



Documenting and Illuminating Non-Economic Loss and Damage

GLOBAL IMPACT ARTICLE SERIES

When we talk about the impact of climate change, we often discuss monetary value —how much money will fluctuating water levels cost Great Lakes coastal communities? However, many impacts cannot be monetized, like personal relationships with the land, lost species, land-based stories and customs, and spiritual and community values. These are all examples of non-economic losses and damages (NELD) associated with climate change and other environmental stressors.

Over the course of 2017, a team of University of Michigan (U-M) Dow Sustainability Fellows partnered with the Bad River Band of Lake Superior Tribe of Chippewa Indians in Wisconsin to assess NELD impacts experienced by their community. Students collaborated with the tribe to document and illuminate the potential adverse health, cultural, and psychological impacts stemming from biodiversity losses and destruction or alteration of landscapes. Their research highlights the interconnected relationship between the environment and tribal members' identity, spirituality, and culture. Moreover, it demonstrates how dedicated the community is to being environmental stewards.

Non-Economic Loss

According to a [United Nations report](#), economic losses are “the loss of resources, goods, and services that are commonly traded in markets.” All other losses are non-economic and include loss of territory or loss of cultural heritage and knowledge. Non-economic losses also include indirect effects, like the health impacts stemming from disrupted agriculture. These losses can affect individuals, societies, and the environment, and for some communities may be much more significant than economic losses driven by climate change.

Bad River Band Partnership

The Bad River Band of Lake Superior Chippewa Indians is a community of around 8,000 registered members, part of the larger Ojibwe group of indigenous North Americans. About 1,700 Bad River members live on a reservation of more than 125,000 acres in northern Wisconsin, on the south coast of Lake Superior (*Gitchi Gami*), and 200 acres on the northern tip of Madeline Island (*Moningwunakauning*). Much of the reservation, and ceded territories where the band retains hunting, fishing and gathering rights, are undeveloped and contain many culturally and ecologically important ecosystems and species.

One of these is a wild rice species known to the community as Manoomin (*Zizania aquatica*). This cereal grass grows in shallow waters in many Great Lakes coastal regions and wetlands. It has long been a dietary staple for the Bad River Band and a central part of their historical and cultural connection to the territory. Manoomin is part of the band's migration story: their ancestors learned “they would be home when they came to the place where food grows on water.” One tribal member told the team, “The wild rice has always been very important to us as part of our being... as part of not just food for our bodies, but food for our souls.”

Stephanie Dooper, an alumna of the School of Education and a member of the Dow Fellows team, emphasized the importance tribal members placed on Manoomin, and its current vulnerability. “For instance, the Enbridge Line 5 [oil pipeline] runs right through the reservation and if it burst, it would destroy crops. If lost, Manoomin cannot simply be replaced with other rice from a store. Tribal participants described to us the potential loss of this wild rice as priceless, like the loss of a relative.”

Tribal members also indicated the cultural value of other species, including walleye, which the tribe has been catching for centuries and maintain an active fishery; maple and birch trees, which are used for their syrup and bark; as well as medicinal plants, deer, and many other species. Participants spoke of the interconnection amongst these resources, and shared their thoughts on adaptation and mitigation strategies to help deal with the emotional and cultural impacts of climate and environmental change.

Oral History

To ensure their project was a mutually beneficial collaboration with the Bad River community, the U-M team contacted and gained the approval of the tribal council before they came to the area and started interviewing.

“We were very fortunate to have both the Tribal Historic Preservation Officer and the Climate Change Coordinator as our liaisons with tribal members,” says Sarah Swanz, a member of the team from U-M’s School of Information. “They helped make the proposal to the council, identified potential interviewees, and paved the way for us in the community.”

In addition to using their interviews with tribal members to understand NELD impacts, the Dow team will return the audio and video footage of their interviews to an oral history archive maintained by the Tribal Historic Preservation Office.

“It was very important for us to leave something behind for the tribe and not simply take their knowledge away with us,” writes Swanz. “That is why we recorded our interviews and returned them to the tribe in archival form, with preservation metadata and transcriptions by theme so that they had a resource they could return to.”

The goal of archiving the interviews and the report is to supplement the Bad River Band’s current climate change monitoring plan with specific examples of how climate change may impact tribal members.

Result & Next Steps

One possible use of the archived documentation is to communicate NELD impacts to non-tribal policy-makers and funding organizations. The Bad River climate change coordinator has already used the interview transcripts to inform a project in partnership with her counterparts from the Red Cliff Band of Lake Superior Chippewa.



PROJECT TEAM

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PARTNERS

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LEARN MORE

- Bad River Band of Lake Superior Chippewa Indians
- United Nations Framework Convention on Climate Change (UNFCCC) Technical Report: Non-economic losses in the context of the work programme on loss and damage



SUSTAINABLE DEVELOPMENT GOALS



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