

**INDIGENOUS KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT:  
CASE STUDIES OF THREE INDIGENOUS TRIBES OF WISCONSIN**

**By:**

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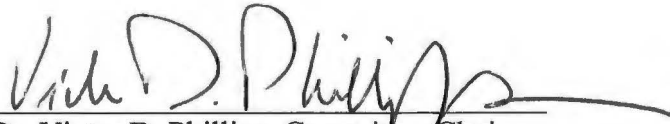
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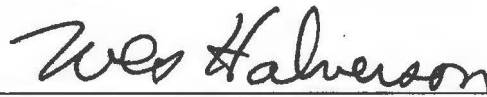
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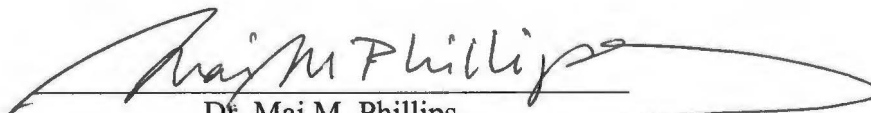
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## ABSTRACT

This research project proposes to inform dominant society of a new pathway toward sustainable resource management by incorporating indigenous knowledge (IK) used by Indigenous Tribes from across the United States. Examples of these IK practices are featured. By looking into the cultural and historical resource management aspects of Wisconsin's Indian tribes, resource managers can incorporate those basic beliefs and bring a sense of respect, community, and spirituality into resource management practices on and off reservations. Case studies on IK-based natural resource management for sustainability were developed through interviews conducted with tribal leaders, elders, and natural resource managers of three Wisconsin tribes—the Bad River Band of the Lake Superior Tribe of Ojibwe Nation, the Menominee Nation, and the Oneida Nation. Qualitative research methods were performed using a cluster analysis technique on transcribed interview information, from which relative importance of IK-based values were identified for five emergent themes. Cultural preservation and governmental interactions were the most important, followed by ecological integrity and social justice, with economic viability ranked the least important. Based on the cluster results, educational materials were developed and presented as fact sheets of IK-based natural resource management lessons learned from each case study. Indigenous knowledge may serve as a valuable resource for lessons learned about sustainability that indigenous people of the United States have used for generations and still use to survive the challenges expressed in the interview responses. Hopefully, alternate ways to manage natural resources, based on the knowledge of indigenous people, can be implemented by resource managers to help build a sustainable future.

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## Chapter 1. INTRODUCTION

### 1.1 Rationale and justification

Increasing demand for goods and services derived through technological conversion of natural resources to products traded in the global marketplace may have exceeded nature's resilience limits. There is considerable ethical and ecological criticism with the way human's value nature from a materialistic viewpoint. Most of the Western-European majority believe that value and importance should be placed primarily on materialistic or resource acquisition and affluence since these are believed to directly benefit -and even define- human wellbeing. Current non-tribal resource management typically focuses on a single species not entire ecosystems. The problem is that the planet is in peril, threatened by an unsustainable pursuit of ever-increasing wealth acquisition at the expense of nature. Fortunately, times are changing and indigenous knowledge is beginning to be embraced as an antidote to the recent rampant path of environmental destruction and as an alternative pathway to sustainability.

Indigenous knowledge (hereafter "IK") is rooted in the lived experiences of indigenous peoples; these experiences highlight the philosophies, beliefs, and educational processes of tribal communities. Indigenous people come to know things by personal observation and interactions in their daily lives. These accumulated experiences serve as guideposts for both individuals and communities. This philosophical viewpoint historically tended to preserve ecological integrity within natural communities. A way of life that has been passed down by ancestors of tribal people, IK is a perspective or

formula for understanding the world and how humans live and interact within it. IK helps to reinforce understanding of the Great Mystery or Creator and to care for and equally value all of creation including: Mother Earth, Father Sky, the Four Spirits of North, South, East and West; and all living and non-living beings past and present.

Because indigenous tribes have a spiritual connection to the land, gained from oral traditions passed down from generation to generation, they have a different understanding of their environment than do Western science-based land managers. In addition to the oral traditions, indigenous Americans believe that everything is related to the environment and humans are a part of that environment, not apart from it. With this understanding, tribes have been able to sustain their environments according to their creation stories and the gifts that were given to them by their Creator.

In contrast to indigenous knowledge approaches, the Western-European management approach has humans exerting dominion over all other life forms, with the power to shape nature according to human desires. Natural resource management decisions are often based upon present or short-term needs; often directed toward a single species or extractive asset. Current natural resource management practices of dominant society lack traditional knowledge and cultural considerations. Twentieth century conservationists and ecological pioneers including: John Muir, Aldo Leopold, Rachel Carson, Barry Commoner, Vine Deloria Jr., Garret Hardin, and many others, have recently exposed dominant society to a more integrated, holistic consideration for the web of life. By questioning the traditional Western single-species management philosophy, they began the transition toward incorporating IK (all species valued) approach into their management practices. The basic premise that man is dominant did

not change for these enlightened Western knowledge-based managers. Traditional IK has rarely had its practices implemented in resource management decision making since Native American lands became controlled by the U.S. government. Aldo Leopold's land ethic began to look at humans as part of the environment and considered interactions between species, but his management philosophy maintained a single-species approach. Barry Commoner took Leopold's land ethic a step further to reconnect all parts of society with nature. Current management practices have resulted in climate change, desertification, polluted water supplies, toxic landfill, and other symptoms of a sick, unsustainable planet. Dominant society now seeks remedies to its environmental and social problems. Perhaps indigenous knowledge can be embraced as an alternative pathway to a sustainable future for all.

Native Americans have been residents of the "New World" for thousands of years, long before Europeans came. Notwithstanding some unexplained collapses of Easter Islanders, Mayan and other civilizations, indigenous people of North and South America had sustained their environments for all the time prior to the European conquest. Their success incorporated oral traditions and cultural practices into their natural resource management procedures as inherently part of traditional lifestyles. A number of tribes that endorsed Western natural resource management policies are bringing back the traditions of their ancestors into their management practices. By exploring the culture and religious aspects of Native American tribal communities, a sense of respect for nature and spirituality of place and permanence can be introduced into natural resource management practices for all societies to move toward sustainability.

## 1.2 Research Statement

The purpose of this work is to help interpret indigenous knowledge for potential application in natural resource management at the state and local level on non-tribal lands as well as to help inform the general public on IK based natural resource sustainability. The overall goal is to offer a new pathway for building a sustainable future by mainstreaming IK wisdom into dominant society thinking and resource management practices.

There are 11 federally recognized Native American tribes in Wisconsin. For this MS research project, three Wisconsin-based Native American case studies were developed to feature sustainability plans and practices consistent with cultural, spiritual, and traditional ways to help build sustainable communities. Members of the Menominee Tribe, the Bad River band of the Lake Superior Ojibwe Tribe, and the Oneida Nation were interviewed to elicit information on how indigenous knowledge is being applied in natural resource management on tribal lands. The justification for choosing these tribes was based upon their being widely renowned as effective indigenous land managers who have considerable published material illustrating their successes. Specifically, the Menominee are acclaimed internationally for their forestry practices; they have been sustaining their forest environments and renewable timber operations for over a hundred fifty years. The Bad River Ojibwe are known for their excellent fisheries program and for their wild rice harvesting. The Oneida have developed excellent farming practices such as the Three Sisters' Garden (corn, beans, and squash). Other Native American tribes are featured through a literature review to illustrate examples of lessons learned in sustainable natural resource management.

### **1.3 Objectives**

The research is organized to address the following objectives:

1. By featuring specific examples from Native American cultural traditions, describe how Indigenous Knowledge informs and integrates natural resource management practice within tribal communities.
2. Develop case studies of Indigenous Knowledge-based natural resource management Practices in three Native American tribal communities in Wisconsin- Menominee Tribe Bad River Band of Lake Superior Ojibwe Tribe, and Oneida Tribe.
3. Develop educational materials targeting local and state natural resource managers and practitioners, along with the general public on indigenous knowledge for sustainable approaches to natural resource management.

## Chapter 2. LITERATURE REVIEW

Sustainable resource management is “an old philosophy that is being revived to cope with new problems. Care for the environment is essential to economic progress; that the natural resources of our planet are the base of all agriculture and industry, and that only by sustaining that base can we sustain human development” (Peterson, 1997, p. 6). In this chapter, Indigenous Knowledge (IK) will be defined and how IK is tied to sustainable development will be explored to find alternative natural resource management practices by fusing Native American IK into current Western management practices. According to J. Baird Callicott (1982, p. 294), “The Western tradition pictures nature as material, mechanical, and devoid of spirit (reserving that exclusively for humans), while the American Indian tradition pictures nature throughout as an extended family or society of living, ensouled beings.”

In this chapter, four sections describe what IK is and is not (Western science), and how IK supports the concept of sustainability:

- Native American indigenous knowledge approach to natural resource management (section 2.1);
- Western scientific approach to natural resource management (section 2.2);
- Specific examples of IK approaches to natural resource management on tribal lands (section 2.3); and
- Potential lessons learned through healthy fusion of IK into Western natural resource management policies and practices (section 2.4).

In space and time, natural resource management cornerstones based on IK employ the knowledge of previous place-based generations and move the management process seven generations into the future at the nexus of IK and deep ecology. Research on tribal culture provides sufficient evidence to indicate a widespread human capacity to determine, and live safely within the limits of sustainability for the ecosystems that they occupy (Goodland, 1982).

## **2.1 Native American indigenous knowledge approach to natural resource**

### **Management**

#### *Overview of holistic, integrated, nature-based tribal culture*

Past natural resource management practices have had no consideration of or appreciation for traditional knowledge and/or cultural practices in this country. Fortunately, times are changing and IK is beginning to be embraced as an alternative or antidote to the recent, accelerating path of environmental degradation that has accelerated since the industrial revolution. “Knowledge of the historical relationships can be exceedingly useful in modern science in providing guidance for ecological restoration projects” (Deloria, Jr., 1999, p.54). Environmental managers are acknowledging the long-range environmental benefits of indigenous approaches for managing natural resources worldwide (McNeely, 1998; Lalonde and Morin-Labtut, 1995; Huffman, 1992). The IK approach to natural resource management derives from a philosophy that man is equal to other life forms and that he fits into his surroundings as an equal in a holistic, harmonious web of life. IK is rooted in the lived experiences of indigenous peoples; these experiences highlight the philosophies, beliefs, and educational processes of tribal communities of indigenous people. Indigenous people come to know things by personal observations and

interactions in their daily living in the natural world. Indigenous Knowledge has been passed down from generation to generation, and is maintained in the oral traditions of tribal ancestors, guiding present generations with knowledge from the Creator. IK is the place history of physical surroundings, how all life forms and forces interact in harmony. It gives meaning and substance to sacred places. One cannot put an economic value on where ancestors once lived or where sacred gathering grounds are for plants and food, or where ceremonies were once performed. These attributes transcend economic value.

The IK philosophical viewpoint historically tended to preserve biological integrity within natural communities. Current natural resource management practices lack traditional knowledge and cultural considerations. IK is a way of life that is passed down by ancestors. It is a formula for understanding the world around us. IK helps to reinforce our understanding of the Great Mystery or Creator and to care for and equally value all of creation.

According to Vine Deloria Jr. (1999, p. 51), a philosopher, anthropologist, lawyer, and spokesperson for Native American issues, “Respect in the American Indian context does not mean the worship of other forms of life but involves two attitudes. One attitude is the acceptance of self-discipline by humans and their communities to act responsibly towards other forms of life. The other attitude is to seek to establish communication and covenants with other forms of life on a mutually agreeable basis.” As Wuttunee (2000, p. 327) explained, “For many cultures, the idea of direct connection to all living and non-living things has permeated their histories from a spiritual perspective for time immemorial.”



A spirit has been given to each individual of each species or being, including rocks, water, air, sun and other parts of creation. Man is a part of the environment and lives as naturally as all the other life forms surrounding him. Many Native American people still believe that the first human was formed from soil; whether that evolution occurred in forests, plains, or mesas. “The land is a living body with spirit and power, which contains tribal genealogy. It is necessary for the people to remain in the place in which they have always been, as guardians, and as an inseparable part of that place and space” (Romeo, 1985). This IK approach echoes the underlying philosophical difference from the Western scientific approach to the environment. One might better characterize the history of Western thought as a continuous struggle between religion and science, with metaphysics occasionally attempting to provide a systematic ordering of the doctrines and beliefs of both historically antagonistic perspectives. “They made little attempt to live with their natural communities, but rather altered them wholesale” (Booth and Jacob, 1990, p. 31).

