourage watercraft owners to inspect their boat exteriors and to completely drain live wells and bilge pumps before leaving boat landings.

Kennecott mine update

Marquette, Mich.—As Kennecott Minerals crews began clearing a proposed metallic sulfide mine site on the Yellow Dogs Plains in April, mining opponents took up a vigil at nearby Eagle Rock to protest the activity that included fence construction. Concerned residents, including the Keweenaw Bay Indian Community, say that Kennecott has failed to secure all the necessary permits.

Nesting turtle alert



This painted turtle, or miskwaadesi, crosses an Ashland County road in late spring. COR

When it comes to turtle crossings, the signs are there. Not the metal-stamped kind mounted on roadside posts. Think bigger: highways bisecting wetlands, stream-hugging roads, back country two-tracks that separate marshes from sandy uplands.

Around the second half of May through late June, turtles are prowling ceded territory real estate looking for nesting sites. And, motorists are killing many of them.

“Turtles look for areas with loose soils to dig a hole and lay their eggs. Unfortunately, roadsides composed of sand and gravel provide great sites for laying eggs,” said Miles Falck, Great Lakes Indian Fish Wildlife Commission biologist.

Woodland predators take a toll on turtle populations as well. Raccoons, skunks, squirrels and other egg-lovers dig into nests and a host of larger carnivores eat young turtles that strike out in search of food and habitat.

If traffic conditions allow, people can help turtles get across roads by carefully moving them to safety in the direction they are facing. In addition to adult turtles, Falck advises motorists to keep an eye out for hatchlings emerging from nests in late summer.

—*C.O. Rasmussen*



Trapping teen earns her first car working out in the woods

By Sue Erickson, Staff Writer

Bad River Reservation, Wis.—Tori Nevala’s first car was paid for and sitting in her driveway two months before she got her license—thanks to money earned and saved from trapping, primarily on the Bad River reservation.

While perhaps not the stereotypical image of a trapper, this attractive young woman doesn’t flinch at any step of the process, whether it be wading through swamp land to set traps, retrieving the animal, or skinning it out.

A Bad River tribal member, the 16-year old junior follows in the footsteps of two older brothers, Dave and Andrew, and her parents, Maria and Joe. Hunting, trapping, fishing, and gathering have been a family affair.

Starting her outdoor involvement at age two as the “brick girl” during the annual ricing season, Tori was then responsible for gathering bricks to weigh down the tarp used to dry rice at Grandmother Neveaux’s house. Today, she continues to participate in ricing, working a sugarbush, hunting with gun and bow, and, yes, actively trapping.

Having trapped with her dad and brother for about four years, Tori has been more independent the last two years, although she and brother Dave do a lot together.

Tori finds the proceeds from fur sales a great incentive to continue trapping, but more than that she enjoys the work. “It keeps me in shape, and it’s fun out in the woods,” she says. Trappers can also work somewhat on their own schedule, constrained only by the seasons and the need to check traps every two to three days.

While her mother, Maria, prefers winter trapping, Tori chooses spring trapping, when the ponds and rivers open up. She, along with brother Dave, set traps in the lowland ponds and creeks that feed into the reservation’s larger rivers, targeting beaver primarily but also otter and muskrat.

In today’s market an average beaver pelt brings in about \$20.00, otter about \$50.00 to \$60.00. These are untreated pelts. If stretched and cleaned, they would bring in more. However, still busy with school, sports and other activities, Tori simply freezes her pelts until the fur buyer shows up in the region. Besides fur buyers, the family gets calls from area residents, especially tribal members, looking for pelts to use with their dance regalia. Otter is in particular demand here. Dave and Tori both trapped two otters this season.

Easy money? No!
Setting traps and maintaining a trap line takes know-how and some real physical work. First of all, most trapping locations are remote and swampy. Access is not easy, and many times you are on foot, trudging through rough, wet terrain. Then you have to determine where the beaver are, often judging from the presence of a lodge or two set in a pond or even hidden along banks of creeks and rivers.

Once a potential site is located, the proper trap must be selected. Tori and Dave primarily use conibear traps or leg traps, both set underwater. The first is designed to snap shut over the animal’s neck when it is passing through a channel where the trap is set. The leg trap is sprung when the animal steps on the trigger and essentially prevents the animal from reemerging from the water, but those can only be used if the water is deep enough, Tori explains. Different size conibear are also required, depending on the width of the channel to be spanned.

There is also the matter of baiting. Sticks of poplar, especially those with the white pulp exposed, attract beavers, she explains, because beaver are attracted to white.

They also collect the castor from the trapped beaver and spread it over the trap site as a lure. Beaver store this strong smelling substance in a sac. It is emitted especially during mating season, according to Dave.

Setting the trap to spring is no easy matter either, requiring the use of heavy setting tongs to manipulate the jaws of the trap and use of safety devices on the



One of two conibear traps set at this marshy site successfully caught a nice sized beaver for teen trapper Tori Nevala, Bad River. Its pelt will join others in the freezer waiting for the fur buyer to make his rounds. (Photo by Sue Erickson.)

trap. Getting hands or fingers caught if the powerful trap springs would result in serious injury!

Once everything is in place, with traps set and concealed beneath the water, bait and lures in place, it’s a matter of returning every two or three days to check the trap line—a short or long hike into swamp brush, depending on location.

From experience they have learned to keep everything below water, including the trapped animal. For one, the cold water helps preserve the carcass, and secondly, predators such as bear and wolf do not notice them easily. They have had beaver, trap and all carried away by bear in the past.

With the average beaver weighing about 20 to 25 pounds, Tori usually uses a back basket to carry the animal(s) out.

Back home with her catch, the animal needs to be skinned. “It took me about 20 beaver to really get the hang of it,” she says. “But now it takes me about 15 minutes to skin one out.” Wrapped in a brown bag and marked with “Tori,” the pelt joins others in a small freezer in the garage, waiting for the fur buyer’s return and to be cashed in.

Both her brother’s purchased their first vehicles with money from pelts, just like she did. This time, she thinks the trapping money may need to go for repairs—that’s life.

What’s next? Equipped with a plethora of outdoor skills, Tori is leaning towards a possible career in conservation enforcement. She spent three summers at the Great Lakes Emergency Services Academy at Lac Courte Oreilles. She describes it as an intensive experience with hands-on training in fire fighting and enforcement techniques, including use of simulation guns. She intends to return in 2010 for her fourth summer.

Of course, her mother Maria cheers her on, but then Maria is the two time winner of the upper midwest Annie Oakley award, which involves a four-day competition in 32 events, including use of various firearms as well as the bow. So...there’s lots yet to be done.



Trapping the animal isn’t the end of the work. It has to be skinned a procedure Tori Nevala got down to a fine art after her twentieth beaver. A good source of income for Nevala, trapping, however, is not for the squeamish. (Photo by Maria Nevala.)



Tori Nevala (left) and her mother, Maria, who is also a trapper, hold up a plush beaver skin blanket Maria made from twenty extra large beaver skins, plus several more that were dyed black to be used for the inset bears. A true work of art and softer than soft, the blanket represents hours of work in the field and at home. (Photo by Sue Erickson.)

Anishinaabe star knowledge

By Michael Wassegijig Price, for Mazina'igan

"In memory of my dear mother, Rita Wassegijig Price, who passed away on May 5, 2002."

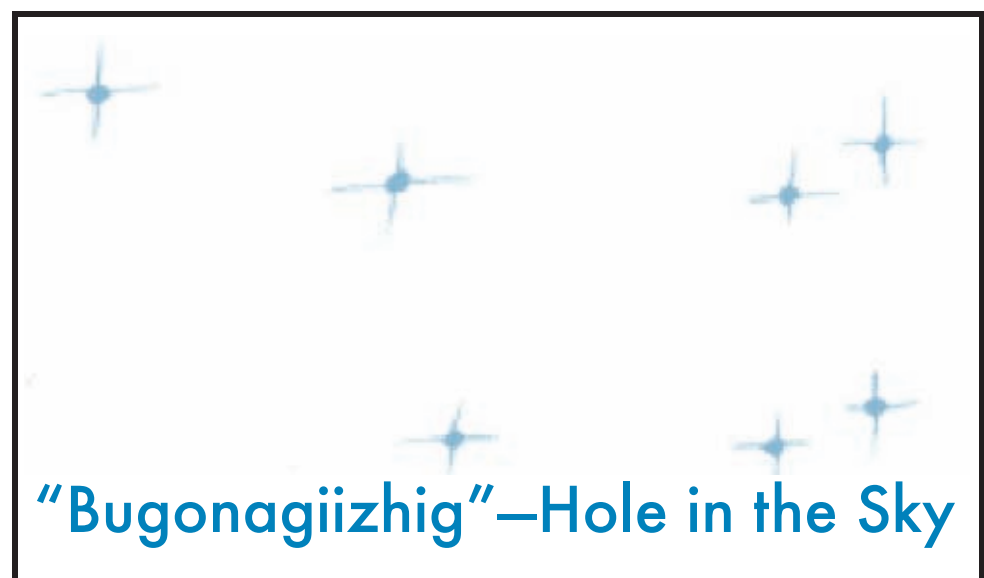
I was never so touched by indigenous knowledge as I was during the Naming Ceremony of my 4-month-old son. A highly respected Anishinaabe elder, Tobasanokwut Kinew, came down from Winnipeg, Canada to do the ceremony. It was a cold day in early March near Bemidji, Minnesota, with blizzard-like conditions and freezing temperatures. I had given him "asemaa" or tobacco several weeks prior, respectfully requesting the ceremony.

