TEK & GLIFWC'S MANOOMIN MANAGEMENT PLAN

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Great Lakes Indian Fish & Wildlife Commission
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GLIFWC manoomin management

- Why is GLIFWC creating a new manoomin plan?
  - TEK foundation and tribal perspective
  - "A TEK Assessment of Manoomin Waters in the Lake Superior Basin" GRLI Project
    - Determine where manoomin has been lost
    - Compile observations about changes in manoomin & habitat
    - Identify issues that hinder manoomin sustainability
    - Record waterbody-specific recommendations for manoomin restoration, enhancement & protection
    - Facilitate meeting with GLIFWC member tribes' THPOs

What is Traditional Ecological Knowledge?

- Components of GLIFWC's working definition
  - Knowledge gained from intimate relationship with environment
  - Place specific
  - Based on direct observation over hundreds, thousands years
  - Origin stories of resources
    - Species distribution
    - Best management practices
    - Spiritual respect
  - Harvesting experiences
    - Best techniques
    - Cause and effect observations

Sources of TEK

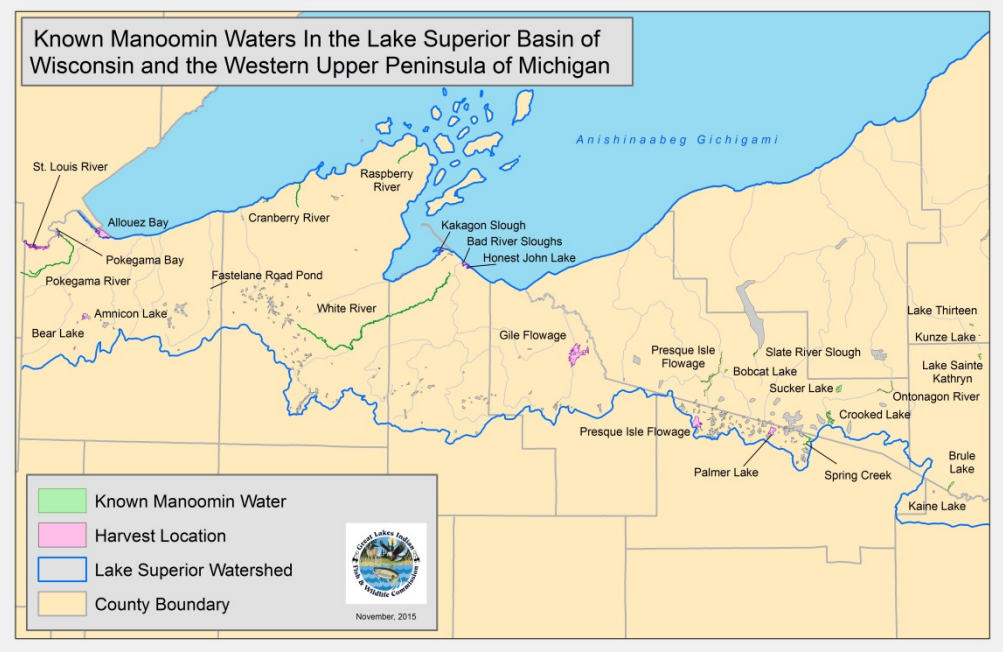
- Tribal elders & harvesters
- Written sources
  - Contemporary works (Thomas Vennum, Maude Kegg)
  - Historic ethnography (William Warren, Frances Densmore)
- Traditionally passed on orally through:
  - Aadizookaanan- sacred stories
  - Izhitwaawinan- practices
  - Dibaajimowinan- oral stories
  - Nagamonan- songs
  - Ceremonies

Best Practices for Collecting TEK

- Determine what info is needed
- Inventory written works
- ID community members
- Interviews, meetings, talking circles
- Respect
  - Proper way to ask for help
  - Patience
  - Gratitude for sharing
  - Compensation
- The knowledge holder is the owner of the information

Manoomin Interviews

- Assessing historical information of manoomin waters in the Lake Superior basin
- TEK used to enhance previous data
- Interviews of elders & harvesters
  - Historical distribution → 4 questions
  - Recording permission
  - Don't be pushy
  - Be patient
- Permissions of use



TEK Analysis

- Transcript review
  - Clarifications & additional information
  - Respecting the TEK holder
- Report review
  - Internal use
  - Source attribution
    - Quotes, paraphrases
    - Desired citation
- Approval for other uses of TEK