The difference between Native American and Western thought on nature is that Native Americans are part of the environment and include the human dimension in their management of natural resources; the Western philosophy believes that humans are outside nature and do not incorporate the human dimension aspects in their resource management practices. In a limited way Western resource management practices are starting to embrace IK. IK is a philosophical viewpoint that historically tended to preserve biological integrity within natural communities. It was practiced to maintain the livelihood of people through the sustaining use of resources (e.g., fishing, hunting, berry gathering, maple sugar making, self-supporting agricultural practices). Western natural

resource management decisions are based routinely upon the present or short-term future and are often directed toward a single species or extractive asset. Typically, the species or natural resource asset being managed is either hunted or an economic value for human use. Historically, economics played an important role in the decisions of Western natural resource management policies. The welfare of the ecosystem or consideration for interactive species living within the web of life of that ecosystem has, until recently, been afforded little attention in management plans. “The Indian perspective of the natural world is not subject to this limitation (that the results are in and further inquiry is unnecessary) because it already has a fundamental principle of observation/interpretation that pervades everything that Indians think or experience” (Deloria, Jr., 1999, p. 33).

*Spirituality and origin of humans, including importance of sacred places*

According to Vine Deloria, Jr. (1979, p.2), “By the beginning of the twentieth century, Earth was conceived as a gigantic garden, exclusively for the benefit and entertainment of Europeans.” This concept of human superiority was well-accepted until Charles Darwin synthesized his evolutionary theories that argued humans evolved from ancestor animals over time and so are part of the natural world, not a reflection of the supernatural. “In the Native American system, there is no idea that nature is somewhere over there while man is over here, nor that there is a great hierarchical ladder of being on which ground and trees occupy a very low rung, animals a slightly higher one, and man a very high one indeed-especially ‘civilized’ man” (Allen 1981, p. 225). Vine Deloria, Jr. (1979, p. 78) observed that “Evolution, it seems, covers a multitude of scientific sins but does not explain anything.” “This proposal of ‘common descent’ concept is considered the most controversial aspect of Darwin’s theory” (Pavlik and Wildcat, 2006, p.66).

Another probable reason that Western-European culture places little or no primary value on nature is because this humanity-centered thinking is a main premise in the Bible. According to Genesis 127-28, “God created man in his own image, in the image of God created him; male and female created them, and God blessed them, and God said unto them, be fruitful, and multiply, and replenish the Earth, and *subdue* it: and have *dominion* (emphasis added by thesis author) over fish of the sea and over fowl of the air, and over every living thing that moves upon the Earth.”

Genesis is one of the most ancient books in the Bible, predating Christianity and Islam, but it is incorporated into both of these Western religions as well as Judaism (which predates Christianity and Islam). The words ‘*subdue*’ and ‘*dominion*’ reflect the presumed right of humans to administer domination over nature. By accepting the Bible to be the literal word of God, Europeans honestly believed that they were modeled after the divinity and the New World was there for their taking, subjecting the land, the water, the air, and any living creature to their (and their God’s) will.

What is often neglected by those claiming the right to control someone or some thing is the associated responsibility to ensure that all God's creations are preserved and maintained through stewardship administered by humans. This obligation is codified in all religions but is seldom embraced or practiced. Having *dominion* brings with it an awesome responsibility to ensure that all created life forms flourish. This responsibility is inclusive of protecting all the creatures of the Earth, including respect and protection for Native Americans and their tribal lands, cultures, languages, and religions. “Perhaps it is time to remind our youngest brothers and sisters that the Creator said to ‘share’ not ‘dominate’” (Wuttunee, 2000, p. 325).

The traditional ways of life are still very real among IK-based cultures. Believers still practice as they were instructed many generations ago (e.g., wild rice harvesting, maple sugar tapping, fish spearing, herbal medicine harvesting). Within the United States, indigenous tribes raised to follow the traditional way of life know the connections to the Creator through prayers and the offering of tobacco as a symbol of gratefulness and thankfulness when something is taken from Mother Earth. Tobacco is one of the sacred medicines used to connect to the Creator and the spirits. Tobacco is a tool of offering to the Creator when harvesting something from Mother Earth (e.g., animals, plants, water) or for acknowledging the spirits when in a specific, especially sacred, area. Tobacco is used for everything on a daily routine from sunrise to sunset as an offering for the gifts of nature bestowed and gratitude for life's existence.

The sacredness of nature can be observed in many Native American rituals, including those dealing with seasonal change(s) and rain dances. All ceremonies celebrate and give thanks for the natural blessings bestowed upon the tribe. Participating in singing and dancing rituals demonstrate the ancient bonds of kinship between human beings and ancestors, all other species and the non-living elements in nature. Native American cultural beliefs do not fit into metaphysical anthropocentrism. For Native Americans, the reality of non-human entities being equal to humans and humanity's relationships to non-human entities is vital. "In the mainstream Western view, humanity exists primarily and fundamentally to control and make use of the resources provided from nature; that view considers all other living things being created to address human needs and desires as the reason for their existence" (Wuttunee, 2000, p. 325).

This detachment is becoming a problem in today's society because of the growing dependence on consumption and materialism, influenced by the media and advertising to generate artificial 'needs'. Individuals are becoming detached from the one-on-one relationship with our environments. Capitalism is a growing problem because of the land that must be destroyed in the name of 'progress'. According to Vine Deloria, Jr. (1970, p. 185), "Surrounded by an *artificial universe* (emphasis by author) where the warning signs are not the shape of the sky, the cry of the animals, the changing of the seasons, but simply the flashing of the traffic light and the wail of the ambulance and police car, urban people have no idea what the natural universe is like." In order to escape the realm of capitalism and materialism, human society must try to break away from technology-as-the-answer and realize that the current path may lead to collapse. A sign of the times is that many people have lost personal relationships with each other, perhaps due to competitive greed and self-interests excluding relationships with neighbors or other people. A renewed sense of community, cooperation, and shared responsibility, including a personal relationship to whomever we call 'God' may be emerging in a new worldview of the interconnectedness of life.

Considering all life forms as equals greatly enriches IK appreciation for all species, including humans. All things are accepted as they are and all life is appreciated for what it is. In addition, the landforms, rivers, and surface features have an intrinsic value for their very existence. Decisions, feelings, and life itself are based upon the premise that all things in nature have spirits and are of equal value; all species (including humans) require the respect of those who might impact them. An IK understanding is that

all life is related; species borders are not un-crossable, and the distinction between living and non-living is not black and white. Spirit is pervasive throughout all existence.

The difference between indigenous and Western knowledge is that the knowledge is personal for indigenous people and impersonal for the Western scientist. “Most Americans believe that anyone can use knowledge; for American Indians, only those people given the knowledge by other entities can use it properly” (Deloria, 1997, p. 38). In the IK view, humanity has an equal, but not elevated status as part of a fabric of life, as do all other species and entities. The IK understanding of the environment and its surroundings comes from the creation stories of each place-based tribe, along with the oral traditions that have been passed down from older generations. There are very few written documents about these stories and traditions. Oral traditions are a “loosely held collection of anecdotal material that, taken together, explains the nature of the physical world as people have experienced it and the important events of their historical journey” (Deloria, Jr., 1997, p. 38). The best method of communicating Indian values according to Vine Deloria, Jr. (1970, p. 19) is “to find points at which issues appear to be related. Because tribal society is integrated toward a center and non-Indian society is oriented toward linear development.” Oral traditions not only provide information about ancient times, but they provide more about places, birds, plants, and animals from specific habitats and locations. This oral history information is what most tribes use for their teachings and for direction as to how to live in harmony and perform certain ceremonies, harvesting, hunting, fishing, and making tools from plants and animals in perpetuity.

Sacred places also play a major role in Native American management of natural resources. For example, the mouth of the Menominee River in northeast Wisconsin is where the Great White Bear emerged and became the first Menominee. The Southwestern Tribes have sacred mountains and caves that, according to their creation stories; emerged after the great floods. The Sioux Nation in South Dakota has been in a legal battle over the Black Hills (their ancestral home) treaty for many years. Understanding the integrative nature of the landscape is essential to establish methods for sustainable management. Another probable reason why Western culture is so detached from the natural world is that their ancestors are not from this land and have no deep connection to the land as do the Native Americans who have been here since the beginning of human existence.

*Special role of language in preserving culture and indigenous knowledge*

Language is the nucleus of the community because, “Some tribal languages had as many as twenty words to describe rain, snow, wind, and other natural elements; languages had precise words to describe the various states of human emotion, the intensity of human physical efforts, and the serenity of the land itself” (Deloria, Jr., 1997, p. 36). Once a language is lost, that people’s identity is lost; something that has happened to many Native American tribes. “It is not possible to determine exactly how many languages were spoken in the New World before the arrival of Europeans or how many people spoke these languages. Some scholars estimate that the Western Hemisphere at the time of the first European contact was inhabited by 40 million people who spoke 1,800 different tongues” (Bright, 1984, pp. 7-8).

Language is still used by native tribes to locate areas rich with resources. With the genocide and assimilation of Native American people, many native languages were lost because they were suppressed, forgotten, and the elders who retained them have passed. Native languages are slowly returning to reservations throughout the United States. In some instances the language had been maintained by community members. Most Wisconsin tribes offer language programs throughout the community; as early as pre-school or kindergarten 'head start' to preserve their languages. Tribes are recording elders speaking in their native language to prevent knowledge from being lost forever. For example, the College of Menominee Nation offers Menominee language for adults who have never known their native tongue.

Native Americans provided names according to how something was originally, or something specific to that area. Language is vital to indigenous people because through the language one can understand the importance of the word; where the word came from; and the meaning of the word(s). This was reinforced through oral traditions that were passed down from generation to generation. Examples are the Menominee, Ojibwe, and Oneida tribes who are creating maps using traditional languages along with the interpretations and spellings. These names have certain meanings for cultural and natural resource teachings. A federal organization, Great Lakes Indian Fish & Wildlife (GLIFWC), issues a bi-monthly publication called *Masinaigan* (Talking Paper) that has sections in the Ojibwe language that describe geographic locations throughout the ceded lands of the Ojibwe tribes in Wisconsin, Minnesota, Michigan and parts of Canada (See Chapter 5).



## **2.2 Specific examples of IK approaches to natural resource management on tribal lands**

Native tribes across the United States and Canada are using their IK proactively for the management of their natural resources. Several tribal IK examples featured below represent some of the 562 federally recognized tribes (United States) still using their IK, or re-introducing IK as an alternative to Western scientific management practices. These examples, from diverse geographic locations within the United States, illustrate a range of IK activities within tribal nations. Examples of IK-based natural resource management by the Menominee, Bad River Ojibwe, and Oneida Nations of Wisconsin are featured in detailed case studies presented in Chapters 4-6.

### *Shakopee Mdewakanton Dakota (Sioux) native prairie restoration in Minnesota*

The Shakopee Mdewakanton Sioux (Dakota) Community is a federally recognized Indian tribe formally organized under federal reservation status in 1969. Tribal members are direct lineal descendants of Mdewakanton Dakota people who resided in villages near the banks of the lower Minnesota River. With funds derived from its casino, the tribe recently bought about 125 acres of farmland and wetlands just outside Minneapolis.

They are in the process of returning those corn and soybean fields to the way they looked before the white man took control of the land's use. A 30-acre field where corn and soybeans were once grown is now covered with Canada wild rye, big bluestem, Golden Alexander, and compass plant - the same grasses and flowers pioneers saw as they pushed westward across the American prairie in the early 1800s. This small patch of

prairie, next to a condominium complex in suburban Minneapolis, did not suddenly appear on its own. Instead, it is being painstakingly restored at great cost to the Shakopee Mdewakanton Sioux Tribe. By the end of 2008, the Shakopee Mdewakanton hoped to begin restoring 450 more acres near the Twin Cities. Most of the land that is being converted has been farmed since at least the 1880s. The tribe's prairie restoration managers study old maps and other records to determine the appropriate mix of heirloom plants that will bring a piece of land as close as possible to its historical character. Then they destroy the existing, non-native crops with herbicide, turn over the soil and plant the appropriate native grass, herb, and forb seed mix (Condon, 2008). For the Mdewakanton, who own about 2,400 acres in all, the prairie restoration process is laborious and expensive. The seeds alone are expensive; many are rare, hard to find, and must often be harvested by hand. According to Condon (2008), the restoration is coming back slowly and the tribe is now seeing the grasses and other forbs becoming established. "For the first few years after the restoration, crews have to tend the prairies closely, spraying for weeds, mowing the grass and conducting controlled burns every year or two to rejuvenate the land, kill the unwanted plants and encourage native varieties" (Condon, 2008, p. 1). The Tribe has gone to similar lengths to restore several wetlands that had been drained.