The name that he gave to my son was Gizhebaa Giizhig, which means "Revolving Sky." The name, Gizhebaa Giizhig, refers to the circular movement of the sky throughout the year. It refers to the circular movement of the sun, moon, stars and seasons. "Gizhebaa" also refers to people dancing in a circular fashion around the drum arbor at powwows. That mystical movement around a source of energy is reflected in the name of Gizhebaa Giizhig. This ancient knowledge came from watching the stars move to different regions in the night sky throughout the year and observing the relationship between seasonal changes and stellar movement.

Tobasanokwut said, "If the naming ceremonies are performed as they should be, the teachings, history and culture of our people can be found in the names of Anishinaabe people." The sacred knowledge of the natural world is inherent in the language.

In the weeks following that ceremony, I became obsessed in seeking out the star knowledge of my ancestors, the Anishinaabe people (also referred to as Chippewa or Ojibway). For the first time in my life, I felt a connection to the star world through my son's naming ceremony. That feeling of "connection" constitutes the difference between western science and the indigenous perspective of the natural world. For me, the star world has a totally different meaning than when I was a college student struggling with the mathematical calculations of physics and astronomy. I believe that this spiritual connection or kinship with the natural world is what defined and sustained Native American communities for thousands of years before the dawn of industrialized society.

The landscape of the Great Lakes region, weather patterns, sun and moon, revolving star patterns, bird and animal migrations are affirmations of who we are, what we believe, why we exist, and how we make sense of the world around us. Understanding the synchronicity of these cycles, as well as the physical and metaphysical essences of creation, makes up the cosmology of the Anishinaabek. Because stars move from east to west, the Anishinaabe believe that when we die, our spirits travel to "Ningaabii'anong;" the Western sky. The Anishinaabek also believe that new life and knowledge emerge from "Waabanong;" the eastern sky. Thus, many ceremonies and traditions reflect these cardinal directions. From the Western scientific standpoint, we know that it's not the stars that are revolving, but the earth that is actually revolving. But, this scientific fact is part of the Western scientific paradigm and not part of the Anishinaabek cosmology.

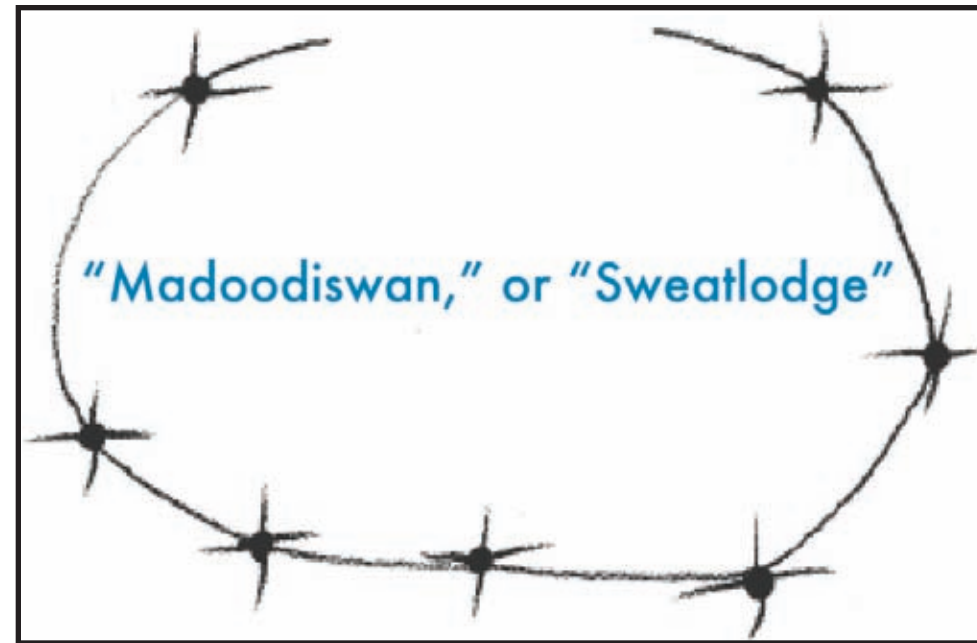


Anishinaabek constellations

The constellations and star knowledge relate to seasonal changes, subsistence activities, ceremonies and storytelling of the Anishinaabek. Seasonal changes correlate with the movement of stellar constellations, which, in turn, are reflected in tribal stories and ceremonies. The Anishinaabek, keen observers of cosmological and ecological relationships, evolved traditions and ceremonies from this knowledge. All knowledge is interconnected. Knowledge was generally passed down through the "Midewiwin," a society of healers and spiritual leaders, or the "Waabanowin," the Society of the Dawn.

Today, college and university level curricula integrate this knowledge at tribal colleges across the country. The sacred teachings and ceremonies of the Anishinaabek are still reserved for the "Midewiwin." The Anishinaabe constellation, "Bugonagiizhig—Hole in the Sky," is the star cluster known as Pleiades. The seven stars represent the opening between the Earth and the star world. This "Hole in the Sky" leads to the spirit world. These seven stars also represent the seven poles used in the construction of the "Jisakaan—Shaking Tent Ceremony." "Bugonagiizhig," a winter constellation that rises in the northeast sky in October and makes its way across the

The constellations and star knowledge relate to seasonal changes, subsistence activities, ceremonies and storytelling of the Anishinaabek. Seasonal changes correlate with the movement of stellar constellations, which, in turn, are reflected in tribal stories and ceremonies.

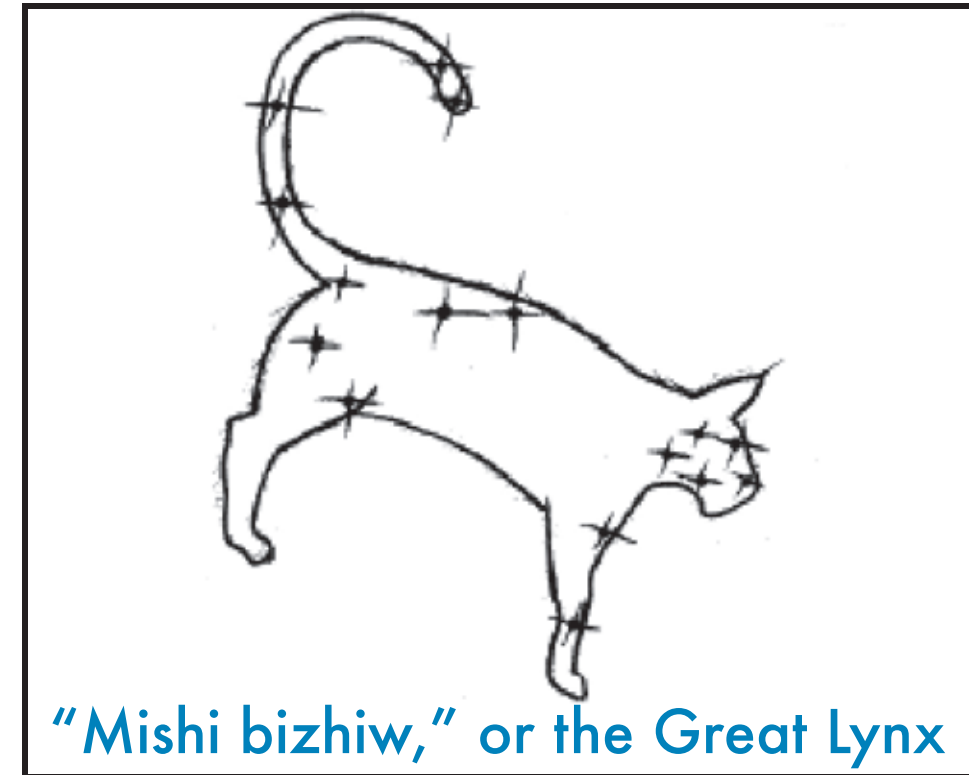


winter sky, sinks below the northwest horizon in late March, becoming invisible from April through August. Other Anishinaabek communities refer to Pleiades as "Madoo'asinug—Sweating Stones." The seven stars in this constellation represent the seven stones used in the sweatlodge ceremony.

The "Madoodiswan," or "Sweatlodge," is the constellation also known as the Corona Borealis. Characterized as a group of stars in a circular pattern with the door of the lodge opening to the north/northeast, it rises in the northeast sky in March and disappears on the horizon in September. The "Sweatlodge" constellation is directly overhead during the early evenings of June, yet is not seen for six months throughout the winter.

The most well known constellation is the Big Dipper or Ursa Major. To the Anishinaabe, the Big Dipper is part of the constellation "Ojiig'anung—Fisher Star." "Ojiig'anung" lies just above the horizon from October to December. In December, it emerges in the northeast sky. Throughout the long winter, the Fisher makes its way across the night sky. The Anishinaabek knew that spring was close when "Ojiig'anung" was directly overhead in the early evenings. Henry Rowe Schoolcraft (1793-1864) had recorded the story of the "Ojiig'anung (The Fisher)," but did not make the connection between the story and the rise of the constellation in early spring. The rise of "Ojiig'anung" was also an indication that it was time to prepare for "Aninaatig ozhiga'igewin—tapping of the maple trees."

