Hope through Indigenous leadership

THE KEWEENAW BAY INDIAN COMMUNITY'S (KBIC) recent climate impact study reveals an encouraging path forward for Indigenous-led environmental research. Despite documenting changes in forest ecosystems, the study found that climate challenges are actually strengthening some aspects of cultural knowledge transmission and community bonds. Many Tribal participants reported that climate-related changes have enhanced their spiritual connections to the land and increased their commitment to sharing Traditional Ecological Knowledge with others.

The study exemplifies successful collaboration between Tribal and academic partners, following KBIC's Research Guidance protocols to ensure community priorities drive the research. This model demonstrates how centering Indigenous voices and Traditional Knowledge can create more inclusive, culturally relevant climate adaptation strategies. The approach holds great potential for application in managing large lake ecosystems, where Indigenous Knowledge could significantly strengthen community engagement and enhance restoration practices. As one participant noted, this work can contribute to "increasing public education and awareness about cultural and ecological importance while encouraging more involvement in environmental causes through community engagement and respect for Indigenous cultures."

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Volunteering for the love of suckers

SUCKERS (*CATOSTOMIDAE*) are the most abundant migratory fishes in the Laurentian Great Lakes region, but they are understudied and underappreciated given their important roles in ecosystems. To overcome the lack of data for the species, we designed a citizen science program to engage volunteers in documenting the migration phenology of white suckers and longnose suckers across a latitudinal gradient.

Beyond collecting data, participants in the program have become vigorous advocates for these species and their environments, allowing for peer-to-peer messaging that complements traditional science communication. Seven years of data from our network of volunteers reveal that temperature is the primary trigger for sucker spawning migration; cumulative degree days over 43.3 F (6.3 C) is the best predictor of migration timing across sites and years. Based on our experience, we provide readily transferrable strategies for soliciting and retaining volunteers as well as ensuring high data quality standards. Our citizen science network exemplifies the untapped potential for involving the public in fish conservation activities. See Murchie et al. 2024 to learn more.

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