#### *Local culture knowledge and resource management in Wyoming*

The Shoshone Arapaho Wind River Indian Reservation in central Wyoming uses local cultural knowledge for water resource management. Their 2.2 million acre reservation is located in the Wind River Basin, Wyoming; home to the Eastern Shoshone and Northern Arapaho tribe. The Wind River Basin, traditional home of the Shoshone, was established as a reservation with the treaty of 1868. It is the third largest reservation

in the United States. According to Flanagan and Latturi (2004, p. 263), “the state of Wyoming water resource management is articulated in law and based on the Doctrine of Prior Appropriation. Arguably, this Doctrine reflects the cultural milieu of the Euro-American settlers based on competition for a scarce resource and resulting in the creation of a system of water rights based on seniority and appropriation dates.”

In 1989, the United States Supreme Court upheld Wyoming Supreme Court’s decision to award the Shoshone and Arapaho Tribes a reserved Indian water rights for 500,717 acres with a priority date of 1868 (Checchio and Colby, 1993). The project includes several dams, reservoirs, canals, drains, and a power plant critical to the agricultural and ranching economy of the Wind River Basin. Although the tribal water rights are held in trust by the tribes, they were ultimately controlled by the state department of Wyoming (Flanagan and Latturi, 2004).

On the Wind River Reservation the Shoshone and Arapaho have their own water statutes as does the state of Wyoming. The difference between the two is that the Wind River Water Code (WRWC) outlines the legal criteria for making water resource decisions and is the recognized law of the two tribes. The code is applied when determining whether water permits and licenses should be granted to tribal members and to determine the allowable applications of reserves for Indian Water Rights (Flanagan and Latturi, 2004). The Euro-American water law is predicated upon the Doctrine of Prior Appropriation and articulated in Title 41 of the Wyoming State Statute. The statute defines beneficial use, the purposes of stream preservation, and in-stream flows.

The WRWC is significant as a cross-cultural document formed by the cultural perspectives of the two tribes of the Wind River Reservation. The cultural database created for this project represents an initial step in creating methods for incorporating alternative perspectives in resource management. Such data can be used to reinforce the importance of sensitive ecological areas, and for integrating social and physical data in new and innovative ways (Latturi, 2002). This example illustrates that ecological and cultural issues can be incorporated through sound, IK-based management, and understanding and identifying cultural practices may be an important first step in collaborative resource management between different cultural groups to prevent conflict and years of resolution in the court systems (Flanagan and Latturi, 2004).

*Social forestry in the Navajo Nation in Utah, Arizona, and New Mexico*

This case study was included to recognize the cultural interface between traditional uses and modern logging. The Navajo Nation extends into the states of Utah, Arizona, and New Mexico, covering over 27,000 square miles. The Navajo Nation is currently striving to sustain a viable economy for an increasing population that surpassed 250,000 (Navajo Nation, 2009). The Navajo commercial forest has a socioeconomic component that distinguishes it from U.S. commercial forests. “The Navajo Nation recognizes neither private property nor forest reserves. Rather, its forest lands comprise a ‘community forest’ in which people establish user rights to an area through years of continual use. Most of the families have been doing this for generations and have developed bonds with the land” (Einbender and Wood, 1991, p. 12). The Navajo forest, more like many forests in developing nations, contains indigenous communities that depend on the forest resources for economic and cultural survival. Social forestry refers

to a broad range of forest-related activities that provide products for local consumption and income (Gregersen, 1988). The Navajo's commercial forest comprises 690,498 acres, of which 498,897 acres are operable tribal trust timber land (Navajo Forestry Department, 1982). Forest management policy is regulated by the Resources Committee of the Navajo Tribal Council.

Traditional uses of the Navajo commercial forest are subject to many practices that have been passed down through generations of Navajos. The people depend on these forests for physical/spiritual substance. The traditional lifestyle has been a pastoral one for the Navajo who use sheep herds to provide traditional people a sense of material and psychological security and is the basis for the social organization of residence groups (Witherspoon, 1972). The forest also provides food, native medicine, ceremonial items, and raw material for crafts. Douglas-fir (*Pseudotsuga menziesii*) and Corkbark fir (*Abies lasiocarpa*) are used for tepee poles. Many areas in the forest are considered sacred by traditional Navajos. Most of these areas cannot be logged without destroying their spiritual values. "Sacred areas include mountain tops, sweat lodges, burial grounds, old home sites, lightning-struck trees, and areas important for the collection of medicinal plants" (Einbender and Wood, 1991, p.15).

Although the Navajo land ethic is compatible with logging activities, it requires that natural resource utilization be done with the utmost responsibility and respect for the land, animals, and people. The multi-resource management approach conforms to the traditional Navajo land ethic that all components of an ecosystem are related and important. This study was done to help the Navajo Forestry Department better understand and address the needs of traditional forest land-users. "These efforts may well serve as a

model for other organizations concerned with social forestry” (Einbender and Wood, 1991, p.18).

*St. Regis Mohawk deep ecology approach to sustainability along the eastern US/Canadian border.*

Akwesasne Reservation of the St. Regis Mohawks is located on the St. Lawrence River dividing Canada and the United States. The Reservation, created in 1775, was part of the Seven Nations of Canada Treaty of 1796 (Hough, 1853). The Reservation comprises approximately 3500 acres of fairly flat land on the southern border of the river, as well as several islands (Harris, 1992). “The Raquette and St. Regis rivers drain into the St. Lawrence from the Reservation and the area supports abundant wildlife in the many wetlands” (Harris, 1992, p. 314). On their Reservation, sustainable development meets the needs and aspirations of the present without compromising the ability to meet future requirements.

This example serves to illustrate the potential for sustainable development with special concern to bioregionalism and deep ecology (Harris, 1992). The traditional economy of the region was subsistence, based on indigenous natural resources. Fishing included the sturgeon, land was cultivated with corn and potatoes, and meat and dairy were also produced (Lickers, 1978). In 1998 and 1999 the Mohawks conducted two community service projects, one was aquaculture on the Reservation, and the other was a natural resource inventory of the lands suitable for deer farming, muskrat farming, maple sugaring, and sweet grass plantations (Beres, et.al., 1990). The results of this case study showed that sustainable development is viable for Akwesasne. The community projects

serve as an economic quantity for the St. Regis Mohawks living on the Reservation. Sustainable development is partially compatible with bioregionalism. Decentralization of the political economy enhances the capacity for data collection and monitoring of biological communities and sustainable development seems incongruent with deep ecology. Deep Ecology acknowledges the intrinsic rights of plants and animals; it is biocentric. “Sustainable development, though anthropocentric, is not the end of nature for the North America Mohawks at Akwesasne” (Harris, 1992, p. 322).

*Salish Kootenai Forest—significance of fire management in Northern Rockies*

The Confederated Salish and Kootenai Tribes are comprised of the Bitterroot Salish, the Pend d’Oreille, and the Kootenai tribes. The Flathead Reservation of 1.317 million acres is located in northwest Montana (CSKT, 2009). The original historical territory of the Confederated Tribes once included parts of Idaho, British Columbia, and Wyoming. This case study addressed historical fire areas and the importance of their ecological significance along with showing the effects of 80 years of fire suppression on these area(s) and why fire management is viable for these lands. Knowledge of fire history is useful as a basis for developing ecologically sound fire management (Barrett and Arno, 1982).

Indian-caused fires were important in the ecology of some Northern Rocky Mountain forests for multiple uses, as illustrated by general anthropological findings on widespread Indian use of fire in North America; specific use of fire in coniferous forests; large concentrations of airborne charcoal found in a Western Montana Bog; and the high frequency of scarred trees in Indian-inhabited areas (Barrett and Arno, 1982).

Unintentional and inadvertently set fires (including escaped campfires) were common (Reynolds, 1959; Lewis, 1973 and 1977). Reasons for these descriptions provided by these authors were:

- Maintenance of open stands to facilitate travel and travel routes through dense timber;
- Improvement of hunting by stimulating growth of desirable grasses and shrubs, to facilitate stalking, and to drive or surround game;
- Clearing of campsites—reduced fire hazards and camouflage for enemies (this was the most systematic use of fire indicated by informants);
- Communication, by setting large fires.

These areas maintained fire management until about 1860. With the introduction of fire suppression, non-Indians continued to start many fires (Barrett and Arno, 1982). Mean Fire Intervals (MFI) were used to estimate the frequencies of the pre-1860 fires. Average intervals between fires were calculated for each stand for three periods: pre-1860s, 1861-1910, and 1911-1980. To determine pre-1860 MFIs, fire scars were sampled on 12 or more trees within each study stand. After more than 80 years without fire, dense overstocking exists and large, continuous buildups of fuel (particularly live ladder fuel) could allow fires to crown and destroy the stand(s). “Therefore, it may be necessary to set prescribed fires to achieve initial fuel reduction for returning some ecosystems to pre-settlement conditions” (Barrett and Arno, 1981, p. 198).



*At the heart of the Everglades in southern Florida: Seminole territory*

The Seminole Reservation was created in 1913 north of Orange County, Florida with a land base of 345 square miles. According to the U.S. Census in 2000 the current population is 365,196 within the five reservations that make up the Seminole nation. “The Independent Traditional Seminole Nation of Florida steadfastly keeps its traditions—language, culture, housing, ceremony, and way of life—against the forces of colonialism, assimilation, globalization, and all that eats culture” (LaDuke, 1999, p. 27). In the clan system of the Seminole people, the Panther Clan (one of 8 clans) considers the Florida panther, their closet animal relative. When the book *All Our Relations: Native Struggles for Land and Life* (LaDuke, 1999) was written, “there were about 50 panthers remaining in the wild” (Lodge, 1997, p. 142). Today, a single wild population in south Florida of 80-100 adult panthers is all that remains of a species that once ranged throughout most of the southeastern United States (U.S. Fish and Wildlife retrieved, 2009). According to LaDuke (1999) both the panther and the Seminole have fought for their land, and they intend to remain there.

The steep decline of the Florida panther was initially brought on by widespread hunting. The number one killer of the panther and humans in Florida is pollution of the Everglades ecosystem (LaDuke, 1999). Because the Everglades and most wetlands function like kidneys, most of the toxins from larger ecosystems eventually end up in the Everglades (Lodge, 1997). Liver samples from a panther that was found dead in mid-1989 had mercury levels of 110 ppm, indicating that the panther died from mercury poisoning. Two female panthers living in the Everglades National Park died in 1991.

Mercury levels were lower for these animals than for the 1989 panther, but heavy metal poisoning was considered the main contributing factor (Deneen, 1994).

The two main factors that impacted the Seminole Nation most strongly were the creation of the Everglades National Park in 1947 and the 1976 Indian Claims Commission (ICC) settlement offer. The offer was \$16 million for 30 million acres of Florida land. Finally, in 1990 the settlement, including interest, amounted to \$47 million, and some Seminoles accepted the money. Winona LaDuke (1999) states “As it turns out, all this ecological maneuvering, all this playing God...of the Everglades...has been a huge ecological mistake that, today, Congress, President Clinton, and a host of others are trying to unravel, in a twisted and complicated fashion” (LaDuke, 1999, p. 41). With direction from President Bill Clinton and the Seminole Tribal Chairman James Billie, the Seminole Tribe of Florida has matured both politically and financially, which has helped the Seminole Nation obtain federal trust holdings in Florida totaling more than 90,000 acres (Seminole Tribe of Florida, retrieved March 8, 2009).