Carl Gawboy, an Anishinaabe artist from the Bois Forte Reservation, suggested that some of the cliff paintings found at Hegman Lake and on the shores of Lake Superior are actually star constellations. This knowledge came through his father and grandfather. Gawboy points out several rock paintings that can be mapped out in the star world: The Fisher, Great Panther, Sweatlodge, Wintermaker and Moose. "Mishi bizhiw," or the Great Lynx, is another constellation that emerges in the late winter skies. Because the lynx is known to be a somewhat dangerous animal, this



constellation is a reminder that the north woods, especially during the transition time between winter and spring, can be dangerous. Thinning ice on the lakes and rivers, hard crust on the snow, flooding, and unpredictable snowstorms are characteristic of the Great Lakes region during this time. The constellation, "Mishi bizhiw," consists of the two constellations of Leo and Hydra. The head of Leo makes up the long curled tail, while the head of Hydra makes up the head of the Great Lynx.

Polaris, or the North Star, is known as "Giwedin'anung—Star of the North." "Giwedin'anung" was used in determining the four cardinal directions as well as navigating through the Great Lakes region at night. "Giwedin'anung" is part of the constellation known as "Maang, The Loon." The Loon constellation comprises the stars of the Little Dipper. "Giwedin'anung" is located at the tip of the tail feathers of the Loon constellation.

According to the *Dictionary of the Ojibway Language* (1878) by Frederic Baraga, the Anishinaabek word for Milky Way is spelled "tchibekina." I had asked several Elders in the area what that word meant, but no one knew. Finally, George Goggeye, an Elder from the Leech Lake Reservation, said that Baraga had spelled it wrong. It was actually pronounced "jiibay kona" (jiibay—spirit; kona—path), which meant "Spirit Path." The rock pictographs at Hegman Lake in Canada, which show three canoes traveling in the same direction, may indicate the "jiibay kona" or Milky Way. Carl Gawboy believes that, since there are no star patterns that exhibit three canoes, the pictographs actually represent spirits traveling the "spirit path" in celestial canoes. The Milky Way was believed to be the path that spirits followed to the spirit world after death.

Many tribal traditions and stories originated from actual observations that occurred centuries ago, but are still preserved in tribal oral traditions.

Catastrophic events from the star world

In his book, *Red Earth, White Lies*, Vine Deloria, Jr., Hunkpapa Lakota, stated that natural and catastrophic events throughout the Earth's history and within the time frame of human memory, are contained in tribal stories and traditions. Many tribal traditions and stories originated from actual observations that occurred centuries ago, but are still preserved in tribal oral traditions.

Tobasanokwut Kinew told me the story of the wolverine and the shooting star. The Anishinaabe word for the wolverine is "Gwiingwa'aage" which means "The One Who Came from the Shooting Star." There were four star spirits soaring through the night sky. One of the four spirits was belligerent and illtempered. While soaring through the night sky, the contentious star spirit, in an attempt to startle and scare everyone on Earth, flew too close, lost control, and collided with the Earth. The spirit left a huge crater in the Earth where it hit. The Anishinaabek, who were familiar with the antics of that particular star spirit, cautiously examined the crater and continued to observe it for several years. Over time, it filled with water and became a lake. Eventually, trees and grasses began to grow on its banks. One day, an unusual animal emerged from this lake; an animal that the Anishinaabek had never seen before. It had a vicious and ill-tempered disposition. It was said that this animal was the star spirit that hit the Earth long ago. So, the Anishinaabe called this animal "Gwiingwa'aage" ("Gwiingwa"—shooting star; "aage"—originating from). Contained within the Anishinaabe name for the wolverine is the occurrence, recorded in oral tradition, of a meteorite colliding with the Earth long ago. That crater still exists today in northwestern Quebec, Canada.

Another story was told by Fred Pine, an Anishinaabe Elder from Garden River First Nations, near Sault Ste. Marie, Michigan. In the story, "Genondahway'anung—Long-Tailed Heavenly Climbing Star" hit and scorched the Earth long ago. The

Halley's Comet, the brightest and most spectacular of all comets, becomes visible on its orbiting path every 75 years. The Anishinaabek at Garden River First Nations have recorded accounts within their oral history of Halley's Comet in 1834 and 1908.

Great Spirit, "Gichi-Manitou," warned the Anishinaabek ahead of time about the approaching star, and so they fled to a bog and rolled themselves up in the moss and mud to protect themselves. Only those Anishinaabek who maintained their spiritual beliefs heard the warning of "Gichi-Manitou." When the star hit, its fiery tail spread out over the entire landscape. Nothing survived the heat. The giant animals and trees were all killed off. Only those Anishinaabek who rolled up in the moss and mud lived to tell this story. The story of "Genondahway'anung" is an account of an astronomical event that was recorded within the oral tradition of the Anishinaabek. This catastrophic event cannot be dated exactly, but may have possibly coincided with the Great Firestorm of 1871, which was caused by fragments of the tail of Biela's Comet disintegrating over Wisconsin, Michigan and Illinois.

In 1832, Beila's Comet, on its orbiting path, just missed colliding with the Earth by one month. Because of the close proximity with the Earth's gravitational field, Beila's Comet split into two trajectories and became two comets approximately 16,000 miles apart. The comets were observed in 1839 and 1846, but suddenly disappeared. It wasn't until October 8, 1871, that the simultaneous firestorms broke out across the upper Midwest. The fall of 1871 was particularly dry which made vegetation vulnerable to fire. Because the Earth passed through its orbital path, scientists theorized that the fires were caused by debris from the disintegrated tail of Beila's Comet. Witnesses in Peshtigo, Wisconsin made mention of "fire coming from the heavens." The story of "Genondahway'anung" resembles the events surrounding the mysterious conflagration.

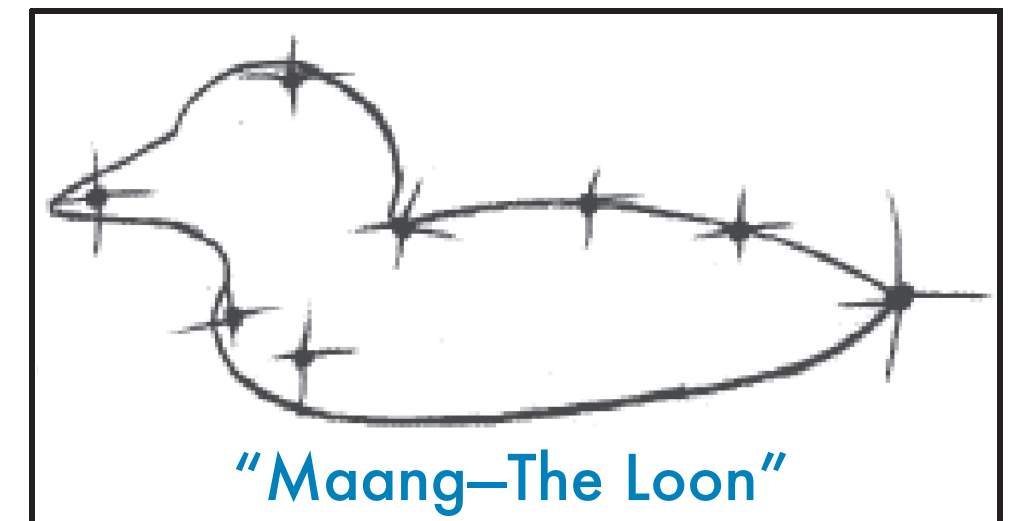
The stories of "Genondahway'anung" and "Gwiingwa'aage" also resemble the Tunguska Blast of 1908, where a meteorite crashed into the Tunguska River region of Siberia, Russia. The Tungus tribes people, an indigenous group in Siberia, and some Russian fur trappers witnessed the gigantic fireball with its long, fiery tail just before it impacted the Earth. The blast incinerated and leveled an area approximately 1,240 square miles. Trees were felled in an outward direction from the epicenter of the crater. Afterwards, witnesses recalled "black rain" in which airborne ash and debris from the blast mixed with the rain. Shockwaves, through the Earth's crust, pulsed approximately 620 miles in all directions.

Halley's Comet the Prophecy Star

Halley's Comet, the brightest and most spectacular of all comets, becomes visible on its orbiting path every 75 years. The Anishinaabek at Garden River First Nations have recorded accounts within their oral history of Halley's Comet in 1834 and 1908. There are several names among neighboring Anishinaabek communities for Halley's Comet, which include: Gitchi Anung (Great Star), Wazoowaad Anung (long-tailed star) or No'aachiigay Anung (prophecy star). The story of the Prophecy Star tells that, when nature comes out of balance and people lose their spiritual path and purpose, a star spirit would return and destroy the earth. In 1994, when scientists observed the Shoemaker-Levy-9 Comet crashing into the southern hemisphere of Jupiter, it was now apparent to the scientific community that the Earth is vulnerable to collisions with comets or asteroids of apocalyptic proportions. The story of the "No'aachiigay Anung," reminds Anishinaabek of this fateful and potential reality through tribal oral traditions.

As I learn more and more, I am realizing that indigenous knowledge not only describes natural events and phenomena, but also relates that knowledge to our everyday lives as Native Americans. Even though the scientific understanding of the stars and planets is exact and empirically measured, it has little to no relevance to those who have not engaged the discipline of astronomy. Through my son's naming ceremony, I am connected to the celestial movement of the heavens. By knowing the constellations, the teachings and ceremonies of my ancestors are presented with each season. It is my hope that this star knowledge is revitalized in our communities, so that one glance in the night sky will reveal the cultural worldview and philosophy of the Anishinaabe people.

