Shore off Red Cliff Reservation at Frog Bay Tribal National Park

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How Tribes Respond to Changing Environments

The earth's changing climate has significant ramifications for Indian tribes' subsistence needs, public health, economic stability, sovereignty, and traditional ways of life. This article discusses some causes of environmental harms that are faced by tribes in Wisconsin and nearby states and legal and policy approaches tribes can take to address such harms.

Environments — and the living and nonliving things of which they are composed — always change. Accordingly, tribal nations have responded to changes in their environments since time immemorial. For many tribes, responses stem from centuries or millennia of close relations with animals, plants, water, and broader environs that provide food, shelter, and cultural connections. These relationships with the nonhuman world are often tied to long-running subsistence and cultural practices, which some tribes enshrined into treaties with the federal government in the U.S.

As the causes of environmental change continue to grow, tribes use a range of mechanisms to respond. This article first touches on some causes of environmental harms tribes in Wisconsin and beyond face. The article then discusses legal and policy approaches tribes can take to address such harms.

Causes of Harm

The ecosystems of the Midwest face myriad threats, including air and water pollution, chemical contamination, land development, fossil fuel infrastructure, and the spread of invasive species. Climate change amplifies these threats and accelerates ecosystem collapse.

Given their relationships with and dependence on particular species and ecosystems, tribes in the Midwest and beyond face compound complexities related to various environmental harms. This section summarizes several causes of these environmental harms, including 1) land use changes, 2) chemical contaminants, and 3) climate change effects.

Land Use Changes. Various land use changes have affected and continue to affect tribes. Extractive industries such as mining and fossil fuels often receive the most attention. But more mundane residential, commercial, and roadway development can have significant environmental effects as well.

In Wisconsin, extensive mining took place before and following statehood. Imposed land-cession treaties and violent force from Euro-American settlers facilitated this extractive era, the influences of which still play out today. The shuttered Flambeau mine, which operated in the 1990s, provides a notable example. Opened despite opposition from tribes and others, full reclamation of the mine was delayed due to ongoing effects on downstream waters, including Ojibwe treaty fishing areas.[1]

In the last 50 years, tribal opposition has been key to preventing other proposed mining projects. For decades, numerous tribes opposed a planned metallic mine in Crandon, Wis., because of effects on surrounding environments. Eventually the Forest County Potawatomi Community and the Sokaogon Chippewa Community purchased the land and mining interests to end a multidecade push to open the mine. More recently, the Bad River Band of Lake Superior Chippewa played a key role in preventing low-grade iron ore mining upstream of the Band's reservation in the Penokee Hills of northern Wisconsin. These tribes used some of the legal pathways discussed below to safeguard environments important to them.

While a mine's effects may be obvious because of concentration at a single site, fossil fuel pipelines often stretch for hundreds of miles. Their construction creates long linear disruptions to soils, wetlands, water flows, and habitats — scarring these otherwise complex, nonlinear environments. The recent construction of the Line 3 pipeline in Minnesota provides unfortunate examples of these risks: breaching underground aquifers and greatly disrupting important vegetation.[2] Pipeline spills cause dramatic harm, such as the Kalamazoo River, Mich., or Grand Rapids,

Minn., spills, which each released over 1 million gallons of oil into the surrounding environments.[3]

A road, subdivision, farm, or commercial facility may seem more quotidian, but such projects often disrupt wetlands, water flows, and animal and plant habitats and increase noise, light, and chemical pollution to surrounding environments. Nutrient runoff from agricultural operations contributes to the growth of harmful algae, impairing aquatic ecosystems and inhibiting public use. Dams, culverts, roads, and other structures that change water flows can affect important species, such as manoomin (wild rice), that rely on consistent water levels and quality to thrive.

A decision by the U.S. Court of Appeals for the Ninth Circuit, affirmed by a divided U.S. Supreme Court, found that culverts installed by the state of Washington to allow roads to pass over streams violated the treaty-protected fishing rights of tribes in the region.[4] Seemingly routine and uncontroversial projects can also negatively impact environments important to tribes, especially in the aggregate of hundreds or thousands of projects around the state, country, and world. Tribes thus use many different tools to try to stop or minimize such risks.