Examples of Sharing Manoomin TEK

- Traditional Ecological Knowledge (TEK) Assessment of Manoomin waters in the Lake Superior Basin Summary, Report to EPA
- "TEK, Elders to form backbone of new manoomin plan" *Mazina'igan*, Dagwaagin 2016
- Future manoomin plan

FALL 2016 • *MANOOMIN PLAN* • PAGE 15 MAZINA'IGAN

Elders, TEK to form backbone of new manoomin plan

By Jen Ballinger, GLIFWC Outreach Specialist

In an effort to promote Anishinaabe culture in all aspects of GLIFWC work, Traditional Ecological Knowledge (TEK) is incorporated into various natural resource management plans and harvesting rules and regulations. TEK is a source for understanding what constitutes proper respect of a particular resource.

Under the recently completed wild rice project, various manoomin harvesters were interviewed about manoomin TEK. Knowledge shared during this project included harvesting techniques, bed management practices, historic and current manoomin habitat and distribution, and explanations of consequences and ecological effects on manoomin harvest.

Many of the harvesters interviewed expressed their views on the best ways to respect manoomin, why manoomin is important to the Anishinaabe, and concerns for the sustainability of manoomin for seven generations in the future.

A recent interview with Fred Ackley and Fran Van Zile (Sokaogon Mole Lake) will be used to help GLIFWC more effectively manage, restore, and rehabilitate manoomin in the Lake Superior basin and other areas of the Ceded Territories. As Fred and Fran talked about why they harvested manoomin, the respect and love Anishinaabe should have for such a valuable resource became apparent. This excerpt of the importance of manoomin to Fran helps highlight why GLIFWC needs to manage manoomin in a culturally appropriate and relevant way.

"So our first thought was that when that hail came, it knocked it [the manoomin] down. When you looked at the stalks of the rice, it had like brown burnt marks in it but it was lying down, like something had come along and pushed it down. It wasn't standing up like it was when we saw it the night before. It was lying down. So once again maybe they called that climate change or change in the weather at the time but them one o'clock ice storms that come do a lot of damage to the lake and to the rice, but we can't stop that. We can't stop that. There isn't any way we can stop what happens.

All of those kinds of things we have to take into consideration when we talk about the manoomin, because on account of we found out that no matter where you go in the world, there isn't no substitute for that manoomin. Nobody's got no substitute for that. When the Creator told us that we have to take that manoomin to our doings, to our ceremonies, he told us when we take that rice there we are feeding him because that's God's food. God told us to go where the rice grows on the water.

If I take care of you as long as the water is healthy. Everything that grows on there, everything that goes in there that stays in there, you can eat that too. That's how we learned how to survive and that's what we were told by our relatives. Those are the stories that our grandmother shares with us at our time when we are sitting there. Those are the stories that we share with our children and our grandchildren.

Fred Ackley and Fran Van Zile. (Jen Ballinger photo)

Because during ricing season, one of the most beautiful sights as an Indian person is going to the village and seeing them campfires. It tells me that our relatives are joining us because we're all going to be eating. Whenever we go and do that, when we do that, we all know that everybody's going to have food. We all know that as Indian people, they didn't have no refrigerators, no freezers in their teepees back in those days. We had to learn how to smoke that fish, how to can that deer meat, how to clean and store wild rice.

Those are the things that we had to learn, pick those berries before they spoil, put them in a jar put them on a shelf because we have ceremony during the winter time and you get to have that food in order to 'thank the Creator.'"

Fred shared why harvesting and sharing manoomin is important to him and the good feelings that come from it.

"All the things that you thought and the sweat you did and the muscle aches and pains it goes away for another year. About four days after that goes, you start craving for the next year. So your mind and your body starts thinking well, it was a good year now what am I going to do for the next year? I hope the rice is better. I hope it's there. I hope I don't do nothing wrong to break any bad medicine, taboo or whatever on the people, on the food. Then I go back out again thinking about it all year round in the winter.

When I do give it out, like when somebody comes in and says 'hey, we got a naming ceremony here can you make some rice or casserole?' They could pay me if they want but most of the time I'll just give to them. Other people I'll give to for Christmas time because they're workers and they can't get out there. But that one pound of rice to all those workers that time of year, that brings that rice spirit and that Anishinaabe spirit in there. It's not for Christmas though. It's for winter solstice; where it really calls for us to eat that food at that time of the year. For us, it's good because we're all in the atmosphere of Christmas giving presents and enjoying happiness.