The Seminole have two languages in current use, neither of which is traditionally written. Many Seminoles are fluent in both languages; some only speak one or the other. Medicine men and women still play a vital role. These special individuals still practice the traditional ways of healing, but they do not discourage or replace modern technology. Traditionally, the Seminole cultural, religious, and recreational activities, as well as commercial endeavors, are dependent on a healthy Everglades ecosystem. In fact, the Tribe's characteristics are so closely tied to the land that some members of the Tribe believe “that if the land dies so will the Tribe” (Seminole Tribe of Florida retrieved, 2009).

*Fish and fishing in Nez Perce culture of the Pacific Northwest*

One of the limitations of Western science is its inability to recognize the traditional environmental knowledge that American Indians have been passing down to each other in their oral histories for millennia (Landeem and Pinkham, 1999). The Nez Perce people have been fishing along the Columbia River since the beginning of their creation stories of the Nee-mee-poo (the real people) who emerged from the drops of blood from Coyote. Over 150 years ago, the Nez Perce Tribe signed a treaty with the United States government. In the Treaty of 1855, the Nez Perce retained total fishing rights on all streams and rivers within the boundaries of the original 13.4 million-acre Reservation that extended outward to ‘all usual and accustomed places’ including the mainstream Columbia River.

Historically, the Nez Perce Tribe depended upon fish as a major food source. Of all the fishes, the most utilized by the Nez Perce is the Chinook salmon. “The religion of the Nez Perce—the stories, legends, and ceremonies regarding the fish and rivers—reflects this bond” (Landeem and Pinkham, 1999, p. 5). Because the Nez Perce have always revered water and the fish that reside in it, they are concerned about the future of the Columbia Basin’s river and fish. The Columbia River is a life source for many diverse plants and animals, including the fishes, which are associated with this system. The Columbia River System has always been known as the greatest salmon fishery in the contiguous United States. “In the Native language of the Wanapum Indians, or River People, the Columbia is known as the ‘Big River’ or ‘Big Water’” (Landeem and Pinkham, 1999, p. 55).

The Columbia is the largest river in the western hemisphere that flows into the Pacific Ocean. From its source, Columbia Lake in British Columbia, it advances over 1,200 miles to the Pacific Ocean. The river's course is varied and runs south, then west and again south across central Washington State in a large sweeping curve, known as the Big-Bend. Just below the mouth of the Snake River, the Columbia turns west for 210 miles and cuts across the Columbia River Gorge where it forms the Oregon and Washington state boundaries (Landeem and Pinkham, 1999). The Columbia was the last major waterway discovered in the United States. It was known by natives for eons prior to its discovery by whites. Before the whites came it was estimated many thousands of native people were permanently settled along the river (Landeem and Pinkham, 1999). It was not until Lewis and Clark set the stage for over one hundred ships to enter the river, to obtain fresh water and offer trade. By 1800, about half the native population had died from smallpox and other diseases in the lower section of the river. By the 1840s, thousands of white people were utilizing the Columbia River as a water highway to the Pacific Northwest. This use ended when the Union Pacific railroad was created in the 1880s. By 1915, the paved Columbia River Highway was completed and destruction of the river came with the building of dams for hydroelectric power on the Columbia in the 1930s (Landeem and Pinkham, 1999).

The Columbia River system supports the largest hydroelectric power developments in the world. There are about 34 dams along the Columbia and Snake Rivers alone. Some of the dams such as Grand Coulee and Chief Joseph on the upper Columbia and Hells Canyon on the Snake were built without fish ladders. These dams eliminated about half of the spawning habitat for salmon. The major water quality issue

related to fish production is the pollution caused by the deposition of silt, sediment, dissolved gasses, and the effects of mining. In 1996 to 1997 there were concerns with the chromium release from nuclear operations known as the Hanford Reach (50 miles long), the last undammed and free-flowing section of the Columbia above the Bonneville Dam. The presence of arsenic, lead, mercury, chromium, zinc, PCBs, and DDT were found in this section of the Columbia River (Landeem and Pinkham, 1999). Most of the point sources for this pollution were from the mines of Sullivan, British Columbia; Republic and Metaline, Washington; and Coeur d' Alene, Idaho.

The need to protect anadromous and resident fish populations on the Nez Perce Reservation and on the Tribe's ceded lands led to the creation of the Nez Perce Tribal Fisheries Conservation Enforcement program. This program was established, in 1994 as a branch of the Department of Fisheries Resources Management, to monitor and enforce fishing activities and regulations (Nez Perce Dept. of Fisheries retrieved, April 15, 2009). Today, the Nez Perce maintain a healthy 13 million+ acre watershed and improving survival of salmon and steelhead. Under the auspices of the 1855 Treaty, management rests with the Tribe's Department of Fisheries Resources Management Program. The vision is to recover and restore all species and populations of anadromous and resident fish within the traditional lands of the Nez Perce Tribe. The Nez Perce continue to incorporate their traditions, cultures, and oral histories in their fishing and harvesting of Chinook salmon.

### **2.3 Western scientific approach to natural resource management**

Dominant society relies on Western science to convert ‘raw materials’ of nature through technology into ‘products and services’ traded in the global economic system (Commoner, 1971). This approach to the natural environment is very different from the IK-based approach of Native Americans. One of the major failures of mainstream resource management has been a lack of attention to the long-term implications of resource extraction practices (Menziés, 2006). As Americans, “We have been trained to believe science is infallible in the sense that, while science does not know everything, its processes of investigation and experimentation are the best available so that, given time and resources, the truth will eventually be discovered” (Deloria, Jr., 1997, p. 27). Is science the complete answer? Science plays a crucial role within this complex system, but science is not (and does not claim to be) grounded in moral principles. Science clarifies humanity’s specific obligations, but does not establish the value of human consciousness nor the consciousness of politics. Science helps offer an understanding of nature that is essential for the construction of Western worldviews, but moral decisions must ground these views and help define an environmental ethic suited to provide an adequate framework that supports both human needs and environmental preservation. Native Americans have always had a spiritual connection with the Earth and all of its life forms. This IK-based connection provides precisely this grounding for sustainability.

As explained by Robbins (1982, p. 16) regarding ecosystem destruction, “We see this in the development of rural areas and the constant changes to the landscape for the development of ‘progress’ or the continual depletion of our forests and natural resources for the comfort of personal gain. In the last decades of the nineteenth century resource

entrepreneurs, railroad promoters, lumber barons, mine owners, land spectators, cattlemen, and industrial farmers indulged in the uninhibited and feverish exploration of America's natural resources. Urged on by a ruthless and excessively competitive economic environment, these groups despoiled rivers and streams, devastated timberlands, wasted mineral resources, and overgrazed the western range."

According to Kidwell and Nabokov (1998, p. 358), "In western science, experiments allow people to predict with some certainty the degree to which events will recur given similar circumstances; manipulation of variables allows for testing of hypotheses about the outcome of events. In Native American cultures, however, human beings affect the ultimate outcome of natural processes." Most of the Western European majority believes that value and importance should be primarily placed on material, mechanical, political, and economic factors because these are believed to directly benefit the human species. "We are taught to visualize the scientist as a cheerful fellow clad in a white smock, working in a spotless lab, and asking the insightful questions that will eventually reach us at K-Mart in the form of improved vitamins, new kinds of audio tapes, and labor saving devices" (Deloria, Jr., 1997, pp. 27-28). The problem is the philosophy behind that statement; nature is valued from only a human perspective. "Western culture is most certainly in need of an ecological consciousness and of new kinds of relationships with natural communities within which they coexist" (Booth and Jacobs, 1990, p.41).

*Specific examples of Western science good intentions with unexpected consequences*

The history of the management of natural resources in the United States is filled with good intentions (e.g., damming rivers for flood control; suppressing forest fires for fire management; establishing petrochemical-based industrial farms to maximize food production). With these efforts came unforeseen consequences, or ecological backlashes, due to a failure to recognize that nature is an interconnected web of interactive parts. A prime example is the fire suppression through the USDA Forest Service's 'Smokey Bear' campaign for over fifty years. Fire suppression was revisited because of the recent massive wildfire in Yellowstone National Park. The extent of that fire was largely due to the fuel build up caused by long term fire suppression. That fire suppression policy has resulted in a build up of fuel supplies creating the potential for massive wildfires throughout the western National Parks and National Forests. Another management innovation involved the installation of dams along many rivers and lakes of North America (including Canada). These dams were designed to reduce flood damage to crops and human settlements, as well as provide hydroelectric power and tourist amenities. There are an estimated 74,993 dams in North America, blocking 600,000 miles of what had once been free-flowing rivers; nearly one dam built for each day since the signing of the Declaration of Independence. "The magnitude of the aging problem is reflected in the estimate that 85% of the dams in the U.S. will be near the end of their operational lives by the year 2020 (FEMA, 1999).

Flood control with dams is a very short-term fix; Mother Earth will remove the dams through periodic flooding that exceeds the engineering design of the dams, resulting in more devastating losses than if rivers were allowed to flood their banks



naturally to restore nutrients and groundwater to the flood plain. As waters flow from high elevation to sea level, their potential energy is converted to powerful kinetic energy as they sculpt the landscape, developing complex channel networks and a variety of associated habitats. Rivers accomplish their geomorphic work using excess energy above that required to simply move water from one point on the landscape to another.

“Sediment is transported mostly as suspended load of clay, silt, and sand held aloft in the water column by turbulence, in contrast to bed load of sand, gravel, cobbles, and boulders transported by rolling, sliding, and bouncing along the river bed” (Leopold, et.al., 1964, p. 522). Dams disrupt the longitudinal continuity of the river system and interrupt the action of the conveyor belt of sediment transport (Kondolf, 1997). Bed load ranges from a few percent of total load in lowland rivers to perhaps 15 percent in mountain rivers (Collins and Dune, 1990), to over 60 percent in some arid catchments (Schick and Lekach, 1993). Sediment transport is also very important for the reproduction of many fish species, insects, and aquatic mammals. Moreover, gravel and cobbles have tremendous ecological importance, as habitat for benthic macro-invertebrates and as spawning habitat for salmon and trout (Kondolf and Wolman, 1993). These ecological services are largely precluded by dams. This approach, however, is currently limited by the scarcity of scientific studies of actual dam removals (Bednarek, 2001).

When the dams are removed the problems that arise are derived from the buildup of the sediments behind or below the dam. Toxic sedimentation has resulted in a ribbon of barren floodplain wasteland soiled with toxic metals including arsenic, copper, lead and zinc (CFRTAC, 2005). This contamination occurred in Montana with the removal of the Milltown Dam located along the Clark Fork River. The Clark Fork River’s source is

in the Rocky Mountains of west central Montana, west of the Continental Divide. It runs north then west through the Deer Lodge valley fed by high mountain tributaries including Flint Creek, Rock Creek, and the Little Blackfoot River before turning west toward Hellsgate Canyon where it joins the Big Blackfoot River at the lumber-mill town of Bonner, Montana. During the past century, mine wastes and natural sediment materials have washed downstream from the mining operations at Butte and Anaconda, creating some 7 million cubic yards of sediment accumulation behind the Milltown Dam (CFRTAC, 2005). Milltown's toxic wastes sit in the worst possible place—right in the Clark Fork River headwaters next to the communities of Bonner and Milltown and just upstream from the Missoula Valley (Clark Fork Coalition, 2004). On Aug 2, 2005—after 22 strenuous years of investigating the site, developing a cleanup plan and negotiating for who pays for it, an agreement was reached that will lead to the removal of the sediments as well as the Milltown Dam. The investigation completed by the U.S. Environmental Protection Agency found that 19 tons of arsenic, 647 tons of iron, and 1,250 tons of manganese were being released into the local groundwater system. The contaminated sediments which first began stacking up behind Milltown Dam during the huge flood of 1908 have poisoned local wells with arsenic and continue to kill off fish and other aquatic life during high water and ice jams (EPA, 2005).

Dam removal represents a geomorphic disturbance to a quasi-adjusted river system. The removal of a dam unleashes cascades of erosion and depositional processes that propagate both upstream and downstream, with the upstream response driving the downstream response (EOS, Transaction, American Geophysical Union, 2003). Also, communities with dammed rivers must deal with the accumulated sediments that have

built up over the years that can be toxic to drinking water supplies and agricultural fields compromising food production. There are many other examples of good intentions, such as the so-called Green Revolution of petrochemical, mechanized production of food mono-crops, clear-cutting of vast expanses of natural and man-made industrial forests. Why did these good intentions have so many unexpected consequences? It is because these techniques are asking Mother Earth to ‘surrender’ the laws of nature.