(Michael Wassegijig Price, *Wikwemikong First Nations, is the founding president of the new Red Lake Nation College in Red Lake, Minnesota.*)



The tastiest catch

A tale of some tribal fishermen

By Charles Eshbach, for Mazina'igan

Hancock, Mich.—In the Keweenaw, a “must do” for visitors and locals alike is to sit down and enjoy a fresh lake trout or whitefish dinner at one of our fine restaurants. The reason for this popular mouth-watering treat is the quality and freshness of the fish supplied by Peterson's Fish Market. That fish you are eating today was swimming around in Lake Superior yesterday. “That guarantee of freshness and a consistent supply has put trout and whitefish permanently on our menu” stated John Gervais owner of the Waterfront and The Hut, two favorite area restaurants. “We sell a lot of fish because of the quality.”

Just north of Hancock, across from the Quincy Mine Tour is Peterson's Fish Market, the main supplier of fresh fish in the Keweenaw Peninsula. This Native American family have been commercially fishing for five generations and established the Market nineteen years ago. They supply fish year around—lake trout, whitefish, and salmon, fresh or smoked, retail to the public and wholesale to area stores and restaurants. In the summer a concession stand, “Four Suns Fish and Chips,” next to the market serves whitefish filets, deep fried or baked, with several choices of sides, and home made soups—a favorite lunch stop for locals.

Years ago Gilmore Peterson, patriarch of the family, told me how it is a constant challenge to survive as a commercial fisherman both in marketing and doing battle with Lake Superior's quickly changing moods. The hard work, danger, long hours, and sometimes too small catches were overshadowed by his love for the adventure of working on Lake Superior with his family.

Ever since that conversation I have wanted to go out on the Lake with Gilmore, photograph and write the story of *The Tastiest Catch*.

At 5 A.M. I crawled into Chris's truck as we headed for the boat. Chris is Gilmore and Pat Peterson's son and the Captain of the *Three Suns*, the 5th generation to fish Lake Superior. Chris explains, “Fishing is in my blood. I couldn't see myself away from the Lake.”

At the dock on the north end of the Keweenaw Waterway, we met John Christopher and Jamie Bradford, the crew. Boxes of crushed ice were quickly loaded, and we were off. The *Three Suns* is a 52 ft. fishing tug. A steel workboat, she is designed for Lake Superior's fury, powered by a diesel engine and equipped with all the modern electronics and fishing equipment needed.

We headed to a series of nets set the day before 3 miles off shore on the Keweenaw banks. “We are deep water fishermen, setting our nets on the bottom where the land mass of the Keweenaw drops off to a 90 to 200 foot depth. That is where you find the whitefish and lake trout,” Captain Chris explains. Chris monitors the radar watching for other boats as the GPS and auto-pilot steer the tug through the darkness to the waypoint marking the first gang.

As the bright light of the full moon shimmering across the water is replaced by the pink light of dawn, we approach the first net. The white ball buoy is almost invisible in the early light. Chris explains, “With all the westerly winds we have been getting, the currents are strong, collapsing my nets and pulling the buoy under.” John reaches with a long hook and catches the buoy, bringing the line around the winch that spills the line out on the table.

Soon a 40 pound chunk of chain weight comes clanging through, then net, and soon flopping 2-3 pound whitefish drop on the table. In a blur of motion, Jamie guides the net while John and Chris pick the fish from the net and toss them into the boxes beside the table.



Upper photo: Working the table as the net comes in (from the left) Jamie Bradford, John Christopher, and Captain Chris Peterson remove fish.



To the left: After extracting it from the net, Captain Chris Peterson tosses a lake trout into a nearby fish box. (Photos by Charles Eshbach.)

Chris stands near the open hatch where he can see the net coming up and steers the boat by remote to stay in the right position with the emerging net. At the end of the table, between fish John adeptly lays the net in orderly circles in the net box to prevent tangles when resetting. This fast flurry of action is done quietly with no shouting of orders as each man handles his tasks, the three backing each other up when a tangle comes in or an extra large fish drops onto the table. Chris told me, “Jamie (6 yrs. experience) and John (23 yrs. experience) are valuable to me. We keep them on all year because we don't want to lose them. Men who like to work this hard in sometimes 10 foot seas are rare.”

After 15 minutes, the net anchor chain hits the winch. Chris returns to the bridge and sets the GPS for the next gang. John arranges the net boxes just raised and pulls them to the rear of the boat for reset then returns to help Jamie dress the fish just caught. Sharp knives quickly dress and clean each fish.

The *Three Suns* goes to full throttle as Capt. Chris moves to where he wants to set the net just raised. After 10 minutes the engine slows, signaling John to move to the back of the boat and open the 12 foot wide hatches in preparation for setting. Holding the net anchor, he drops it overboard when Chris steps from the bridge to the remote throttle. Chris guides the net from the box and throttles the boat speed so it pulls the net out while John adeptly snaps, and flips weights as the net passes swiftly through his hands. After several minutes the net ears come to the anchor, then the leads, and the marker buoy goes out.

This fast-paced routine continues for hours—hook, raise, pick, dress, move, reset, move, and then repeat. The fish boxes fill. Chris explains, “We are allowed only so much gear, so we really have to work it, to make it pay. As the fish migrate (See *The tastiest catch*, page 21)



Back at the fish market, Gilmore and Pat Peterson filet fish from the day's catch. (Photo by Charles Eshbach.)



In the newly enlarged and remodeled store, happy customers buy fish. (Photo by Charles Eshbach.)



Tribal hatcheries released over 50 million fish into both on & off-reservation waters in 2009

Tribe Hatchery/Rearing Component	Walleye		Muskellunge		Yellow Perch	Lake Sturgeon	Whitefish	Brook/Brown Rainbow Trout*	Lake Trout	White Sucker	Total
	Fry	Fgl.	Fry	Fgl.							
Bad River	3,800,000	134,600			513,800						4,448,400
Grand Portage								51,000			51,000
Keweenaw Bay		16,450						34,592	53,395		104,437
Lac Courte Oreilles	1,206,000	128,546	37,200							499,840	1,871,586
Lac du Flambeau	20,500,000	195,494	145,000			1,015		27,595		4,000,000	24,869,104
Leech Lake	10,243,350	246,362					130,357				10,620,069
Menominee	100,000	6,000									106,000
Mole Lake	2,500,000										2,500,000
Red Cliff		314						29,532			29,846
Red Lake		10,000				10,000		10,000			30,000
Sault Ste. Marie	3,500,000	1,519,265									5,019,265
St. Croix	332,896	25,355									358,251
White Earth		193,751		565		13,183					207,499
TOTALS	42,182,246	2,476,137	182,200	565	513,800	24,198	130,357	152,719	53,395	4,499,840	50,215,457

*Total number of one or combination of trout species

Bad River Natural Resource Department looks back on 25 years

By Charlie Otto Rasmussen
Staff Writer

Odanah, Wis.—Taking the long view isn't exactly unique to Indian Country, but few do it better than North American natives. In that spirit, the Bad River Band recently took stock of their efforts to protect and preserve their 142,000-acre reservation on Lake Superior's south shore.

"Our way of life, how we're connected to this place, there's a thankfulness and a humbleness there," said Mike Wiggins, tribal chairman. "It's because of those people who taught us to live on this land, about the resources, that we are here today. But things haven't always been as good as they are today for our people."

Enter the tribe's Department of Natural Resources (NRD). Wiggins spoke at the NRD's 25th anniversary celebration April 9, crediting a committed staff—past and present—for enhancing the reservation's rich resource base. From wildlife to fisheries, forests to waterways, Wiggins said the department has fostered *mino-bimaadizi*—living the good life—for the Bad River community.

At the core of the department is Ervin Soulier—a band member and judge who has helmed Bad River's natural resources programs since the beginning in 1985. Over the same quarter century Soulier has anchored the Bad River court as a founding judicial official. "The department's successes are greatly attributed to

the fact that throughout my tenure I've been surrounded with individuals who were, and are, talented, hardworking, highly educated and extremely committed to their disciplines," Soulier told an audience of Bad River members and special guests including representatives from the Nature Conservancy, Bureau of Indian Affairs and Great Lakes Indian Fish & Wildlife Commission.

Soulier said his original goals for the NRD centered on better regulating natural resource-related activity within the reservation boundaries and reacquiring lands that had fallen away from tribal ownership. Since the reservation contains a patchwork of non-tribal ownership where hunting, fishing, and timber harvests occur, the two objectives work in tandem.

"We have made significant progress towards having all lands under tribal ownership," Soulier said, noting that the Bad River Band and tribal allottees now have title to three-quarters of the reservation—up from roughly half. "I feel the last 25% percent will be the hardest to acquire."

From a pair of Treatment-as-a-State (TAS) designations to on-reservation ordinances, Soulier noted that the NRD—in cooperation with tribal officials—continues to make incremental strides toward controlling the band's resource base. The US Environmental Protection Agency granted TAS authority to the tribe for both air quality and surface water quality. Under a TAS designation, tribes assume a role in implementing environmental statutes on

tribal land comparable to the role states play on state land.

"As you can see, we are progressing slowly but surely," Soulier said. "We are trying to cover all the bases and I think we will eventually be in a position to regulate every activity on the reservation."

In the meantime, Wiggins said improved access to the reservation's

outstanding natural resources should be integrated into future work plans. Getting to some premiere locations like the Kakagon Sloughs, Bad River Falls and Waverly Beach on Lake Superior pose physical challenges for many members.

"Elders shouldn't have to negotiate a mud cliff to visit Waverly Beach," said Wiggins.



Tribal Chairman Mike Wiggins (left) presents Erv Soulier, Bad River Natural Resources Department (NRD) manager, with a certificate marking the department's 25th anniversary. Current and former NRD employees along with guests from the Nature Conservancy, Bureau of Indian Affairs and Great Lakes Indian Fish & Wildlife Commission attended the morning celebration that featured a retrospective slide show on April 9. (Photo by COR.)



