

Utilizing Traditional Ecological Knowledge (TEK) in a Climate Change Program



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Great Lakes Indian Fish and
Wildlife Commission

Rising Voices
4-11-18

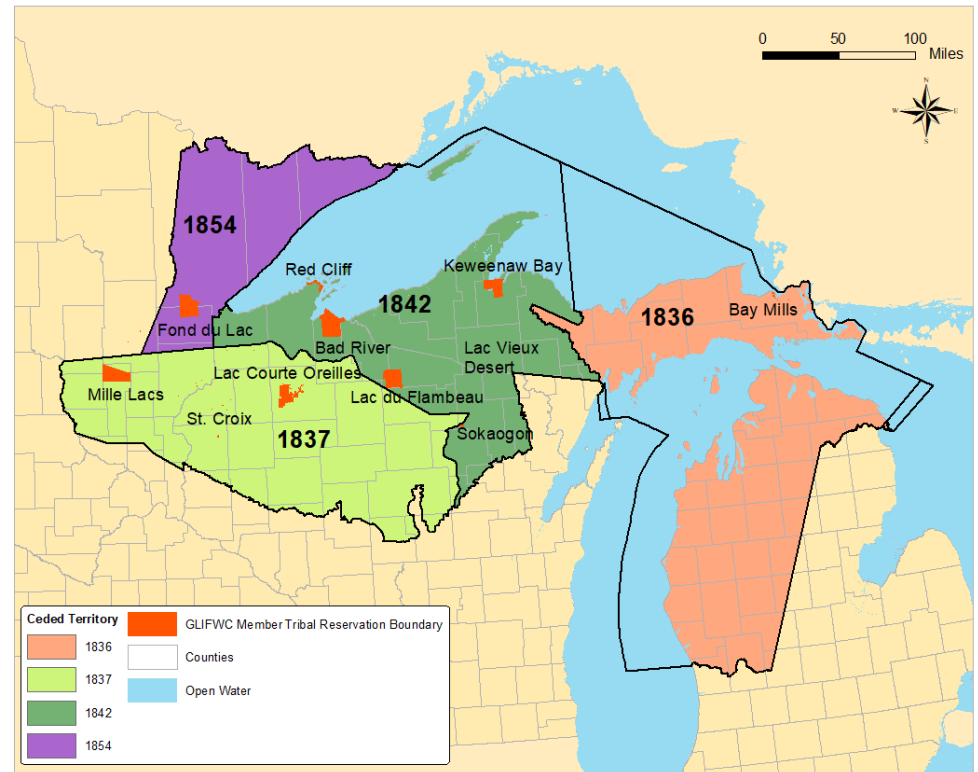




What is GLIFWC?



An intertribal natural resource agency exercising authority delegated to it by its 11 member tribes to co-manage off-reservation resources



Climate Change Program Goal

- Use a holistic approach (which includes both Traditional and Scientific Ecological Knowledge) to assess the impacts of climate change on treaty resources in the ceded territories and identify potential threats to Anishinaabe lifeways.
- Promote recognition that Anishinaabe knowledge and worldview provide important and needed contributions to the understanding of climate change effects on resources.



GLIFWC Climate Change Program

- Lake Superior fish diet study



- Lake Superior lake trout depth/temperature study



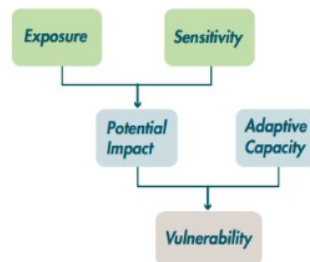
- Phenology study



- Walleye study



- Vulnerability assessment



Climate
adaptation
plan

TEK Collection / Objective

Using TEK obtained from interviews with tribal elders, harvesters, knowledge holders to inform Climate Change Study in the Ceded Territories:



Photo: Jarrod Dahl

- Verify species of concern and changes experienced in seasonal harvest patterns
- Identify critical habitats that sustain treaty harvests
- Integrate TEK into CC documents (phenology study, vulnerability assessment, adaptation plan, etc.)