Contaminants. Contaminants in the environment present myriad risks, just as land use changes do. Mercury has long been a problem for people who consume fish in Wisconsin. This is especially true for tribal citizens who consume higher rates of fish in their diets or would but for such contamination.[5] Similarly, concern is growing about the presence of per- and polyfluoroalkyl substances (PFAS) in waters and animals that many Wisconsin residents — including tribal citizens — consume. The Wisconsin Department of Natural Resources (DNR) has issued advisories on PFAS,[6] and in May 2024, the U.S. Environmental Protection Agency (EPA) designated two PFAS as hazardous substances.[7] State and federal authorities should work with tribes to avoid harms from contaminants such as these.

Climate Change. Tribal nations and their members are often on the frontlines of climate change. The changing climate has significant ramifications for tribes' subsistence needs, public health, economic stability, sovereignty, and traditional ways of life. For these reasons, many tribal nations invest heavily in natural resource protection, spearheading solutions for and resilient adaptation to climate change.

Warming waters caused by climate change jeopardize aquatic resources and water quality. This trend is especially concerning for the Great Lakes, which depend on cold-water temperatures from winter ice cover. January 2024 marked the lowest Great Lakes ice cover on record for that month.[8]

Additionally, climate change has been linked to more intense and frequent seasonal flooding and other extreme weather events. These events increase the risk for property and infrastructure damage and for harm to watersheds and species therein. These types of natural disasters generate enormous social costs, often borne disproportionately by Indigenous communities.[9]

In 2016, for example, a sequence of catastrophic storm events hit northern Wisconsin and the Bad River Reservation, causing historic flooding of the Bad River Basin. The flood washed out sections of vital highways connecting the Bad River Reservation to neighboring towns and sources of food and medical services.[10] One report assessed damages from this flood event at $30 million.[11] Aside from these financial costs, the flooding prevented tribal members from practicing their subsistence culture of hunting, fishing, and gathering.

Climate change threatens the exercise of Ojibwe Tribes'[12] treaty-protected rights to hunt, fish, and gather across lands of northern Wisconsin ceded via treaty.[13] Climate change disrupts seasonal migration patterns and causes species' habitat ranges to shift. Tribal members report that some traditional environmental indicators for when to harvest a certain species or begin a particular activity have become less reliable because of the disruption to seasonal ecological patterns.[14] Moreover, species are moving outside of traditional habitats,[15] a phenomenon that further complicates tribal members' ability to hunt, fish, and gather within fixed reservation lands and ceded territories.

Tribes' Responses to Environmental Change

Tribal nations have many legal and policy structures to respond to environmental change. Tribes possess inherent authority to regulate many matters within their reservations and trust


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lands, as well as authority outlined in numerous federal environmental laws. Cooperative management of public lands with federal or state agencies, as well as treaty-reserved rights, provide avenues for input and management beyond current reservation and trust lands. And protection of traditional ecological knowledge (TEK) and its integration into federal and state decision-making offer opportunities to better understand and protect environments important to tribes.

Regulatory Authority. Environmental regulation provides a primary mechanism for protecting against environmental threats such as those identified above. Several tribes in Wisconsin have, pursuant to their inherent sovereign authority, established environmental regulations applicable within their jurisdictions. For example, the Red Cliff Band of Lake Superior Chippewa regulates environmental pollution within the boundaries of the Red Cliff Reservation through permitting schemes and remediation work.[16] The Menominee Indian Tribe of Wisconsin established comprehensive surface-water and groundwater quality codes to manage and protect reservation waters.[17]

In addition to tribes' inherent authority, federal environmental statutes such as the Clean Water Act (CWA) and the Clean Air Act (CAA) authorize the EPA to treat federally recognized tribes in a similar manner as a state (known as "treatment as a state" or TAS) for the purpose of administering federal environmental programs. Four tribes in Wisconsin have TAS authority for purposes of the CWA, the CAA, or both.[18] Absent TAS status, the federal government administers federal environmental regulation within most tribal reservations.