New GLIFWC officers



Lac Courte Oreilles Mic Isham was elected as chairman of the GLIFWC Board of Commissioners during annual elections last winter. Also elected were Chris McGeshick, Mole Lake, as vice-chairman; and William Emery, Keweenaw Bay, as secretary. (Photo by Charlie Otto Rasmussen.)



In 2010 the Voigt Intertribal Task Force elected Tom Maulson, Lac du Flambeau, as chairman and Güwegižhigookway Martin, Lac Vieux Desert, to serve as vice-chairperson. (Photo by Charlie Otto Rasmussen.)



Serving as chairman of GLIFWC's Great Lakes Committee for 2010 is Erv Soulier, chairman and as vice-chairman, Keweenaw Bay's William Emery. (Photo by Sue Erickson.)



GLIFWC Board of Commissioners Chair Mic Isham (right) presents outgoing Wisconsin State Assembly Representative Gary Sherman with a framed commendation from the Board. Sherman, a 12-year legislative veteran, served on the State-Tribal Relations Committee and was a frequent advocate for treaty rights and tribal sovereignty initiatives. (Photo submitted.)

Sweetgrass continued

(Continued from page 6)

There is some evidence that invasive plants are an important factor in sweetgrass decline. In New York, where wild sweetgrass stands are now rare, Mohawk elders blame loss of sweetgrass sites on the invasion of purple loosestrife.

Sweetgrass is sensitive to competition from other vegetation, especially other grasses. A number of Eurasian grasses are now well-established in the upper Great Lakes region, and many of them do quite well in the same habitats favored by sweetgrass. These include timothy (*Phleum pratense*), reedtop (*Agrostis gigantea*), creeping bent (*Agrostis stolonifera*), smooth brome (*Bromus inermis*), quackgrass (*Elytrigia repens*), reed canary grass (*Phalaris arundinacea*), and lawn grass (*Poa pratensis*). Sweet vernal grass also invades sweetgrass habitats.

Traditional cultures are inextricably linked to the diversity of life that surrounds them. When culturally significant plants become rare or even disappear, the cultures that depend on them are also negatively impacted. At the same time, restoring native plants and landscapes can strengthen traditions and cultures that arose long ago, with the people who drew their lives and their identity from the natural environment.

Tips on growing sweetgrass

Site selection is important when growing sweetgrass. Sweetgrass grows best in moist or even seasonally wet, moderately fertile soil. Sweetgrass likes fertile soil, but is often outcompeted on rich soils by lawn grass and other aggressive introduced species. It prefers soils with a neutral to somewhat acid pH. Sweetgrass tends to grow taller in partial shade, but it cannot survive in deep shade.

So choose a spot in light shade or full sun, that stays moist through the summer. Once sweetgrass becomes established, it often spreads vigorously, so it is best to plant it away from vegetable gardens and other areas where it might cause problems.

Because sweetgrass seeds have low viability and the seedlings develop so slowly, sweetgrass is best started from rhizomes of established plants. Transplants are particularly sensitive to competition and drought, so it is important to keep new stands weeded and well-watered. On a good site, established patches need little care and will provide beauty and enjoyment for many years to come.

More about sweetgrass

Considering the fact that sweetgrass is such an attractive and distinctive grass with such a prominent role in Native American culture, there is surprisingly little published information available on it. The following sources provided valuable information for this article:

The Mishomis Book: The Voice of the Ojibway (Mishomis means grandfather) by Edward Benton-Banai gives (in the words of the author), "...a glimpse into the magnitude and depth of the spiritual history and heritage of the people from whom it came...the Ojibway Anishinabe." It was published in 1988 by Indian Country Communications. It is available at www.indiancountrynews.com/ then click on "Trading Post" or phone (715) 634-5226.

In 1995 GLIFWC Biologist Beth Lynch and Wildlife Technician Bruce Lupfer wrote a brief report on the status of sweetgrass in the western Upper Peninsula of Michigan and northern Wisconsin. It's available on GLIFWC's "Reports" page, at <http://www.glifwc.org/biology/reports/reports.html>.

Information on the status of sweetgrass in the northeastern US comes from the 2005 article, "Weaving traditional ecological knowledge into the restoration of basketry plants" by Danellia Shebitz, published in the *Journal of Ecological Anthropology*, vol. 9, pp. 51-68.

The website NativeTech: Native American Technology & Art has general information on sweetgrass, along with nice pictures of sweetgrass braids, baskets and artwork, at <http://www.nativetech.org/plants/sweetgrass.html>.

Francis Densmore briefly discusses sweetgrass basketry in her classic book on Ojibwe culture, "Chippewa Customs." This book was first published in 1929 by the Smithsonian Institute, and republished in 1979 by the Minnesota Historical Society.

Don Pitcher and Mary Russo of The Nature Conservancy have a detailed abstract on sweet vernal grass in North America, at http://wiki.bugwood.org/Anthoxanthum_odoratum.

Thanks to Sue Nichols of GLIFWC, who put up with my questions and contributed valuable information to this article.



Spring walleye population estimates completed for 20 ceded territory lakes

Aging samples collected from muskie

By Mark Luehring, Inland Fisheries Biologist

Odanah, Wis.—The GLIFWC inland fisheries section in cooperation with St. Croix, Mole Lake, Lac Courte Oreilles, US Fish and Wildlife Service, and Michigan Department of Natural Resources completed adult walleye population estimates in 20 lakes in the ceded territory in 2010. These mark-recapture estimates are completed each year shortly after ice-out to monitor the health of ceded territory walleye populations and set harvest quotas for the following year.

Survey crews typically fin clip or tag fish for two to six nights on the main walleye spawning grounds using electrofishing boats or fyke nets. One to two nights after the marking phase is completed, the entire shoreline is electrofished, and the ratio of marked to unmarked fish is used to estimate the walleye population.

A mild March combined with less ice accumulation than in past years resulted in an early ice out in 2010. Survey crews started work on March 29, and continued through April 16. Often these surveys do not start until mid to late April. Fortunately, the early ice out was combined with good weather throughout most of the survey season. With the exception of a few nights, the winds were relatively calm, and the air temperatures mild, allowing for ideal electrofishing conditions.

Eight of the 20 estimates completed in 2010 were on GLIFWC long-term study lakes. These lakes are surveyed every year or every other year to obtain long-term data on naturally reproducing walleye populations. These estimates allow GLIFWC to track trends in the adult populations, and improve knowledge on the typical range of population fluctuations.

GLIFWC collects muskellunge aging structures

GLIFWC inland fisheries personnel collected cleithra from speared muskellunge on 14 ceded territory lakes during the late spring spearing season in 2010 for age estimation. Cleithra (singular cleithrum) are paired bones located behind the gills just underneath the gill plate.

Fisheries biologists commonly use hard structures (like cleithra) from fish to estimate age. Fish growth slows in the cold months, and when body growth slows, so does bone growth. Therefore, various fish bones have annuli representing years of growth that are similar to the rings on a tree. Scales and spines are commonly used to age walleyes, and can be removed without killing the fish. Muskellunge scales are notoriously unreliable for age determination, and muskies do not have spines like walleyes. Therefore, cleithra have been commonly used to provide accurate ages for muskellunge. Unfortunately, removing the cleithra is lethal to a muskie, and muskies exist in many lakes at fairly low densities.

Speared muskies provide a source for cleithra since the fish has already been harvested, and removal of the cleithra leaves the filets intact. GLIFWC inland fisheries biologists have been collecting cleithra from speared muskellunge since 2007 to develop a database with reliable muskellunge age information. Biologists record length, girth, and sex of each fish on site and later determine the age of each muskellunge. Accurate length, girth, and age information allows biologists to monitor growth, year-class strength, and condition for muskellunge in ceded territory lakes.

Lakes with population estimates completed

State	County	Lake	Area	Study Lake
MI	Iron	Hagerman Lake	584	
WI	Bayfield	Siskiwit Lake	330	Y
WI	Forest	Butternut Lake	1,292	Y
WI	Forest	Jungle Lake	182	
WI	Forest	Lake Metonga	1,991	
WI	Forest	Roberts Lake	414	
WI	Oneida	Bearskin Lake	400	Y
WI	Oneida	Hasbrook Lake	302	
WI	Oneida	Squirrel Lake	1,317	Y
WI	Sawyer	Connors Lake	429	
WI	Sawyer	Lake Chetac	1,920	
WI	Sawyer	Lac Courte Oreilles Lake	5,039	
WI	Sawyer	Teal Lake	1,049	
WI	Vilas	Horsehead Lake	234	
WI	Vilas	Kentuck Lake	957	Y
WI	Vilas	Long Lake	872	
WI	Vilas	Lynx Lake	339	
WI	Vilas	Sherman Lake	123	Y
WI	Vilas	Squaw Lake	785	Y
WI	Washburn	Bass-Patterson Lake	188	Y



Women from the Three Fires Midewiwin Society provided a Water Ceremony at the request of the Bad River hatchery staff this spring. Performed shortly after ice out, the ceremony acknowledges the water spirits and prays for safety on the water. Led by Edith Leoso, on the far dock, Sue Nichols and Robin Powless sing as offerings are placed in the water. On the dock are, from the left: Dave D Acquisto, Ed Wiggins and Ed Leoso. (Photo by Sue Erickson.)



Zoongee Leith (left) and Robyn Garcia spent a beautiful Earth Day morning bagging roadside litter on the Bad River Reservation. The Bad River Health & Wellness employees joined dozens of other staff members from the tribe and Great Lakes Indian Fish & Wildlife Commission in the annual clean-up program. (Photo by Charlie Otto Rasmussen.)