Integration of TEK & Scientific Ecological Knowledge (SEK)

BR Jul 01 2016 StoneDahl Interview Summary.pdf - Adobe Acrobat Pro DC

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	<ul style="list-style-type: none">• impact due to over harvesting.• Birch are migrating.• Best bark is usually growing in recent forests. In the Bayfield Peninsula it's normally too sandy for it to grow. That are is already being impacted by climate change.• Letting forests burn or disturbing the soil helps them grow.• At the elder approved birch sites there are a lot of birch but none of them were good for making a basket.• Usually harvest in June or July and rarely harvesting around the time trees are seeding.
Rice bird	<ul style="list-style-type: none">• Don't see them anymore.
Sugar maple	<ul style="list-style-type: none">• Sugar bush outside their back door which they don't manage at all but they tap them.• Tapped 150 trees in the past, on average they tap 80-100.• Haven't gone to the sugar bush or tapped trees in the last two years (2014-2016) because of the weather. It didn't get cold enough at night or warm enough during the day.• Not tapping for a few years had a big impact on their life because they use syrup for all kinds of things.• Weather is the main indicator for knowing when to tap trees.• Rain prior to tapping affects the quality of the sap.• There is a 6-week window when they start tapping trees.
Turkey	<ul style="list-style-type: none">• A lot around they're area (Highway 169 southern edge of Bad River reservation).
Wild rice	<ul style="list-style-type: none">• Normally harvested in Vilas County.• They depend on info from GLIFWC on where to go.• Not too many changes noticed with it.

Our approach:
traditional phenology,
stories, songs with
deeply embedded
meanings – extracting
pieces for comparison
to SEK



Benefits of Engaging Community Members

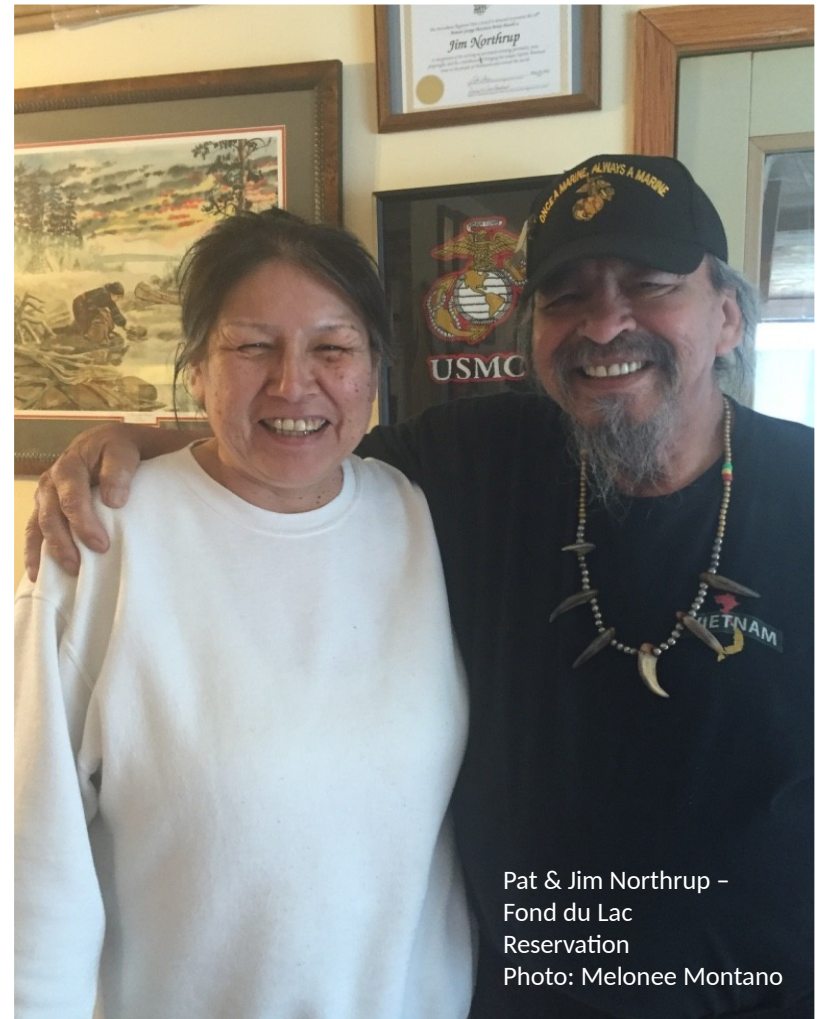
- Inclusion of tribes = stronger decision making
- Voice to elders/ knowledge keepers once forgotten due to suppression
- Preservation of language and culture
- Leading younger generation by positive example
- Climate change readiness for bands (& specific to them)