Fire management has been a tool used by Native Americans long before the first European landed in 1492. “Reduced burning was associated with reduced Indian burning, with the settlement of western valley areas” (MacClerry, 2005, p. 2). The difference between Native American and the White Settler in the use of fire is that “Generally, the American Indians burned parts of the ecosystem in which they lived to promote a **diversity of habitats** (bold emphasis by author), especially increasing the ‘edge effect’ which gave Indians, as well as animals, greater security and stability to their lives. Their use of fire was different from white settlers who burned to create greater **uniformity in ecosystems**, especially when it came to crop production and grazing or pastures lands” (Williams, 2002, p. 17).

For over 50 years, the USDA Forest Service promoted ‘Smokey Bear’ in a campaign of fire suppression, which succeeded in training the public that ‘only you can prevent forest fires’. The widespread fame of this fire suppression campaign resulted in decades of accumulated biomass fuel that contributed to high-heat, catastrophic burns, in forests that evolved in and were adapted to frequent, regular, naturally occurring fires. In this case, the solution was the problem as some dramatic ecological changes to forested landscapes of the U.S. occurred that increased fire risk for generations to come. The

composition of some forests shifted toward less fire-tolerant species (Arno and Allison-Bunnell, 2002). The large standing fuel stocks in the nation's forests coupled with changing climatic patterns and increased temperatures across much of the United States have recently led to some of the worst forest fires since the early 20<sup>th</sup> century when the debate of forest fire suppression arose; prior to 1910, fire had been used routinely as a management tool. Forestry policy makers thought that fires would kill off young saplings, which could impact the logging industry and other commercial resources from the forests in the United States. The fire suppression policy was also implemented to save human lives and property in fire-prone areas (Arno and Allison-Bunnell, 2002).

Ecological damage resulting from unintended consequences of good intentions by Western scientific approaches to natural resource management may arise through incomplete understanding or misunderstanding of the holistic, integrated complexity of nature. In contrast, IK approaches embrace with reverence this holistic, integrated complexity of nature through direct observation over generations and generations.

#### **2.4 Potential lessons learned through healthy infusion of IK into Western natural resource management policies and practices**

To move forward toward sustainability, scientists, philosophers, environmental thinkers, and perhaps more importantly, the general public, especially citizens of affluent nations, must shift toward a new paradigm where man is part of nature. In the latter half of the 20<sup>th</sup> century and at the dawn of the second millennium, there has been a steady movement and growing awareness of this needed worldview change. This new initiative has been led by visionaries such as Rachel Carlson, Aldo Leopold, Garrett Hardin, Barry Commoner, E.F. Schumacher, Bill Mollison, Arne Naess, and many others. Previously in

the 19<sup>th</sup> century with the Industrial Revolution going full steam ahead, Henry David Thoreau, John Muir, Theodore Roosevelt and others embraced conservation and nature as having great intrinsic and spiritual value. All of these environmental pioneers have advocated societal change, but only modest, incremental steps have been realized. Another important, if not prominent, contemporary spokesman was Vine Deloria, Jr., a Lakota Sioux philosopher-statesman renowned as a champion of Native American rights. “Some Western thinkers have recently begun to examine the knowledge of and insights that non-Western peoples had about the natural world. Part of this movement is a popular fad that romanticizes the primitive and his relationship to his pristine environment, but part is also a sincere attempt to reach out and gain new insights and perspectives” (Deloria, Jr., 1999, p. 33).

Some of these progressive ideas include ‘permaculture design’ by Bill Mollison, ‘small is beautiful’ concept by E.F. Schumacher, the ‘closing circle’ by Barry Commoner (1971); as well as the current ‘deep ecology’ movement created by Norwegian philosopher Arne Naess (1973) several years after Rachel Carlson’s (1962) landmark book, *Silent Spring*, helped spawn an environmental grassroots movement. The land ethic is a perspective on environmental ethics first championed by Aldo Leopold (1949) in his book, *A Sand County Almanac* (further discussed in Chapter 7). In it he wrote that there was a need for a new ethic, an “ethic dealing with man's relation to land and to the animals and plants which grow upon it” (Leopold, 1949, p. 212). Despite this important call to embrace a land ethic, six decades have transpired with worsening environmental conditions on Earth. Perhaps, as Deloria suggests, it is time to consider an alternative pathway. “Even with the flexible scientific paradigm of relativity and indeterminacy,

there are strong indications that we have reached a dead end in many sciences and perhaps need new insights derived from other sources. So why not tribal knowledge?" (Deloria, Jr., 1999, p. 40).

This spiritual connection serves to ground the Native American view of the natural world, one that stands in the sharp contrast to that of Western science (Pavlik and Wildcat, 2006). An example can be found in the creation stories of each tribe, many of which describe a close involvement of non-human animals in the creation of humans. While Western science decries such an anthropomorphic consideration of other living entities, this alternate view of looking at the animals is historically the norm is perhaps a more thoughtful way of viewing nature. "Consequently, Native creation stories establish a framework for perceiving the natural world in a manner that differs greatly from that of Western science" (Pavlik and Wildcat, 2006, p. 82).

The Indigenous Knowledge approach to resource management derives from a belief that man is equal to other life forms and fits into his surroundings as an equal. The Creator fashioned the continents and the plants and animals that live on those continents. A spirit was given to each creature. Man lives as naturally as the wild flowers and the animal life surrounding him. "The Indian perspective of the natural world is not the subject to this limitation (that the results are in and further inquiry is unnecessary) because it already has a fundamental principle of interpretation/observation that pervades everything that Indians think or experience" (Deloria, Jr., 1999, p. 33).

Considering all life forms as equals greatly enriches the Indigenous Knowledge appreciation for all species, including humans. All things are accepted as they are and all life is appreciated for what it is. In addition, the landforms, rivers, and surface features have an intrinsic value for their very existence. Decisions, feelings, and life itself are based upon the premise that all things in nature have spirits and are of equal value; all species (including humans) require the respect of those who might impact them. The viewpoint of the best of Western Science (i.e., evolutionary theory) is that boundaries among living things are fluid; one species evolves into another. The IK understanding is similar—all life is related; species borders are not un-crossable, and the distinction between living and non-living is not black and white. Spirit is pervasive throughout all existence.

A pertinent gobbet of esteemed IK wisdom is quoted from Phillips and Phillips (2000a), “Black Elk, a revered Oglala Sioux spiritual leader of the 19th century, explained that the only way both dominant society and indigenous people would survive is when dominant society learned from native people that nature is the source and basis of life, meaning, and spirituality.” Indeed, Black Elk provides common ground for lessons learned that can facilitate change so urgently needed locally and globally for a sustainable future. The question remains, how can indigenous knowledge be accepted as an alternative path and beginning to a new era of sustainable management instead of being dismissed as a romantic viewpoint?

To end this section, the State of Wisconsin is making some small, encouraging steps in exploring use of IK-based natural resource management for sustainability. The Wisconsin Tribal Conservation Advisory Committee (WTCAC) was organized in 2001,

the first such council formed in the country. The purpose of WTCAC is to advise the USDA Natural Resources Conservation on the 'best' and 'most' efficient method of delivery for USDA programs and technical assistance to the Indian Nations of Wisconsin (Tribal Outreach Activities, USDA Natural Resource Conservation Service, 2004). One of the main responsibilities of WTCAC is to review and recommend funding for conservation proposals from the 11 federally recognized tribes in Wisconsin. Other federal agencies such as the U.S. Fish and Wildlife Service are currently doing the same with Indian tribes within the Great Lakes Region, which consists of 35 federally recognized tribes, who are working with federal grants on wildlife restoration projects. In the western part of the country the BLM and tribes are working together to better understand how to repair past federal and state government's mistakes before it is too late for the next generations.



## **Chapter 3. METHODS**

To accomplish the objectives of this study, a plan for mainstreaming Indigenous or Traditional Knowledge of natural resource management into non-tribal society was developed using a case study approach. The plan features a literature review of selected natural resource management examples from Native American tribes as well as interviews with tribal elders and resource managers within three Wisconsin-based tribes, the Menominee Nation, the Bad River Band of the Lake Superior Tribe of Ojibwe Nation, and the Oneida Nation. In presenting lessons learned as success stories in holistic, integrated resource management, the thesis project results are descriptive and qualitative. The goal is to provide direct benefits of these IK lessons learned for building sustainability to students and resource managers locally, regionally, nationally, and internationally.

### **3.1 Methodology for selecting specific tribes for examples of IK success stories**

Several steps were taken to develop specific examples of integrated natural resource management from Native American cultural traditions and to describe how Indigenous Knowledge informs and integrates natural resource management practices within tribal communities. In the summer of 2007, a literature review of Native American IK practices in natural resource management on tribal lands was initiated (Objective 1). Also, during that period, the researcher participated in the “Sharing Indigenous Knowledge: An International Dialogue on Sustainable Development” conference hosted by the College of Menominee Nation (CMN), June 11-15, 2007, in Green Bay, Wisconsin. This conference was designed to provide a forum for the indigenous peoples’

voices for indigenous wisdom, knowledge, and values in relationship with best practices, models of sustainability, problem solving, and research in attaining sustainable indigenous communities. Conference presentations, which dealt with how to present data collection in final reports, understanding what IK is, and how to gather data on IK practices from indigenous people, were helpful in formulating the thesis approach and further literature review, e.g., Phillips, V., et.al.(2008) paper entitled “Mainstreaming Indigenous Wisdom to help dominant society build a sustainable future.”

The researcher contacted tribal officials within the eleven tribes of Wisconsin and set up appointments with tribal chairman/chairwoman, historical preservation directors, conservation and biological officials, forestry departments, federal agencies, and community members of eight of the tribes. The purpose of these face-to-face reconnaissance meetings was to introduce the GEM project on indigenous knowledge for sustainable development and the thesis research statement, to gather information on what tribes are doing specifically related to IK sustainable management, oral traditions, harvest ceremonies, and other natural resource heritage practices and to determine if the tribe would like to participate in the researcher’s thesis project. Table 1 lists the tribes for which this reconnaissance was completed. At nearly all of these meetings, contacts were presented gifts of tobacco in respect for their culture, status, or position within the community (elders, spiritual leaders, and tribal council members). From these 2007 meetings, a detailed list of IK projects that have been completed or are in progress using IK for natural resource management was developed (Table 1).

Based on the input received, availability of interviewees, access to information, and the need to limit thesis research to three tribes, the decision was made to focus the case studies on:

(1) Appendix A= the Menominee Nation (e.g., chosen for their world-renowned forestry practices, wild ricing, maple sugar production, sturgeon management, and other IK natural resource management practices;

**Table 1. Reconnaissance of Wisconsin-based Indigenous Tribes in 2007 for IK projects used in natural resource management.**

Tribe	IK projects completed or in progress
1. Bad River of Lake Superior Ojibwe	<ul style="list-style-type: none"> <li>• Three Sisters Garden</li> <li>• Stream Restoration</li> <li>• Wild Rice Harvest</li> </ul>
2. Lac Courte Oreilles Reservation	<ul style="list-style-type: none"> <li>• Wild Rice Restoration</li> <li>• Wetland Restoration (10 acres)</li> <li>• Fish Hatchery</li> </ul>
3. Lac Du Flambeau Reservation	<ul style="list-style-type: none"> <li>• Wa-swa-goning Indian Village</li> <li>• Shoreline Protection</li> <li>• Fire Management proposals</li> </ul>
4. Menominee Reservation	<ul style="list-style-type: none"> <li>• 150 yrs of Sustainable Forestry Practice</li> <li>• Maple Sugar</li> <li>• Fire Management</li> </ul>
5. Sokaogon (Mole Lake) Reservation	<ul style="list-style-type: none"> <li>• Wild Rice Restoration</li> <li>• Oral Traditions</li> <li>• Road Construction</li> </ul>
6. Oneida Reservation	<ul style="list-style-type: none"> <li>• Tsyunhekw^ Organic Three Sister's Farm</li> <li>• Oneida Farm with Buffalo</li> <li>• Restoring Land Base</li> </ul>
7. Red Cliff Reservation	<ul style="list-style-type: none"> <li>• Stream and Stream Bank Restoration</li> <li>• Community Garden (40 acres)</li> <li>• Culture and Language Camp</li> </ul>
8. St Croix Reservation	<ul style="list-style-type: none"> <li>• Stream Restoration and Erosion Projects</li> <li>• Fish Restoration</li> <li>• Forestry Restoration adopting Menominee Model</li> </ul>

(2) Appendix B= the Bad River Band of the Lake Superior Tribe of the Ojibwe Nation (e.g., chosen for their legacy of Three Sisters' gardens featuring polycultural mounds of heirloom corn, beans and squash; their sustainable fisheries program, wild ricing, and other IK practices for natural resource management; and

(3) Appendix C= the Oneida Nation (e.g., chosen for their sustainable community farm, Three Sisters' garden, environmental program, conservation efforts, and the historical information of IK integrated into their resource management.