Check GLIFWC's website www.glifwc.org
 or our Facebook page
www.facebook.com/GLIFWC
 for upcoming events:
Sandy Lake Ceremonies & Healing Circle Run

**Grandmothers Gathering
 for Gitchigaaming**
Appreciating the water
 August 12-15, Madeline Island Music Camp
 4 days & 3 nights
 All women welcome!
 For more information: ggg2010LN@yahoo.com



GLIFWC news



Great Lakes Indian Fish & Wildlife Commission (GLIFWC) Deputy Administrator Gerry DePerry presents long-time GLIFWC fisheries technician Mike Plucinski with a Pendelton blanket. Plucinski marks his 25th year with the Commission in 2010. (Photo by Charlie Otto Rasmussen.)



A new crop of GLIFWC enforcement officers emerged from the snow this past winter, staffing posts in Wisconsin and Upper Michigan. From left: Jessica Gokey, western district; Brad Kaczak, eastern district; Riley Brooks, eastern district; and Erica Carrick, eastern district. With the exception of Brooks, new recruits are beginning a 55-week training regimen conducted by the Wisconsin Department of Natural Resources. Brooks previously gained his law enforcement credentials as a state forest ranger. (Photo by COR.)



GLIFWC employees reaching five-year service anniversaries were recognized with awards at a February 18 staff meeting. From left: Sharon Nelis (20), Julie Ante (10), Dara Olson (5), Carol Newago (5), Jonas Moermond (5) and Ed White (20). Missing from the photo is 10-year employee Dan North. (Photo by COR.)



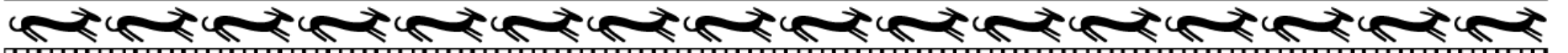
The Bad River Watershed Association (BRWA) issued its first-ever "Karen Danielsen Outstanding Stewardship Award" last March to Colleen Matula, a Mellen-based Wisconsin Department of Natural Resources Forest Ecologist/Silviculturalist. Matula is a founding member of BRWA, and a long time Board member. The award is given in recognition of a volunteer's exceptional service and leadership in the advancement of the BRWA mission: to promote a healthy relationship between the people and natural communities of the Bad River watershed by involving all citizens in assessing, maintaining and improving watershed integrity for future generations.

Danielsen, a GLIFWC forest ecologist for eleven years, passed on in November 2009. She also served as past president and founding board member of the BRWA. Her husband Dale Thomas presented Matula the award on March 27 at the Northern Great Lakes Visitor Center. (Photo submitted.)

2010 GLIFWC enforcement safety/education classes


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www.facebook.com/GLIFWC

Class	Dates	Tribe	Contact
Boater Safety	May 17 & May 21	Lac Courte Oreilles	Mike Popovich (715) 292-7535
Boater Safety	May 22-23	Sokaogon/Mole Lake	Roger McGeshick (715) 889-3200
Hunter Education	June 7 & June 15	Sokaogon/Mole Lake	Roger McGeshick (715) 889-3200
Hunter Education	July 19 & July 27	Lac du Flambeau	Riley Brooks (715) 570-2160



Book Reviews

The Art of Tradition: Ojibwe in Minnesota

Sacred Music, Dance & Myth of Michigan's Anishinaabe 1946-1955

By Jason Kekek Stark, GLIFWC Policy Analyst

A half-century ago, three writers: Gertrude Kuruth, Jane Ettawageshik, and Fred Ettawageshik collaborated to produce a 450-page typescript of a study entitled *Religious Customs of Modern Michigan Algonquians*, together with sound recordings and photographs. This work, drafted in 1959 offered a detailed view of the life of Michigan Ojibwe and Odawa music, dance, myth, and ceremony at mid-century. Presented for the first time in book form, this material offers a unique glimpse into a significant and largely overlooked era in the history of North American ethnology and ethnomusicology.

As the editor notes, *The Art of Tradition* documents the complexity of Native life and culture at a critical juncture in Native American history, where the rekindling of pride in Native cultures characteristic of the later twentieth century met the generation of elders who spent their early years speaking Native tongues but who came of age in boarding schools and amid strong pressures of assimilation.

Because this period was deemed by most ethnographers of the time to be one of "acculturation," marking the end of traditional Native cultures, the authors' appreciation for the integrity of mid-century Native culture stands out markedly from other scholarship of the day. The songs, dance steps, and stories collected here are evidence of the artful work of maintaining and breathing new life into traditions, often in contexts that seem anything but traditional, by indigenous elders and artists. There are no "Native informants" in this study, only collaborators whose lives are shown to be as resilient as the repertoires they performed.

The Art of Tradition details the state of affairs and change that was evident in Michigan Indian communities at mid-century. Many Michigan Anishinaabe communities did not have the "Big Drum" societies like their westerly neighbors in Wisconsin and Minnesota to help serve as a bridge to their traditional lifeways and ancient ceremonials. This book details how the people resiliently blended their ancient traditions with the ever changing modern society through the retention of family feasts and memorial customs, the celebration of holidays such as new years and the feast of the dead with partly traditional undertones, and the use of dances to provide economy and renewed pride in being "Indian" at a time of federal assimilation policy toward tribal communities. Of significant value is the chapter entitled "Odawa Myths." The chapter provides detailed use of the Odawa language as preserved in this transitional time in history which can be utilized to better understand dialectal difference and in contemporary efforts to revitalize the Odawa language.

As Frank Ettawageshik details in his forward, "The stories like this one about our Odawa community are not isolated. Similar stories are found in nearly every Indian community across North America. This volume may well give insight to members of those communities and to those who live with and study them. I believe this book demonstrates that our Odawa culture has not been lost as it has evolved, but rather that we continue to embrace change within our own unique world view. Our culture is alive. Its contributions to the collective future of all people are as yet unknown but will be exciting and filled with promise."

Legislation targeting Indian logos/mascots awaits Doyle's signature

By Sue Erickson, Staff Writer

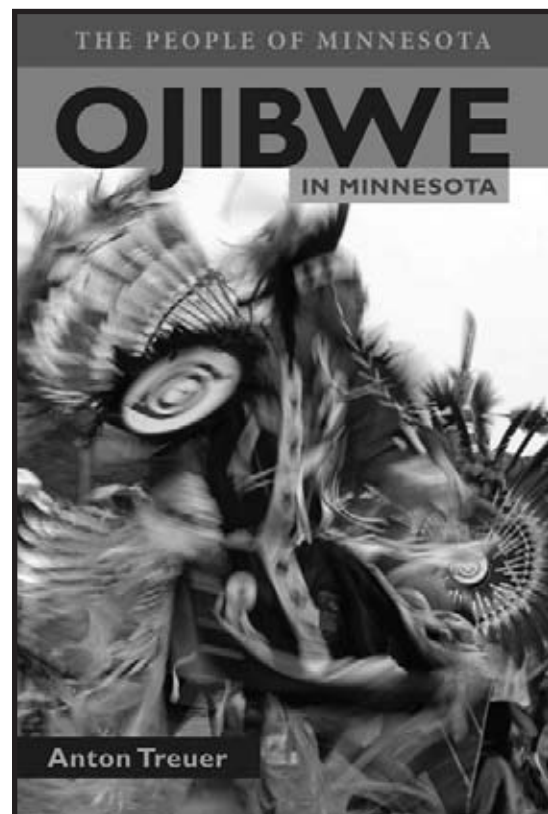
Madison, Wis.—Both the Wisconsin Senate and Assembly passed a bill that would make Wisconsin schools liable for substantial fines if they do not abandon use of a race-based logo, mascot or nickname that the state superintendent decides is discriminatory. The bill awaits the signature of Governor Doyle to become law.

Introduced in 2009, AB-35 is unique to Wisconsin. It provides that a complaint about a discriminatory, race-based logo or mascot from a school district resident can be filed with the state. Following a hearing on the issues, the superintendent will decide if the logo or mascot is discriminatory, and if so, order the school board in question to stop use of it. If the school district fails to comply within 12 months of the order, a fine can be levied of not less than \$100.00 or more than \$1000.00 per day that the mascot, logo or nickname continues in use.

According to the Wisconsin Indian Education Association's Indian Mascot and Logos Task Force, 21 school districts in Wisconsin have already dropped the use of Indian logos by their schools. Wisconsin has 426 school districts. Of these, 36 have Indian logos, mascots or nicknames.

The Task Force claims that "Regardless of original intent, relative attractiveness, or degree of cherished attachment, an 'Indian' logo and the school traditions that grow up around it present harmful stereotypes of living people and living cultures to students in the school environment. 'Indian' logos do not honor Indian people; these logos are nothing more than outmoded, culturally demeaning symbols of oppression."

Submitted by Minnesota Historical Society Press



Minnesota Historical Society Press is proud to announce the publication of *Ojibwe in Minnesota* by Anton Treuer, professor of Ojibwe language at Bemidji State University. With insight and candor, noted Ojibwe scholar Anton Treuer traces thousands of years of the complicated history of the Ojibwe people—their economy, culture, and clan system and how these have changed throughout time, perhaps most dramatically with the arrival of Europeans into Minnesota territory.

Ojibwe in Minnesota covers the fur trade, the Iroquois Wars, and Ojibwe-Dakota relations; the treaty process and creation of reservations; and the systematic push for assimilation as seen in missionary activity, movement policy, and boarding schools.