Leonard & Mary Moose –
Mille Lacs Reservation
Photo by: Melonee Montano

Gathering TEK - Challenges/Barriers

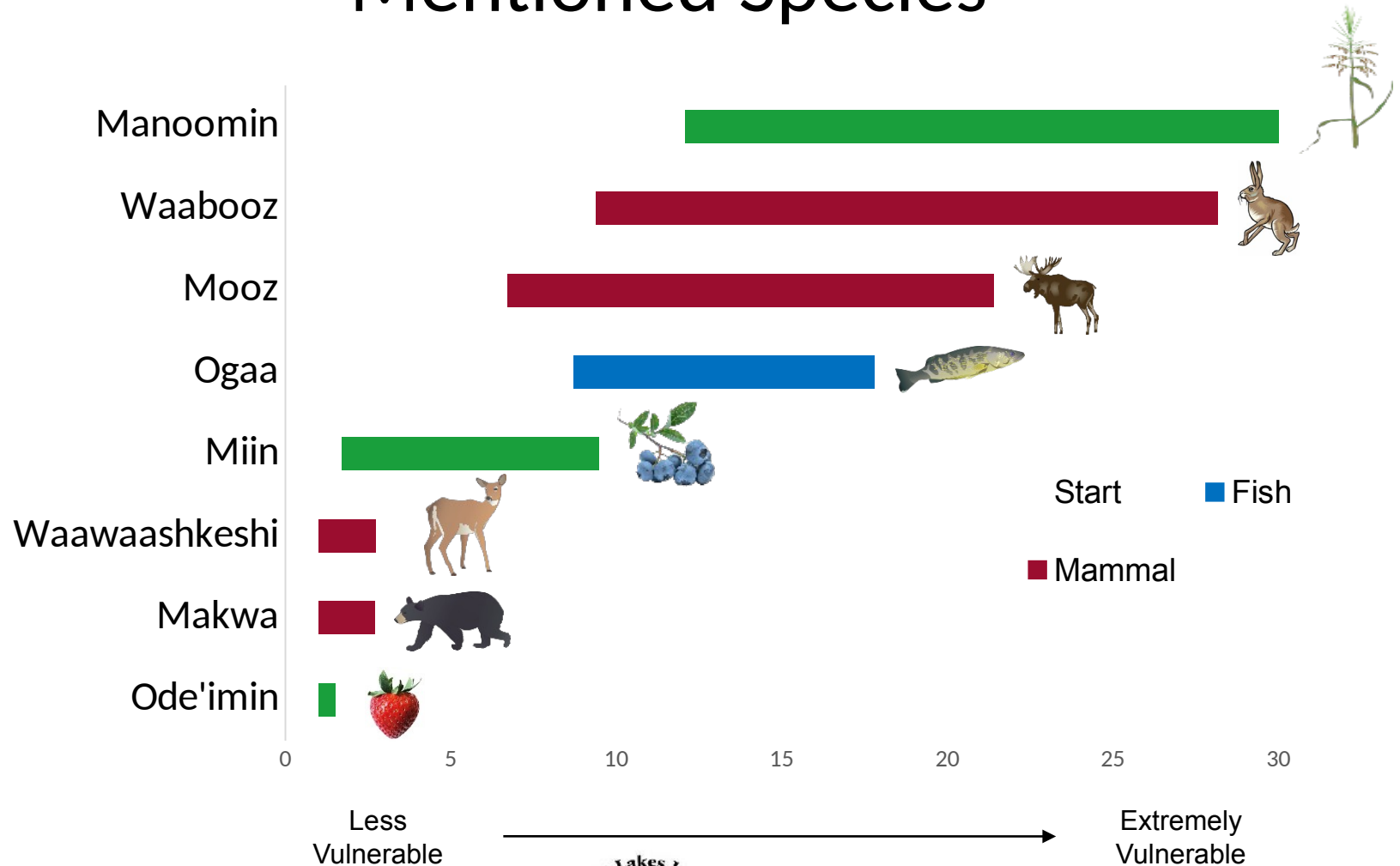
- Inherent knowledge and intuitive traits necessary for interviewer
- Radius
- Diversity of language dialects
- Interweaving SEK and TEK:
Animate vs inanimate
- Relationship building
- Multi-generational trauma
- Legal issues and protecting intellectual property
- **The time is now!!**



Pat & Jim Northrup –
Fond du Lac
Reservation
Photo: Melonee Montano



Vulnerability Assessment: Results of Most Mentioned Species



Manoomin (Wild rice)



“If I get out here this year, and I'd like to, for even a hour, ten minutes even, I can honestly say I was out there... somewhere in the ceded territory here ricing every year, I've riced every year of my life, 57 years. This would be the 57th year now.”

“You know what I was worried about this mornin’? That rain knocking my rice over.”

- *Fred Ackley, Mole Lake*

“And all this (year) they'll-, that little worm...before it turns into the brown moth... he'll eat that rice and then mold gets in the middle of that rice stalk...The whole stalk would be.. you know, I wouldn't say it was the best rice no more, 'cause it has that. And that's because it gets more hotter and more moist.”

