

SHATTERING SEEDS: DIMINISHING NATURAL WILD RICE HARVESTING AND ADVOCACY IN MINNESOTA

Introduction

Wild rice (*Zizania palustris*) has been harvested in Minnesota for hundreds of years and the meaningful interactions between this crop and humans are deeply documented. Modern harvesters must purchase a harvesting permit from the Minnesota Department of Natural Resources, which has revealed a strong trend. From 1968 until today, the number of harvesters has declined ninety percent, from 16,000 to 1,500. Though numerous reasons for this decline exist, ranging from a lack of accessible harvesting information to competition with commercial paddy rice production, additional questions arise: has this decline in harvester participation affected the support for wild rice as a managed resource and how can modern Minnesotan harvesters become involved in the management of wild rice? By extensively studying the complex dynamics surrounding wild rice harvesting in Minnesota, delving into current management techniques, and exploring case studies from other managed resources, the best methods for managing wild rice can be understood. Ultimately, combining local harvester knowledge with the power of statewide regulatory structures such as the DNR results in the most sustainable management of this resource. As numerous challenges face the future habitat of wild rice, ranging from mining and climate change to potential loss of genetic material, these open lines of communication are needed now more than ever.



Ojibwe men using a push pole propelled canoe and “knockers” to harvest wild rice in the traditional way.

Harvesting History

From the Dakota inhabitants of the Upper Mississippi and Lake Superior basin to the Ojibwe, the French, British and American Fur traders to the harvesters of today, numerous stakeholders have affected the fate of this uniquely North American grain. Natural harvesting methods have experienced few changes over the years; traditions are passed down across generations from harvester to harvester. Complex dynamics between native and non-native harvesters would eventually lead to management of rice separately in public waters and tribal waters. The later domestication of wild rice in the 1960s was both a benefit and a blow to the native grain. A cheaper domestic supply of wild rice flooded the markets while marketing campaigns increased awareness and demand for the grain. Cultivated wild rice competed intensely with hand-harvested rice, turning away many potential harvesters. Currently, additional threats to natural wild rice, shown in the table to the right, could have detrimental effects on the future presence of this resource. As stands of native wild rice decrease, there is less rice available for harvest. Vice versa, as harvesters fail to be retained and replenished, stakeholders with important local knowledge and experiences of the intimacies of wild rice are being lost.

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Methods

To understand how the dynamics between humans and wild rice have changed over time, I first constructed a history of wild rice harvesting in Minnesota. Resources used included books, newspapers, journal articles and pamphlets representing the differing views of Minnesotan inhabitants over time. Then, in order to discover how to best empower declining harvester populations to share their local knowledge, I assessed current wild rice management strategies in Minnesota (shown in the table to the right). An exploration of state, tribal and private agencies in Minnesota indicated what is currently being done to protect this resource as well as highlighted the threats to wild rice habitat. Next, I selected case studies demonstrating the barriers and benefits of involving harvesters of other “non-timber forest products” in local management structures. This helped first determine whether involving various stakeholders, including harvesters, produced better management outcomes and secondly, demonstrated feasible pathways for better involving wild rice harvesters in management. Finally, through interviews with current harvesters, tribal members and DNR employees, as well as visits to wild rice lakes, I was able to gain an understanding of modern harvester opinions on management including steps already taken to preserve wild rice habitat.

Threats to Wild Rice

Loss of Harvesters	<ul style="list-style-type: none"> Loss of local knowledge about specific wild rice lakes and their variable conditions
Climate Change	<ul style="list-style-type: none"> Variability in temperatures and water fluctuations associated with climate change will adversely affect the life cycle of rice
Mining & Industry	<ul style="list-style-type: none"> Disruptions in water availability and quality Sulfate concentrations > 10 mg/L
Maintenance of Genetic Diversity	<ul style="list-style-type: none"> Essential to a viable, healthy population Helps weather environmental changes through adaptation
Plant and Animal Interactions	<ul style="list-style-type: none"> Effect of beaver dams on water levels Invasive or native plants crowding out and outcompeting wild rice Lakefront property owners removing vegetation

Further Resources

Drewes, Annette D., and Janet Silbernagel. “Uncovering the Spatial Dynamics of Wild Rice Lakes, Harvesters and Management across Great Lakes Landscapes for Shared Regional Conservation.” *Ecological Modelling* 229 (2012): 97-107.

Vennum, Thomas (Jr.). *Wild Rice and the Ojibway People*. St. Paul, MN: Minnesota Historical Society Press, 1988.

Wingerd, Mary Lethert. *North County: the Making of Minnesota*. Minneapolis, MN: University of Minnesota Press, 2010.

Case Studies: Wild Rice Management

	Description
Shallow Lakes Program (MN DNR—Division of Fish and Wildlife)	<p><i>Funds:</i> in part by harvesting permit sales</p> <p><i>Goals:</i> “protect and enhance wildlife habitat”</p> <p><i>Methods:</i> “managing water levels on wild rice lakes, improving or maintaining outlets, and assessing habitat”</p> <p><i>Jurisdiction:</i> Public Waters</p>
Bois Forte Department of Natural Resources (Tribal Government)	<p><i>Funds:</i> outside sources including the Admin. for Native Americans, EPA, Bureau of Indian Affairs</p> <p><i>Goals:</i> “landscape approach” to conservation</p> <p><i>Methods:</i> beaver management, weed control, encouragement of waterfowl, monitoring of water quality, well-trained and knowledgeable staff</p> <p><i>Jurisdiction:</i> On reservation management</p>
Ducks Unlimited (Private waterfowl and wetlands conservation organization)	<p><i>Funds:</i> supporter contributions and government agencies</p> <p><i>Goals:</i> Waterfowl habitat restoration, including wild rice beds</p> <p><i>Methods:</i> Partnering with MN DNR, purchasing shoreline on wild rice lakes, managing water levels via beaver control</p> <p><i>Jurisdiction:</i> Over 90 wild rice lakes in Northern MN</p>
Pacific Northwest Wild Huckleberry Harvesting (Involving harvesters)	<p><i>Benefits:</i> gain “local ecological knowledge about resource production and sustainability “</p> <p><i>Barriers:</i> harvesters culturally diverse, involvement requires additional monetary and human resources</p> <p><i>Jurisdiction:</i> US Forest Service Land</p>

Conclusion

Ultimately, Minnesotans must take a stronger interest in natural wild rice stands if we hope to see this grain thrive in our state well into the future. The economic, biological and cultural importance of this uniquely North American grain, prized for its rich, earthy flavor are too important to be lost. Though many anthropogenic and environmental factors threaten the habitat of wild rice, we are not powerless. One way Minnesotans can become potential advocates for this grain is by sustainably harvesting it themselves, thereby immersing themselves in an a rich cultural tradition. All it takes is a willingness to learn what a current harvester can teach. Additionally, current harvesters provide a knowledgeable source of information about the health and abundance of wild rice on the lakes they will return to year after year. The information their experience allows them to provide is a valuable asset to sustainable management of this resource. By empowering harvesters to lend their voices to the management of wild rice, the cultural nuances of wild rice harvesting will continue to be revered in Minnesota for many generations to come.