Treuer also does not shy away from today's controversial topics, covering them frankly and with sensitivity—issues of

sovereignty as they influence the running of casinos and land management; the need for reform in modern tribal government; poverty, unemployment, and drug abuse; and constitutional and educational reform. He also tackles the complicated issue of identity and details recent efforts and successes in cultural preservation and language revitalization.

A personal account from the state's first female Indian lawyer, Margaret Treuer, tells her firsthand experience of much change in the community and looks ahead with renewed cultural strength and hope for the first people of Minnesota. This book can be ordered from http://shop.mnhs.org/moreinfo.cfm?Product_ID=2538.

Anton Treuer is professor of Ojibwe at Bemidji State University and editor of *Living Our Language: Ojibwe Tales and Oral Histories*, Aniin Ekidong: *Ojibwe Vocabulary Project*, Omaa Akiing, and *Oshkaabewis Native Journal*, the only academic journal of the Ojibwe language.

The tastiest catch

(Continued from page 14)

during the year, I have to keep moving and find them. Because of the quality of our fish, we have developed a market and increased the demand for fish. My goal is to sell all our fish to the public directly. We have traditionally adapted to changing times; you have to. There are not many of us left."

Chris shares the family dream and long-range plan. "Today there is a big demand for fish oil. Right now we have over 50% waste because we sell mostly filets. We need to set up an oil rendering plant and also fish the siscowet trout (fats). This species of lake trout is generally bigger and too oily to eat. They live in the deeper flat portions of Lake Superior and are numerous, having greatly reduced the smelt population. We could render all our waste, with the bi-product of fish meal thus utilizing the whole fish. It is a very green and sustainable concept. Lake Superior's untapped oil reserve," Chris laughs.

After only a 10-hour day we pull back into the dock and load the fish into the truck. Back at the Fish Market a production line of five people were filleting fish. The smooth motion of the long pointed filet knife in the hands

of Gilmore and Pat was the standard to watch as the thick filets went one direction and the near skeletons fell off the end of the table.

As our day's catch was processed, the shop had a steady stream of customers buying filets and smoked morsels to take home. Outside a steady flow of hungry people sat in the shade eating Matt and Tammy's cooked-to-order fish and chips.

Any day fishing in the Keweenaw is special, but watching this family working hard, having fun and supplying you and I with Lake Superior's best is inspiring. The Peterson's have recently more than doubled the size of their shop and work area, insuring freshness and more display space. Pat and Gil look forward to the future as they watch their family grow and prosper.

"We are working on a plan to make our business more 'green' with waste recovery and working with the biologist to sustainably manage the resource for generations to come," Gil comments.

Editor's note: Charles Eshbach is the Editor/Publisher of the *Keweenaw Traveler*, a tourist information tabloid. Charles has been a photographer, writer, and publisher in the Keweenaw for the past 40 years.

Answers from page 17

jiimaan—Canoe; **maniwiiwaase**—gaher birch bark; **manoomin**—wild rice; **mazinibaganjigan**—birch bark biting; **nooshkaachinagaanan**—winnowing baskets; **wiigwaas**—birch bark; **wiigwaasike**—remove birch bark; **wiigwaasimakak**—storage box; **wiigwaasi-mitig**—birch tree; **ziigwan**—spring



Dibaajimowinan: Storytelling

13 Moons promotes traditional activities

By Sue Erickson
Staff Writer

Sawyer, Minn.—Beating the humdrum of winter nights and the onset of cabin fever, Fond du Lac tribal members as well as guests from throughout Ojibwe country, spent a February evening feasting and storytelling. Following the Ojibwe tradition of telling stories only while the snow covers the resting Earth, participants shared music and stories, both traditional and contemporary, to an audience that filled the Sawyer Community Center's gym.

As Fond du Lac Tribal Council Representative Sandy Shibiash noted in opening remarks, such events keep the oral tradition going and are important vehicles to preserve traditional teachings and practices.

Following and opening Pipe Ceremony and a feast replete with mooz meat, manoomin (wild rice), mandamin (corn), and zaasakokwaan (fry bread), the approximately 200 participants of all ages returned to the gym where emcees Bryan Jon, Fond du Lac, and University of Minnesota Prof. Dennis Jones kept the program's pace going and the jokes flowing.

Jones opened the storytelling program by recounting the Ojibwe creation story in Ojibwemowin and English. He

told how original man, Anishinaabe, was lowered down to Aki (Earth) through the "hole in the sky" passing through all four levels of the sky as he descended.

Just for fun, Fonddulaker Jim Northrup lent a contemporary and uniquely humorous bent to the program with his Shinob Jep—a take-off on the game show Jeopardy. Question categories like "Rez Cars," "Tricks or Treaties," and "Tricks and Treatment," brought out Indian humor in both questions and answers. All contestants ended up winners.

Shinnob Jep was followed by several poetry readings and a poignant presentation by Al Hunter with the accompaniment of Frank Montano's guitar. Thankful for the stories and teachings shared by his mother, Hunter recounted how she carefully taught him the history behind sacred places, taught him how to hunt with respect to the animal and to the Creator, taught him what practices were necessary, and taught him about the roles of various animals that share life on Aki. He quietly shared many teachings.

Several Ojibwe Wenabozhoo stories followed, told in both English and Ojibwemowin by different presenters, and making the event rich with stories both past and present.

The storytelling event was just one aspect of a larger program, Ashi-Niswi Giizisooq or 13 Moons, a program de-

signed to fortify the physical and cultural link between Ojibwe people and their natural environment.

Partnering to present the program are the Fond du Lac Resource (FdL) Management Division and the University of Minnesota (UM) Extension. Targeting the Fond du Lac Community, 13 Moons provides both workshops and news articles that address culture, ecology, and natural resource management, guided primarily by the events and activities dictated by the corresponding moon.

For instance, in August, Manoominike-giizis (ricing moon), a workshop was offered on making cedar rice knockers; in September, waatebagaa-giizis (leaves changing colors moon), rice processing was demonstrated; and a workshop in March featured spearing and netting skills.

UM Extension staff David Wilsey coordinates the year-long agenda along with Reggie Defoe, FdL Resource Management Division Director, incorporating community members with expertise in traditional skills as teachers. In addition to the workshops, 13 Moons prepares a monthly feature for the Fond du Lac tribal newspaper, which focuses on the significance of each particular moon and corresponding activities.

While storytelling diverges somewhat from many of the other workshops that have centered on harvesting practices, Wilsey says input from the FdL community indicated an interest in traditional storytelling and that would only be appropriate during the winter when snow is on the ground.

Coming up in May will be a workshop on wild foods and gathering, and in June workshop participants will learn techniques in gathering birchbark.

When everybody called me Gah-bay-bi-nays "Forever-Flying-Bird" Website offers excellent insights into an Ojibwe

By Lorraine Norrgard, for Mazina igan

Interested in Ojibwe oral history? You will find a wealth of information at a unique and amazing website, which contains the recorded oral biography of Paul Buffalo, a Leech Lake member and descendant of Bezhike, Chief Buffalo of LaPointe.

Entitled "When Everybody Called Me Gah-bay-bi-nayss, 'Forever-Flying-Bird': An Ethnographic Biography of Paul Peter Buffalo," the site resulted from the commitment of both Paul Buffalo and Dr. Timothy Roufs, Professor of Anthropology, University of Minnesota, Duluth, who recorded and transcribed interviews with Buffalo for twelve years, from 1965 to 1977. Dr. Roufs painstakingly kept the personal tone and style of Paul Buffalo's speech.

According to the website, in his last twelve years of life, "Paul Buffalo systematically recorded with Dr. Roufs most of his beliefs and discussed every aspect of his public and private life, including descriptions of his religious beliefs and herbal medical practices. He spoke of his heritage, his years as a leader of the Local Indian Council, his beliefs, his language, the changes he had seen, the things his elders told him, and his personal experiences of life. He was only one of many with similar experiences, but he was one of the few Ojibwa leaders who would talk at length about the past." The pages of oral history, "contain those things Paul's mother had taught him, and those things that he lived and learned and drempt {sic} and contemplated. It is thus that we have a rare personal statement about some of those beliefs and experiences."

This large volume of material includes thirty-five hundred pages of oral narrative which have been organized into content areas with images and put online. The three content areas include: "Year Round in the Early Years," "Winibozho and the Way We Think About the World," and "Living Amongst the Whites... The Best We Can." There are between 12-19 chapters under each heading as well as some audio interviews online. The pages of transcribed interviews can be printed or utilized for reference purposes. The material is copyrighted.

This website, www.d.umn.edu/cla/faculty/troufs/Bufalo/pbwww.html, has already proven to be a valuable tool to scholars and community members with 649,943 visits recorded to the website to date! If you have questions or want more information on the website, email: troufs@d.umn.edu.



Professor Dennis Jones, University of Minnesota, Native American Studies, emceed the dibaajimowinan storytelling event at the Sawyer Community Center in February. Sponsored by the 13 Moons program, the event featured feasting and storytelling both contemporary and traditional. (Photo by Sue Erickson.)



Getting ready to play Shinnob Jep (the Ojibwe version of Jeopardy), host Jim Northrup was ready with a line-up of questions for contestants. The mock game show featured pointed humor, drawing on Native experiences and perspectives. (Photo by Sue Erickson.)



Paul Buffalo. (Photo submitted.)



GLIFWC staff in field & office track harvest stats daily

(Continued from page 1)

a concentrated effort, and the seasons are monitored effectively,” says GLIFWC Executive Administrator Jim Zorn.