– *Fred Ackley, Mole Lake*

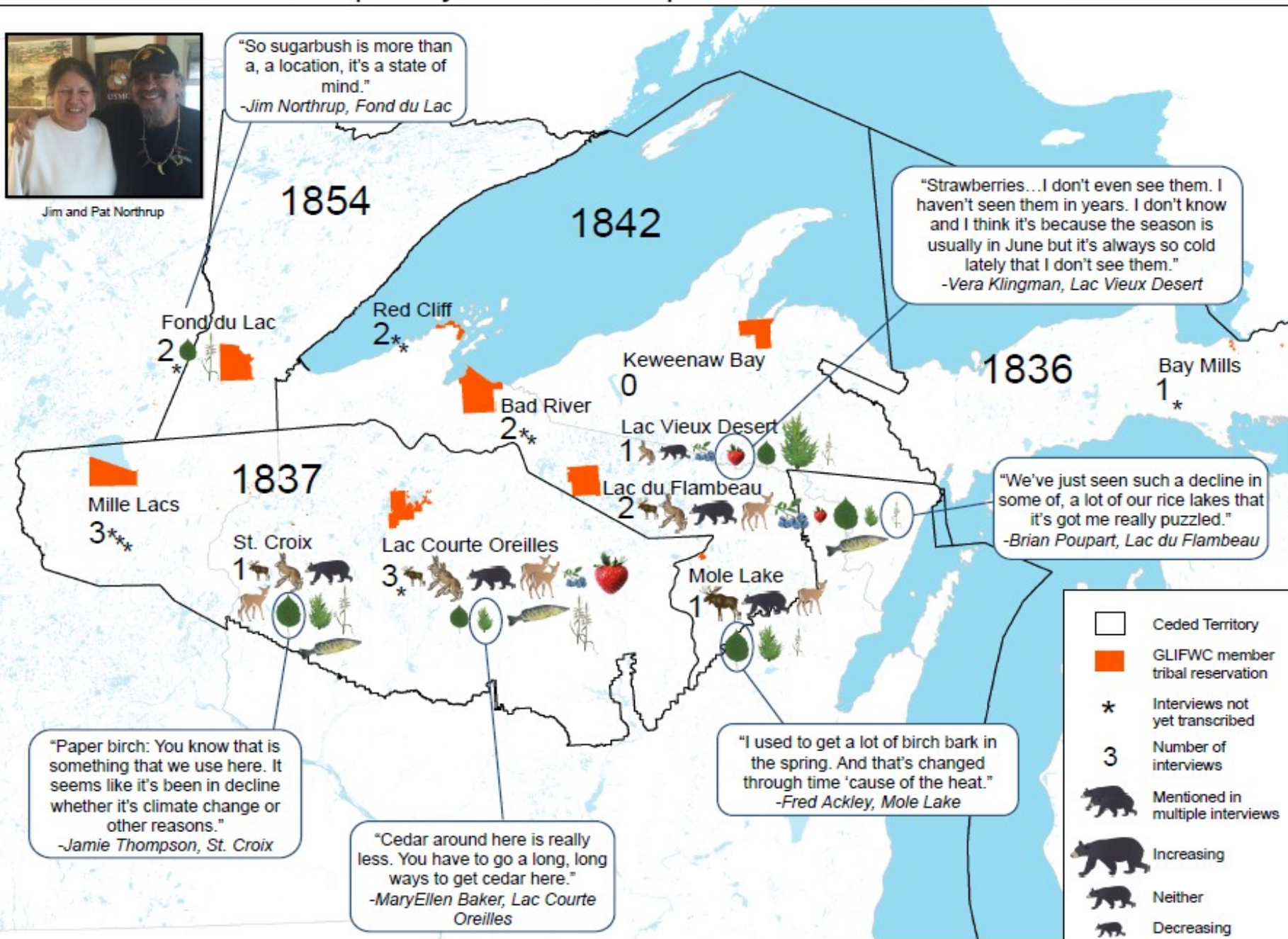


Most frequently mentioned species in TEK interviews



Jim and Pat Northrup

"So sugarbush is more than a, a location, it's a state of mind."
-Jim Northrup, Fond du Lac



- Ceded Territory
- GLIFWC member tribal reservation
- Interviews not yet transcribed
- Number of interviews
- Mentioned in multiple interviews
- Increasing
- Neither
- Decreasing

Final thoughts

- Many resources of tribal interest are vulnerable to climate change
- TEK and SEK complement each other and strengthen our overall knowledge of climate change vulnerability
- We need to use both knowledge systems to move forward in adapting to climate change



Miigwech!



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