The Bad River Band of Lake Superior Chippewa, for instance, has EPA approval to administer a water-quality-standards program under the CWA.[19] The Band's ongoing efforts to protect its watersheds from Enbridge Energy's Line 5 oil pipeline[20] exemplify how this authority operates in conjunction with federal water pollution discharge permitting. Enbridge proposes to reroute its pipeline upstream of the Band's reservation. As a downstream regulator with TAS authority to administer water-quality standards under the CWA, the Band will have the opportunity to assess whether the proposed reroute violates its water-quality standards before federal water pollution discharge permits are issued.

Additionally, the Forest County Potawatomi Community has gone to great lengths to protect air quality in and around its reservation. In 2008, 14 years after applying to the EPA and ensuing dispute resolutions with the states of Wisconsin and Michigan, the

Forest County Potawatomi Community received Class I Designation under the CAA's Prevention of Significant Deterioration program.[21] This designates the lowest allowable air pollutant concentration.[22] In 2010, the Forest County Potawatomi Community received TAS status under the CAA to enforce air pollution emission limits in upwind jurisdictions and for notification of air pollution permit applications in neighboring jurisdictions.[23] Both the Class I Designation and TAS status allow the Forest County Potawatomi Community to assert regulatory authority over projects in Michigan and Wisconsin that would affect the Tribe's air quality.

Co-management and Co-stewardship. Co-management and co-stewardship refer to cooperative management of public lands between tribes and other sovereigns. These terms do not have precise legal definitions; they are used to refer to a range of cooperative management structures.

Co-management usually refers to situations in which tribes and other governments share legal authority in some way, while co-stewardship refers to situations in which tribal involvement may be more advisory, with a federal or state entity making final decisions.

In recent years, tribal and non-tribal governments have shown greater interest in shared-management programs. The Biden administration has made clear its desire to set up cooperative-management agreements with tribal governments, announcing over 160 new agreements in November 2023.[24] Some states have also sought such agreements for state-controlled lands.[25]

Protection of Treaty Rights. As sovereign nations, tribes maintain a government-to-government relationship with the U.S., often defined by treaty. The U.S. signed many treaties with tribal nations that impose a duty to protect tribes and their interests, a legal obligation known as the federal trust doctrine.[26] In Wisconsin, the six Ojibwe Tribes have a series of treaties with the U.S. in which they reserved rights to engage in traditional activities such as hunting, fishing, and gathering on lands ceded to the federal government.[27] The Ojibwe have successfully fought back against attempts to undermine their reserved treaty rights, which have been affirmed by seminal cases in the past half-century.[28]

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) helps manage treaty rights and resources for 11 Ojibwe Tribes in Wisconsin, Michigan, and Minnesota. In 2023, the GLIFWC produced a climate change vulnerability assessment based on integrated analyses of climate science and TEK.[29] The report predicts climate change effects in the region and explains how that will impact the exercise of Ojibwe treaty rights. The assessment is meant to assist GLIFWC's member tribes and non-tribal partners in preparing for and responding to environmental changes.

Traditional Ecological Knowledge. TEK, also referred to as Indigenous knowledge, is knowledge developed and held by Indigenous communities through long relationships with their surrounding environments. Many tribal nations have maintained ongoing connections to their homelands for centuries, if not millennia. This often results in tribes holding deep and nuanced understandings of environments, including plant and animal life cycles, as well as weather and climate patterns. Thus, tribes often are best positioned to notice when, how, and why those patterns shift and to understand how to respond.

In December 2022, the federal government issued guidance on recognizing and including TEK in federal research, policy, and decision-making.[30] Despite this encouraging initial step, concerns remain about federal and state agencies properly seeking or identifying TEK, understanding how to incorporate it, and safeguarding this often-sensitive knowledge. There are still great needs and opportunities for tribes to shape the understanding, use, and protection of TEK by non-tribal decisionmakers.

Conclusion

In the face of climate change and environmental destruction, tribes respond in many ways to protect the species and ecosystems with which they share relationships. They regulate

environmental quality as sovereign nations, cooperatively manage and steward lands with federal and state entities, integrate TEK into decision-making, and uphold their treaty-protected rights. Tribes have used these approaches to block mining projects, challenge fossil fuel development, protect treaty fishing rights, and cope with effects of a changing climate. The earth's environmental future might be uncertain, but tribes and their allies will continue to rise to the challenge to protect earth's ecosystems for generations to come. **WL**

ENDNOTES

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