To gain permission for conducting IK interviews on the Menominee Reservation, the researcher met with the Menominee Language and Culture Committee to review the research protocol, which approved the proposed research to be undertaken on the Menominee Reservation. Subsequently, the project was approved by the Menominee Legislative Council and a Memorandum of Agreement (MOA) was signed by the Menominee Tribe's legal department. These actions confirmed the tribe's official permission to conduct this M.S. thesis research on the Menominee Reservation.

For the Bad River Reservation, permission was given by the Tribal Chairperson (Chief) to perform interview questions on the Reservation. Permission for the Oneida Reservation interviews was given by the Historical Preservation Department (Cultural), the director of the Oneida Environmental, Health and Safety Division, and the director of the Oneida Conservation Department.

### **3.2 Methodology for case studies of IK for natural resource management**

To develop case studies of Indigenous Knowledge-based natural resource management practices in three Native American tribal communities (Objective 2), the

following procedures were used: (step 1) development of a questionnaire approved by the UWSP Institutional Review Board for Human Subjects for soliciting responses from the three tribes participating in the M.S. research study; (step 2) oral interviews conducted with tribal leaders and natural resource practitioners associated with the three tribes; (step 3) cluster analysis by themes presented in the questionnaire and by key words emerging from the interviews; transcriptions of the oral interviews to digital format for data analysis; (step 4) review of integrated resource management plans and practices of the three tribes; integration of the above information on IK-based natural resource management within the cultural tradition of the three tribes for cases studies of lessons learned.

#### *Step (1) Questionnaire*

Because this study dealt with Human Subjects, the project had to be approved by the University of Wisconsin-Stevens Point Institutional Review Board (IRB) for the Protection of Human Subjects. A complete protocol must be submitted to the IRB for approval prior to the initiation of any investigations involving human subjects or human materials, including studies in the behavioral and social sciences. Figure 1 presents the consent form used for all interviewees. Table 2 presents the IRB-approved interview questions used in this study.

#### *Step (2) Interviews*

Once the consent to participate was signed (Fig. 1), a set of interviews was conducted on each case study's reservation. Tribal elders and other members were interviewed to elicit information on IK practices used in natural resource management on

their tribal lands. Rationale for choosing individuals to be contacted was based on their knowledge of IK and their status or position within the tribal community (elder or spiritual leader). Interviews were recorded with an Olympus Digital Voice Recorder WS-10 or hand written and then transcribed word for word (See Appendices A, B, C). To keep information secured, each case study was put onto a CD and locked in a secure area along with all signed consent forms from each study participant.

*Step (3) Cluster analysis using QSR NVivo 8 software*

A qualitative methodology was performed to analyze the interviews from the three tribes using computer software tool QSR NVivo 8. A list of questions based on thematic concepts of sustainability was developed for applying a cluster analysis used to determine which area(s) of natural resource management are based on IK practices. The sustainability theme clusters used were: (1) Cultural Preservation, (2) Ecological Integrity, (3) Economic Viability, (4) Governmental Interactions, and, (5) Social Justice. The interview questionnaire was built upon these five sustainability theme clusters. A total of 104 keyword entries (21 keyword entries for each of the thematic clusters, except for Ecological Integrity with 20 keyword entries) were arbitrarily selected based on the researcher's familiarity with the interview transcripts. The keyword entries included base nouns and synonyms (both singular and plural forms) and in some instances related adjectives. The 104 keyword entries were comprised of 262 individual words (Table 3).

Dr. Victor Phillips, Director of the Global Environmental Management Education Center (GEM) at the University of Wisconsin-Stevens Point, and his student, Rory Griffin are conducting a study on Indigenous Knowledge within Sustainable Development. We are asking you to participate in our research to provide your ideas and knowledge to help us develop a management plan using Indigenous Knowledge.

As part of this study, we would like to ask you several questions pertaining to how your tribe uses Indigenous Knowledge for sustaining their natural resources management practices. This study should pose no medical risks to you while answering questions. This interview should take no longer than 30 minutes. At any time you are feeling uncomfortable during the interview, you may withdraw without any penalties. The information you provide up to that point would be destroyed.

The information gathered here today will be used to develop a management plan to be interpreted for state and local governments. If you wish to have your name protected then let interviewer know before the interview begins. If the same information is obtained from another source the information may end up in the final report or we can use the information by citing a false name and including you in the credits of the final report.

Once the study is completed, we would be glad to give you the results. In the meantime, if you have any questions, please ask me or contact:

Dr. Victor D. Phillips, Director  
Global Environmental Management Education Center (GEM)  
University of Wisconsin-Stevens Point  
Stevens Point, WI 54481

If you have any complaints about your treatment as participant in this study, please contact:

Dr. Jason Davis, Chair  
Institutional Review Board for the Protection of Human Subjects  
Department of Business & Economics  
University of Wisconsin-Stevens Point  
Stevens Point, WI 54481

Although Dr. Davis will ask your name, all complaints are kept in confidence.

I have received a complete explanation of the study and agree to participate.

Name \_\_\_\_\_ Date \_\_\_\_\_  
(Signature of subject)

**This research has been approved by the University of Wisconsin-Stevens Point Human Research Board**

Fig. 1. Interviewee consent form signed by all 51 interviewees.

**Table 2. IRB-approved questions with thematic clusters.**

<b>Cluster addressed by Question:</b> Ecological integrity; Economic viability; Social justice; Governmental interactions; Cultural preservation	<b>Interview Questions:</b>
Cultural preservation Ecological integrity	What is your personal definition of Indigenous Knowledge? How is this knowledge used or interpreted in the sustainability practices of the tribal community?
Ecological integrity Cultural preservation	What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?
Social justice Cultural preservation	What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?
Cultural preservation Social justice	Was any natural resource management practices historically conducted solely or primarily for social or other non-food/shelter/clothing purposes? If so please explain.
Governmental interactions Social justice	How does the BIA determine which management practices will be implemented for your tribal community? What is your opinion of the BIA interactions with your tribal nation?
Cultural preservation Ecological integrity Social justice Governmental interactions	Describe how you feel about strengthening IK approaches in the future management of your tribal lands. Describe how you feel about mainstreaming IK approaches in the future management of non-tribal local or state lands.
Ecological integrity Social justice	After applying Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats?
Cultural preservation Governmental interactions	Please explain some of the cultural aspects that are being incorporated into tribal natural resource management. How are they carried out once the prescription has been placed in the Tribal ordinance?
Economic viability Social justice	Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?
Economic viability Cultural preservation	What sustainable livelihoods do you envision as viable in your tribe?



**Table 3. Thematic cluster keyword(s) search parameters.**

# words searched per entry using NVivo	Keyword entries	
<b>Cultural Preservation</b>		
5	1	Ceremony(ies)/ceremonial/ritual(s)
2	2	Clan(s)
2	3	Creator/creation
3	4	Culture(s)/cultural
2	5	Elder(s)
2	6	Generation(s)
3	7	History(ies)/historical
3	8	Indigenous Knowledge/IK
2	9	Language(s)
4	10	Maple sugar/ Tree(s)
3	11	Medicine(s)
2	12	Mother Earth
3	13	Philosophy(ies)
4	14	Prayer(s)/offering(s)
1	15	Preservation
2	16	Respect/respectful
2	17	Song(s)
4	18	Spirit(s)/spirituality
1	19	Thanksgiving
1	20	Tobacco
3	21	Tradition(s)
54	<i>Total word count for Cultural Preservation</i>	

# words searched per entry using NVivo	Keyword entries	
<b>Ecological Integrity</b>		
4	1	Animal(s)/buffalo(es)
1	2	Biodiversity
3	3	Burial site(s )
1	4	Conservation
1	5	Fire
2	6	Fish/sturgeon
3	7	Food/agriculture/agricultural
3	8	Forest(s)/forestry
2	9	Habitat(s)
2	10	Integrity/integrated
1	11	Mismanagement
4	12	Nature/natural /resource(s)
2	13	Plant(s)
2	14	Powwow(s)
5	15	Rice/rice bed(s)/ricing
2	16	Sustainability/sustainable
5	17	System(s)/holistic/ecosystem(s)
4	18	Three Sisters garden(s)
3	19	Traditional practice(s)
5	20	Water/river(s)/lake(s)
55	<i>Total word count for Ecological Integrity</i>	
# words searched per entry using NVivo	Keyword entries	
<b>Economic Viability</b>		
2	1	Agriculture/agricultural

3	2	Basket making/weaving
2	3	Business(es)
3	4	Current practice(s)
4	5	Economy(ies)/economics
1	6	Education
2	7	Farming/food
1	8	Forestry
2	9	Greed/greedy
6	10	Initiative(s)/venture(s)
3	11	Job(s)/employment
3	12	Land purchase(s)
1	13	Management
2	14	Materialism/materialistic
3	15	Money/income/revenue
3	16	Organic food(s)
3	17	Profit(s)/profitable
2	18	Sustained yield
2	19	Western knowledge
2	20	White corn
3	21	Wild rice/ricing
53	<i>Total word count for Economic Viability</i>	
<b># words searched per entry using NVivo</b>	<b>Keyword entries</b>	
<b>Governmental Interactions</b>		
1	1	Awareness
2	2	Bureau/BIA
2	3	Clear-cut(ting)
2	4	Collaboration(s)
2	5	Community(ies)

1	6	Constitution
2	7	Dominant society
2	8	Elder(s)
6	9	Great Lakes Indian Fish Wildlife Commission
2	10	Indigenous knowledge
2	11	Influence/awareness
7	12	Law(s)/legal/ordinance(s)
3	13	Listening/listener(s)
2	14	Reservation(s)
2	15	Resource management
1	16	Sovereignty
1	17	Termination
3	18	Tribal government/council
3	19	Trust land(s)
3	20	Trust/trusting/understanding
1	21	Youth
50	<i>Total word count for Governmental Interactions</i>	
<b># words searched per entry using NVivo</b>	<b>Keyword entries</b>	
<b>Social Justice</b>		
2	1	Chief Oshkosh
5	2	Clan(s)/ family blood ties
1	3	Communication
2	4	Compassion/understanding
2	5	Community(ies)
1	6	Council
2	7	Dominant society
5	8	Education/educational program(s)

2	9	Elder(s)
3	10	Environmental service(s)
2	11	Family(ies)
1	12	Force
2	13	Forest management
5	14	IRMP/integrated resource management plan
2	15	Respect/trust
2	16	Self-determination/self-governance
1	17	Social
2	18	Sustainability/sustainable
3	19	Tradition(s)/traditional
3	20	Tribe /tribal/government
2	21	Wildlife management
50	<i>Total word count for Social Justice</i>	
262	<i>GRAND TOTAL word count of all five clusters</i>	

In the first column of Table 3, labeled “# words searched per entry using NVivo”, each number entered represents the number of words in that particular keyword entry. For example, for the keyword entry “Ceremony (ies)/ceremonial/ritual(s), “5” is entered into the first column to represent the five separate words (i.e., “ceremony”, “ceremonies”, “ceremonial”, “ritual”, and “rituals”) that were used in the NVivo search. The tally results of searching for these five words were then added together to provide the total for the keyword entry “Ceremony (ies)/ ceremonial/ritual(s)”. By adding the numbers in the first column for each cluster (e.g., for Cultural Preservation cluster the total word count

searched by NVivo = 54); then by adding the word counts for all five clusters, a total of 262 words were searched using NVivo. Under the second, unlabeled column, those consecutive numbers simply represent the number of keyword entries, i.e., under “Cultural Preservation” there are 21 keyword entries. For “Ecological Integrity” there are 20 keyword entries. The remaining three clusters had 21 keyword entries each. There were 104 keyword entries in total, which were comprised of 262 individual words that were subjected to the NVivo search. Microsoft Excel was used to aggregate the hits and prepare graphical displays of the cluster analysis results revealing the relative importance of the five clusters for each tribe. Compilation of information developed into case studies with a cluster analysis of interview data on sustainability values and practices, which addressed Objective 2.