In Wisconsin, nightly catches are reported to the main office, so data can be processed and remaining quotas on lakes calculated on a daily basis. Similarly, at Mille Lacs, where nets are usually lifted in the morning, biological and enforcement personnel report catches of walleye and northern pike each day, so quotas can be adjusted to reflect the remaining balance. Each participating tribe has its own quota for both walleye and northern pike. If either quota is reached, netting must cease.

Staff at GLIFWC’s main office are available daily to receive the data and to calculate the remaining quotas. They also receive the list of declared lakes in Wisconsin and Michigan and send that information to monitoring staff and the Wisconsin Department of Natural Resources in the three states.

Enforcement

According to Maulson, the spearing season in Wisconsin and Michigan proceeded smoothly with only one minor incident of verbal harassment reported. On two occasions, GLIFWC wardens rescued tribal members stranded due to boat problems.

GLIFWC wardens did nightly checks at all open landings, using wireless internet to communicate with their counterparts also on duty. Monitoring teams generally begin their day around 5:00 pm with a creel meeting when creel teams are assigned landings for the night. At this point, GLIFWC wardens notify their counterparts as well as state and county officials which lakes will be harvested that night.

About fifty citations were issued during the spring spearing season. Maulson says they were issued for over the bag limit, over size limit, and spearing in a lake not named for the night. These violations are cited into tribal court.

At Mille Lacs Lake the same intensive creeling takes place with biological and enforcement staff working together. Individual net tags are required. Since spearing also takes place at Mille Lacs, monitoring can become a nearly around-the-clock job, Maulson says. Nets are usually set in the early evening just prior to dusk, and spearing begins around dusk, so monitoring staff must be at the landing. Spearing can continue through a good part of night, sometimes until dawn. Next morning net lifts begin shortly after sunrise. To ease the long hours, GLIFWC and the Fond du Lac developed a cooperative schedule, allowing some break time for monitoring staff.

Only one rescue took place at Mille Lacs. GLIFWC Warden Jim Mattson responded to rescue three netters whose boat had swamped.

About twelve citations were issued at Mille Lacs this spring for violations of size limit, setting a net without a permit, and for netting after revocation.

Harassment/vandalism/prevention

Incidents of harassment of tribal spearers and netters have occurred during most every spring treaty season. While not nearly as intense as the 1980s Wisconsin protest era, reports of verbal harassments and nearby gunshots have continued on a small scale.

This season at Mille Lacs Lake five tribal nets set north of Liberty Beach were reported stolen on April 9, according to Maulson. Four were entirely missing, and one had been cut. A day later, filleted walleye were found dumped about five miles from Malmo off of County Highway 2. The incident is under investigation.

In order to more effectively respond to incidents of harassment or vandalism, Maulson coordinates in advance with state and county counterparts. For instance,

prior to the season’s start, Chief Maulson met with Dave Zebro, Wisconsin DNR regional warden, and with sheriffs from Vilas, Oneida, and Lincoln Counties where harassment complaints had occurred in the past. “This was a positive meeting and helped establish lines of communication and the ability to coordinate a response to potential incidents if needed,” Maulson says. “It’s called being ready. The meeting also served to strengthen our relationships, so hopefully we coordinate and can all do our jobs better.”

Illegal disposal/wanton waste

A citation has been issued to a member of the Fond du Lac Band in relation to the illegal disposal of fish remains on private property near Mille Lacs Lake. GLIFWC enforcement worked with Fond du Lac and state conservation officers to investigate this incident by comparing catch records and eye-witness accounts. This will be cited into tribal court.

“I think this attests to the effectiveness of our monitoring system,” Maulson says. “Our extensive catch data, along with information obtained from the state, was critical to identifying the alleged violator.”

Active investigations of this and other incidents of illegal disposal at Mille Lacs Lake remain underway. As mentioned above, these involve dumped fish remains reported on April 10 about five miles from Malmo subsequent to nets being stolen on April 9. Also on April 10, 23 whole northern were reported disposed of in a dumpster at a resort in Isle.

“There are a number of options for proper disposal of remains,” Maulson says. “St. Croix, for instance, brings its own truck to haul remains. Lac Courte Oreilles has a deal with a mink farmer. Dumpsters can be used for a fee. This issue of disposal will be addressed so this type of incident does not recur in the future.” “Whether the perpetrators of these acts be tribal members or non-members or both, the disrespect and wastefulness shown, unfortunately and unfairly, reflects poorly on all who are exercising their rights at Mille Lacs Lake,” says Mic Isham, GLIFWC Board of Commissioners chairman. “As for tribal people, it certainly flies in the face of our traditional Anishinaabe values that teach respect for the resources we use.”



GLIFWC Enforcement Chief Fred Maulson checks tribal nets set at Mille Lacs Lake this spring. (Photo by Wesley Ballinger.)



Checking net tags at Mille Lacs lake, John Patrick, GLIFWC creel staff (right), records a net’s tag number. Creel staff are stationed at all open landings during the treaty spring spearing and netting seasons to monitor tribal harvest. (Photo by Wesley Ballinger.)



Lac du Flambeau’s Joe Bickford brings in a walleye from Wildcat Lake, Vilas County, on April 16. (Photo by Charlie Otto Rasmussen.)



Mole Lake’s Thomas Smith displays a Lake Mille Lacs walleye. Pictured in the background is Earl Henry Thomas, Lac Courte Oreilles. (Photo by Robin Arunagiri.)



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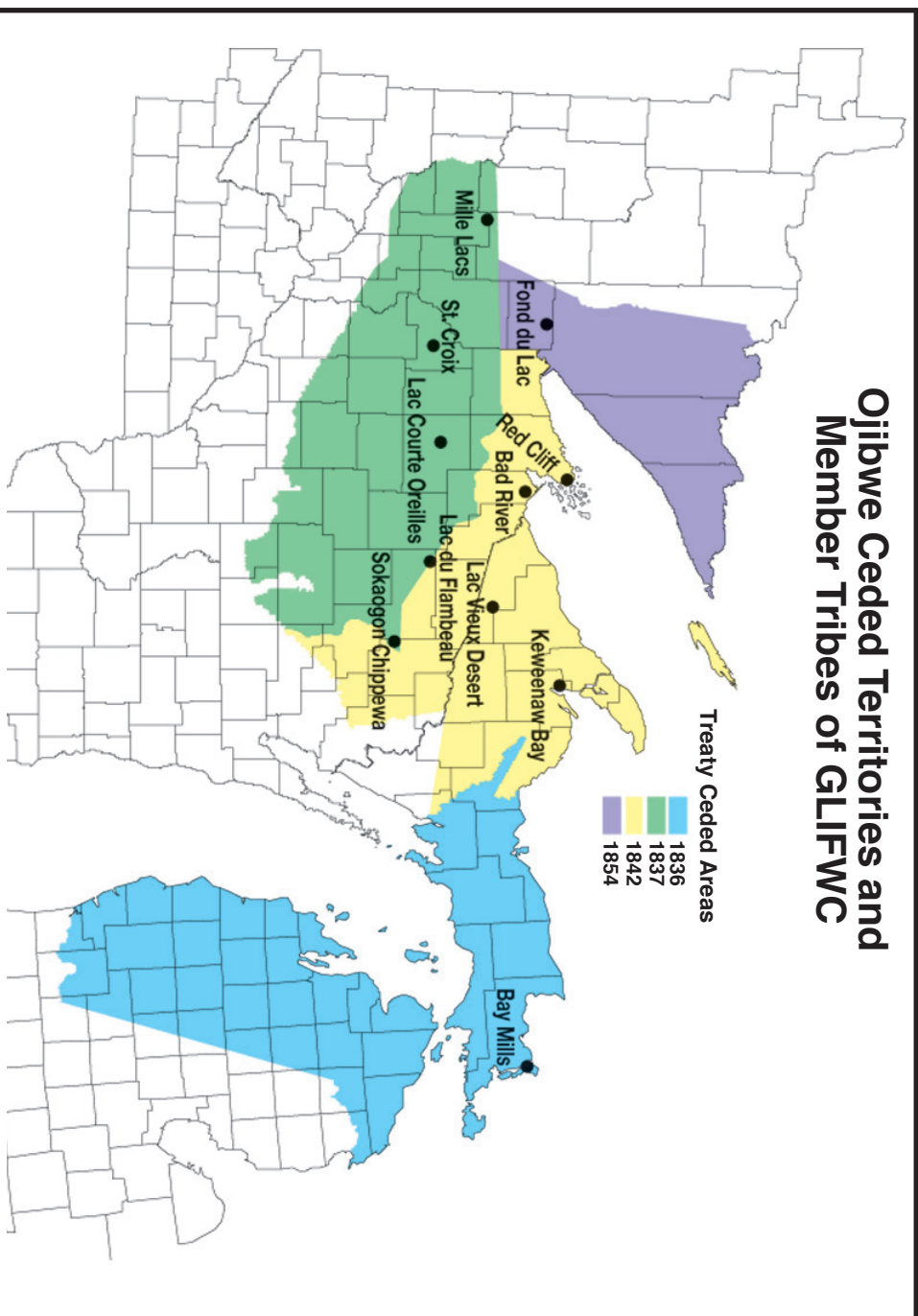
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Although **MAZINA IGAN** enjoys hearing from its readership, there is no "Letters to the Editor" section in the paper, and opinions to be published in the paper are not solicited. Queries as to potential articles relating to off-reservation treaty rights and/or resource management or Ojibwe cultural information can be directed to the editor at the address given above.

For more information see GLIFWC's website: www.glifwc.org.

Ojibwe Ceded Territories and Member Tribes of GLIFWC



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