That's why I like to do it then because also I know when I see on their faces, that the spirit's in them yet. That's when they were little kids growing up until they die, they are all going to taste that rice, where it comes from. Then the people who really go out there and get it for them, they all could but everybody doesn't have the gifts. So whatever else other people do, they do that the same time of the year. Then what you got is everybody starts that for the rice. It starts a whole different system around the whole community from young and old.

Somebody says what are they doing over there? What are they doing? What are they doing? Then they all start getting involved somehow some way seeing the whole community starts moving for that harvest. I'll help you out; I'll go out there. I'll do this. Because you don't even have to advertise it but it comes by knowing you're out there, seeing someone's fire in the backyard and smelling parched rice all over the air. Then you know God is blessing us then as Indian people because everybody is busy collecting it and harvesting it and it's really the satisfaction of the gift from the Great Spirit. Everything that earth does for it, the water, everything, the air and the sun, all that birds and bugs, everything all pays off when you eat that rice that way and think about it that way."

Staff will be conducting additional interviews under the current Great Lakes Restoration Initiative's capacity grant in order to provide the basis for a new GLIFWC manoomin management plan based upon TEK and western ecological knowledge.

Moose research in a changing landscape

(continued from page 12)

examining deer fecal pellets. Deer pellets are collected when actively shedding brainworm larvae and liver fluke eggs—from February through mid-April. The results from parasite presence, or absence per location, is valuable in identifying hotspots of parasite transmission, and suggests areas to target reductions in deer population that could minimize risk to moose.

Warmer, shorter winters improve winter tick survival

Climate change will influence daily temperature thresholds by curbing cold nights and intensifying the peak daytime heat. Likewise, climate change in northeastern Minnesota will result in seasonal extremes. As a boreal forest evolved species, not only are moose stressed by and struggle to deal with increased temperatures, but conditions are becoming more favorable to survival rates of a common moose parasite known as winter tick.

Although they will parasitize any ungulate, winter ticks (*Dermacentor albipictus*) almost undoubtedly favor and are most effective at parasitizing moose. Hundreds of feeding ticks substantially draw down moose energy by taking about three blood meals throughout the winter. Adult ticks take their final blood meal around March, which also happens to be when food is most scarce for moose. Pest-ridden moose spend a multitude of time (time they would usually spend on feeding) grooming, and rubbing on trees with the intention of scraping off the irritating ticks. This grooming also results in individuals rubbing off their fur and reducing their energy by lack of food consumption and reduced insulation.

When engorged winter tick females drop off moose in the spring, they need to reach bare ground to successfully lay their eggs. With warmer winters (warming 3.5 to 6°F on average) we should expect to see earlier snow melt and more winter precipitation falling as rain (see 1854 Ceded Territory Climate Change Vulnerability Assessment and Adaptation Strategies report).

Moose suffering from winter ticks. (submitted photo)

These expected conditions are key to successful egg and larval tick survival. What we used to remember as endless winters are becoming few and far between.

Ultimately, climate change will cause dramatic shifts in regional temperatures and precipitation regimes, resulting in changes to vegetation composition, unexpected competition, and concentrated pressures effecting the overall fitness of moose. 1854 Treaty Authority will continue to investigate these impacts on moose through monitoring and research. We must take care of moose, as they are an essential to mino-bimaadiziwin.

TEK Assessment of Manoomin Waters in the Lake Superior Basin Summary

- 11 interviews with 14 individuals & THPO meeting
- Cultural & spiritual important of manoomin
  - Ojibwe migration story
  - Health benefits
  - Manoomin harvesting & Anishinaabe identity
- Threats to manoomin:
  - Climate change
  - Habitat changes in manoomin waters
    - Water level changes
    - Invasive species
    - Water quality
  - Accessibility to manoomin beds
  - Spiritual components

TEK Assessment of Manoomin Waters in the Lake Superior Basin Summary (cont.)

- Recommendations for future manoomin work
  - Incorporate spirituality
  - Outreach & education to tribal and non-tribal public
  - Advocate for manoomin when co-managing with other agencies
- Recommendations from THPO meeting
  - Encourage tribes to include manoomin waters on traditional cultural properties & National Register of Historic Places
  - Get Anishinaabekwe involved in manoomin management
  - Assess state agencies' manoomin management practices

The Manoomin Plan

- Inter-departmental development
- Acknowledgement of sources
- Ways of incorporating proper respect of manoomin
  - Asemaakewin (Tobacco Offerings)
  - Wiikongewin (Feasting)
- Continuation of interviews

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