The initial step in using the NVivo software is to determine which data (keywords) are to be coded and counted. To perform this first step internal files (i.e., interview transcriptions) are selected and imported into NVivo. Next, parent node(s) are created by the user (i.e., five thematic clusters). After creating the parent node(s), sub-nodes or “children” nodes are entered into NVivo, which are the keyword entries for each cluster. Once all keyword entries for all of the clusters (104 keyword entries in this study) are entered, then NVivo data analysis may begin. The following steps were used to find the keyword for the parent node: 1) Select the “find key” and type in the keyword to find and hit enter; 2) The software will highlight the word in the whole document (Appendix); 3) Select the highlighted word and move (scroll) to the thematic cluster of the selected keyword. The software automatically records how many hits or references that exist of the keyword(s); 4) Repeat these steps for each keyword in the document.

These same steps are performed for all of the 104 sub-nodes in each of the parent nodes or clusters. Once all the sub-nodes are recorded then the software has applications to visualize the data results graphically, with the most significant word(s) found in each cluster and percentages of all the references or hits encountered for each of parent nodes or clusters. The researcher experienced a problem in using NVivo when trying to find a word in its singular form like “culture” and subsequently when attempting to find the plural form like “cultures”, the software only allows for counting the word once instead for each separate word(s). Also, NVivo will not allow the use of the same word more than once (e.g., when looking up a plural word with (s) attached like “cultures”), as the singular form of the word “culture” will have been counted already as a reference. It was tedious entering each of the 262 words individually, then using Microsoft Excel to aggregate the number of hits by sub-nodes (keyword entries) to complete the cluster analysis. After all the keyword entries were recorded, the researcher counted the number of references in each cluster and divided that number by the total number in all five thematic clusters, with the resulting numbers and percents entered into a Microsoft Excel worksheet. Microsoft PowerPoint was used to create the pie-graphs for all three case studies.

*Step (4): Review of tribal practices for natural resource management results*

Literature research on published material was conducted to provide examples of IK-based natural resource management by tribal nations across the United States. Geographic and topical diversity was considered in selecting which tribal practices to present. For the case studies of Menominee, Bad River, and Oneida nations, the information gathered was from published documents or accessed through the tribal

historical departments, conservation and forestry departments with special permission approved for use within the case studies of this thesis.

*Step (5): Lessons learned in IK-based natural resource management*

The methodology for this step is a case study approach. In each case study elaborated in Chapters 4-6, lessons learned are presented through interviews, published and unpublished documents, and IK-based natural resource management educational materials. In Chapter 7, the cluster analyses for each tribe are compared and contrasted to elucidate common IK-based natural resource management practices and traditions for each of the three tribes.

### **3.3. Methodology for developing educational materials**

To develop educational materials on IK-based approaches to natural resource management for anyone interested in IK for sustainability, a set of informational “lessons learned” from IK-based natural resource management was collected/produced by the researcher. To address Objective 3, tribal resources were gathered and used by the researcher to prepare fact sheets featuring relevant examples of lessons learned, which are presented at the end of each thesis case study. These educational materials serve only as an initial exposure or preliminary guide to IK practices in natural resource management. Two hundred copies each of six fact sheets will be delivered to each of the three tribes participating in this research for dissemination. These IK lessons learned brochures may be used as a guide to non-native visitors for basic descriptions of the current IK practices. A potential next step beyond this study may be to develop curriculum for IK-based natural resource management.



## Chapter 4. MENOMINEE CASE STUDY

### 4.1 Location and cultural history

The Menominee Nation is a remarkable example of the rich history of IK that has been infused into their community. This infusion extends to all phases of daily life including: education (youth and adult), social gatherings, economic decisions, and their understanding of the history of Wisconsin and the United States. “The Menominee experience demonstrates that forced assimilation actually strengthens Native American resolve to maintain their tribal existence and Indian identity” (Peroff, 1982, p.232). In their darkest hour under the Termination Act of 1954 (also known as U.S. House Concurrent Resolution 108), the Menominee saved themselves from extinction and termination.

Originally, the Menominee Indian Tribe of Wisconsin’s (MITW) aboriginal homeland stretched from along the western shores of Lake Michigan, from Milwaukee to the Mackinac Island and as far west as Tomah, Wisconsin. The Menominee treaty era resulted in seven ratified treaties and two contested treaties. The contested Treaties of 1821 and 1822 proposed the sale of over 800,000 acres of Menominee land to the Stockbridge Munsee Tribe (Mohican) of New York. These treaties were signed by unauthorized chiefs and warriors, and were never ratified by the federal government (Strategic Plan, *Omaeqnomenewak*, 2007). By the end of the treaty era, the Menominee Tribe had lost more than 10 million acres of land (Figure2).

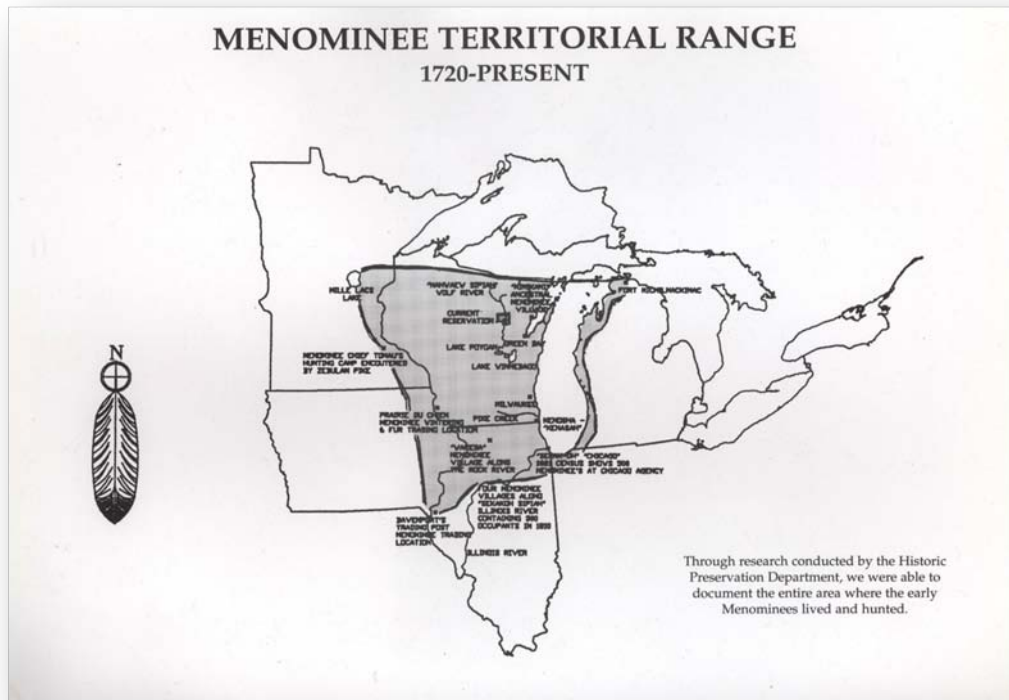


Fig.2. Menominee Historical Territory, 1720-present. Map by Menominee Historic Preservation Department (2009). Estimated land base was 10.3 million acres before the treaties of 1831, 1848, 1854, and 1856.

Menominee Nation is the only Wisconsin tribe to remain within its historical ancestral lands, with current land holdings totaling 235,523 acres, of which 223,500 are forested acres available for sustained-yield management. “The remaining acres are composed of water, or have been removed for residential and other non-forestry use” (Menominee Indian Tribe’s IRMP Draft, 2008). “We have about 247,000 acres of the oldest virgin hardwood stand in Wisconsin- as a matter of fact in the Great Lakes region. One of our chiefs, Oshkosh, told us that when we are going to log, that these trees are the spiritual forms. We pray to these trees, the closest relatives to the woodland tribes”

(Interviewee 9). There are currently 8,406 enrolled Menominee members of which 4,205 live on the Reservation (Menominee Enrollment Dept., 2008).

Historically, the Wolf River Treaty of 1854 granted 12 townships to the Menominee to be used as a Reservation. The treaty allowed the Menominee people to achieve their goal of remaining on a portion of their ancestral homeland (Strategic Plan, *Omaeqnomenewak*, 2007). There are various communities throughout the Reservation: the five main unincorporated villages are Keshena, Middle Village, and Neopit; the smaller villages of Zoar and South Branch complete the main settlements (Figure3).

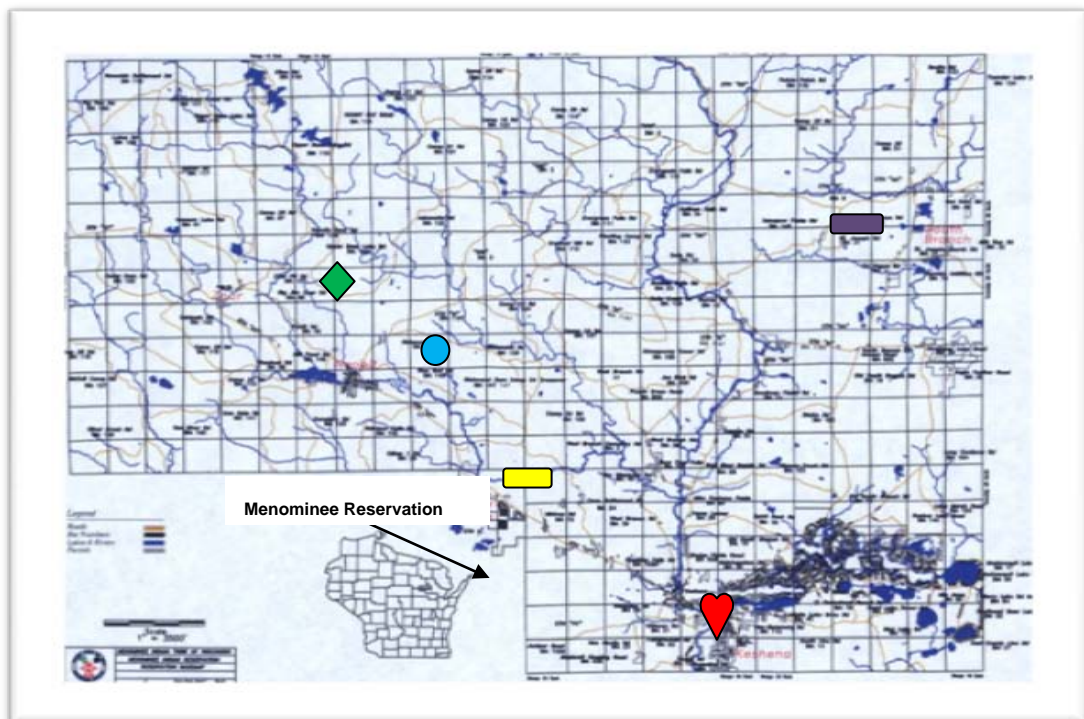


Fig. 3. Menominee Reservation Villages. The five main towns are Keshena (heart), Middle Village (rectangle), Neopit (circle), South Branch (rectangle), and Zoar (diamond).

Unlike other Native American tribes, there is no Menominee migration story because the Menominee Origin story begins at the mouth of the Menominee River with ‘Kiash Machatiwuk’, Ancient Men (i.e., humans) as the original people. *“The Creator gave us our commandants and our seven gifts: tobacco, maple trees, wild rice, berries, medicine from the plants, the animals that depends on the protection of the forest, and our spirits of the water”* (Interviewee 2). The Menominee have maintained strong leadership and it was this type of effective leadership that has sustained them through much hardship. The Menominee continue to speak their language and practice their traditions and religion, e.g., *“Through the hunting and maple sugar along with the Menominee language being taught”* (Interviewee 23). Spiritually, the Menominee continue to speak with their Creator through tobacco, prayers, and other offerings. For the Menominee, everything began with their creation story. The following description is of the Menominee origin story (there are many different versions):

*When Grandfather made the Earth, He also made the sun and stars. He then created the many spirit beings and gave them forms of animals and birds. The animals were the underground beings. The principal underground being is the great Silvery White Bear. The birds, mostly eagles and hawks, are the Thunderers, the sky dwellers. The principal Thunderer is invisible and is represented by the Golden Eagle symbol.*

*Grandmother, the Earth, gave birth to a daughter, the moon. The daughter gave birth to twins. One of the twins grew to become a young man. Grandfather gave him many powers so that he could complete the building of the world. He built the hills and the mountains, and made the forests, lakes, and rivers.*

*When the building was completed and before there were the Menominee people on the Earth, at the place where the "Mi'nika'ni sepe" (Village River) meets the Bay. A great light-colored "Owa'sse" (Bear) emerged from underground and started traveling up the river. As he traveled he spoke with Grandfather. When Grandfather saw that the Bear was still an animal, he determined to allow the Bear to change his form. The Bear was pleased at what Grandfather was going to grant him. So Grandfather changed him into a man, and he became the first Menominee, though he kept his light skin.*

*The Great Ancestral Bear traveled along the river and after a while found that he was alone. Looking up to the sky, he saw a great Golden Eagle circling overhead. Bear decided to call "Kine'u" (Golden Eagle) and said: "Golden Eagle, come down and be my brother." Golden Eagle descended, changed into a man and became the brother of the Bear.*

*The two brothers then traveled together. While they continued traveling up the river, they pondered on who they would call upon next to become their brothers. While considering, they saw a Beaver approaching. When they met, the Beaver requested to be taken into the clan of the Thunderers. But, being a woman, was called "Nama'kukiu" (Beaver Woman), instead of being adopted as the younger brother of the Bear. As the journey continued the Bear also adopted "Mahwaew" (Wolf), "Ota'tshia" (Crane), and "Mo's wi'dishi" (Moose) as brothers, and each changed into a man. The five brothers traveled up the river. One day the Bear told the Wolf, Crane, Moose, and Golden Eagle to go on separate journeys. Through their travels, each brother met animals and birds and each brother adopted some of them as younger brothers. The younger brothers changed into men, and altogether became the first Menominee People.*

Decision-making is a function of the tribal members as a whole and those decisions empowered the speakers and the clan leaders to act. There are many versions of the Menominee Clan System. The Menominee clan structure reveals the thought and logic that was an important part of the traditional tribal social relationships. For example, the clan system regulated the functions of government and marriages. The following outline represents a combination of the various versions showing the five main clan divisions. These five main clan divisions are known as the Bear, the Thunderers (represented by the Golden Eagle), the Crane, the Wolf, and the Moose (Menominee Historical Preservation Department, Retrieved 2009). (Figure 4).

<b>Owas'sse we'dishi'anun - Bear phratry (Clan)</b>	
Owa'sse	Bear (principal clan)
Kita'mi	Porcupine
Miqka'no	Turtle
Mikek'	Otter
Noma'eu	Sturgeon
Naku'ti	Sunfish
O'sass	Muskrat
<b>Bear Phratry: Speakers and keepers of the law.</b>	

**Ota'tshia wi'dishi'anun - Crane phratry (Clan)**

Ota'tshia	Crane (principal clan)
Shakshak'eu	Great Blue Heron
Os'se	"Old Squaw" Duck
O'kawa'siku	Coot

**Crane Phratry:** Architecture, construction, and art.

**Ina'maqki'u wi'dishi'anun - Big Thunder phratry (Clan)**

Kine'u	Golden Eagle (principal clan)
Piwat'inot	Beaver
Shawan'nani	Fork-tailed Hawk
Pinash'iu	Bald Eagle
Pakesh'tsheke'u	Swift-flying Hawk
Pe'kike'kune	Winter Hawk
Ke'shewa'toshe	Sparrow Hawk
Maq'kwoka'ni	Red-tailed Hawk
Kaka'ke	Crow
Inaq'tek	Raven

**Thunder Phratry:** Freedom and justice.

<b>Moqwai'o wi'dishi'anun - Wolf phratry (Clan)</b>	
Moqwai'o	Wolf (principal clan)
Anam'	Dog
Apahsos	White-tailed Deer
Wakoh	Fox
<b>Wolf Phratry:</b> Hunting and gathering.	

<b>Mo's wi'dishi' anun - Moose phratry(Clan)</b>	
Mo's	Moose (principal clan)
Oma'skos	Elk
Waba'shiu	Marten
<b>Moose Phratry:</b> Community or individual security.	

Fig. 4. Menominee Clan System.

### *Political history*

According to history, the first 'White' interaction with the Menominee began with Jean Nicolet, a French explorer, in 1634, near Green Bay (Menominee Historical Dept., 2009). This encounter was the beginning of the 'Fur Trade Era' and also the beginning of many changes for the Menominee Tribe. The Menominee became dependent on the trade goods and upon the French traders, who brought them. The western Great Lakes area, including Wisconsin, was dominated by the French from approximately 1630 to 1760. The worst impact on the tribal groups was the diseases that the Europeans brought with



them. These diseases were extremely dangerous, often deadly, to the tribes because they had no natural immunity or cures available. Over time the Menominee's whole lifestyle was changed; they acquired new wants and new habits, which had serious impacts on their system of government, especially the clans. "The first peace treaty was made between the US Government and the Menominee Tribe, which occupied about eleven (11) million acres in what, is now Wisconsin and upper Michigan" (Menominee Historical Preservation, 2009). In 1831 the treaty of Butte des Morts signed over half a million acres of Menominee land to the New York tribes, the Oneida and Brotherton.

When the Wisconsin Territory became a state in 1848, the United States wanted to remove the Menominee from within Wisconsin. In 1850, Chief Oshkosh, a revered Menominee leader, and several U.S. government officials left from the town of Oshkosh for Crow Wing, Minnesota. They went at the request of the federal government to look over the area and to make plans for moving the Tribe to this new country. When they returned from Crow Wing country the Menominee chiefs immediately began to press for new terms in the 1848 treaty. Before these negotiations were settled, the Tribe was allowed to temporarily occupy an area between the upper Wolf and Oconto Rivers. In 1852, the U.S. government garnered legal authority with permission to move the bands of Menominee to what is their current Reservation.

In 1856, the U.S. government contrived the Menominee to sign over two townships for the Stockbridge Munsee who were removed from the New York area for relocation in Wisconsin. The General Allotment Act of 1887 provided for allotment of Indian Reservation lands throughout the U.S. nation to tribal members with their consent. The Menominee Tribe chose to hold the lands of their Reservation in common as tribal

lands. “The churches strongly supported the Allotment Act as the best means available of Christianizing the tribes and ending their cultural ways” (Deloria, 1969, p. 47). President Theodore Roosevelt applauded the General Allotment Act as “a mighty pulverizing engine to break up tribal mass” (Roosevelt, 1901).

Timber had become a vibrant part of the national economy and the non-Menominee were interested in natural resources on the Reservation (Strategic Plan, *Omaeqnomenewak*, 2007). The Tribe influenced Congress to pass the LaFollette Bill in 1908. This bill established a sawmill on the Reservation, and initiated a selective logging system based on sustained-yield practices, meaning no more logs could be cut than are planted in a single year. The Bureau of Indian Affairs (BIA) was to ensure that sustained yield management practices were being followed (Strategic Plan, *Omaeqnomenewak*, 2007). “*Oshkosh said the only way we can harvest these trees is by taking the mature and dead trees. So, he advised the process to cut the trees in 40-acre sections by starting on the east of the reservation and then once you came back to the beginning you would move in 40 acres and so on until you came back to where you started because the trees will be mature again to cut. That cycle of cutting in a sustained yield would take 30 years to do and there would be more trees once you began. By cutting out the dead and mature trees was the sustained yield*” (Interviewee 9). The Menominee have been using this sustainable forest management practice successfully for over 150 years, with healthy forests and increasing yields for which the Tribe is world-renowned. “*One of our chiefs, Oshkosh, told us that when we are going to log, that these trees are the spiritual forms that we pray to. These trees are the closest relatives to the woodland tribes. At the*

*beginning of the authorization to cut these trees, I think it was necessary to tell the grandfathers we need them for food and such” (Interviewee 9).*

This philosophy is still used today in all the forest management practices, and can serve as a model of successful indigenous knowledge applied to natural resource management for others. *“It is a mere reflection of the people that occupy the land. Are we doing the things our ancestors will do and have an eye out for the future. We have a strong tradition and the Menominee have a tradition to listen to the past and present and the future. Look at the data and see what is working and not working and incorporate what works for the people and the beauty of the Menominee and we will take what works and what does not we get rid of it” (Interviewee 15). “Well, for on our forest the life blood for the Menominee nation and the wolf is secondary when it comes to sustainability. It is the forest that keeps the culture and livelihood for the Menominee people for so many generations” (Interviewee 16).*

In 1914, Menominee tribal representatives filed a law suit against the United States for mismanagement of the forest within the Reservation boundaries (Green v. Menominee Tribe, 233 U.S. 558, 34 S. Ct. 706, 58 L. Ed. 1093). By 1881, the Menominee Indians on the Reservation were in a destitute condition, and to save them from starvation, the United States granted permission to the Menominee to cut and sell the dead and down timber on the Reservation, with 10 percent of the proceeds to go to the benefit of the said Tribe and those performing labor in that respect. *“Logging is the oldest practice on the reservation and it is still applied into the current management practices today” (Interviewee 8).* Because of their extreme poverty and want of credit, the

Commissioner of Indian Affairs sent a special agent, John A. Wright, to the Reservation, to make some arrangement whereby such conditions could be remedied.

The following description characterizes some terms of legal agreement (Green v. Menominee Tribe, Sec. 565, 1914). “Wescott, the duly licensed Indian trader, at Keshena, Wisconsin, should furnish necessary equipment and supplies to those members of the tribe who desired to engage in logging operations to enable them to carry on such work, and support their respective families while so engaged; such equipment and supplies not to exceed the sum of \$2.50 for each thousand board feet of logs so cut and sold; that all logs cut and hauled by the Menominee Tribe in the logging operations were to be sold through the Indian agent, to the highest and best bidder; and that the prices for such supplies as were to be furnished by the petitioner should be such prices as were being paid in cash for similar supplies in that part of the state, with transportation added; that said Menominee Tribe promised and agreed that such equipment and supplies so furnished should be paid for out of the first proceeds from the sale of the logs so to be cut and sold.” The U.S. Supreme Court decided in favor of the Menominee Tribe and granted them the sum of \$13,087.46. The Court also concluded:

“No agreement shall be made by any person with any tribe of Indians, or individual Indians not citizens of the United States, for the payment or delivery of any money or other thing of value, in present or in prospective, or for the granting or procuring any privilege to him, or any other person, in consideration of services for said Indians relative to their lands, or to any claims growing out of, or in reference to, annuities, installments, or other moneys, claims, demands, or thing, under laws or treaties with the United States, or official acts of any officers thereof, or in any way

connected with or due from the United States, unless such contract or agreement be executed and approved” (Green v. Menominee Tribe, Sec. 2103).

Native Americans who fought in the military during the early nineteenth century were granted citizenship, but the rest of the Native American nation’s members did not become citizens until the Snyder Act on June 2, 1924 made Native Americans citizens of the U.S. (Indian Citizenship Act [H. R. 6355.] 43 Stat., 253). With the help of the Indian Reorganization Act of 1934, Native American tribes returned to local self-government on a tribal basis. The Act also restored to Native Americans the supervision of their assets (being mainly land) and included provisions intended to create a sound profitable foundation for the residents of Indian reservations.

In 1931, the Menominee Tribe hired attorneys to assist in a lawsuit against the U.S. government. Thirteen lawsuits were initiated against the government for losses sustained through the mismanagement of the lumber operation. Most of the lawsuits were for damages caused by the government not following the Act of 1908, The Lafollette Bill, which authorized the Menominees to cut logs under a selective cutting management system by which only physiologically fully matured and ripened green timber would be cut (Menominee Historic Preservation Dept., 2009). Lafollette was the Governor of Wisconsin at the time, and about 20,486 acres of pine-hardwood-hemlock forest had been clear-cut northeast of Neopit.

After seventeen years, the U.S. Supreme Court ruled in favor of the Tribe and awarded the Menominee an \$8.5 million judgment against the federal government for failure on the part of U.S. governmental officials to carry out provisions of the Lafollette Act. *“The Menominee were the first tribe to win against the government back in the early 1900’s and because of this; I believe that the Menominee are punished. So I do not have a high opinion of the BIA and think they should be dismantled as a government agency. Let the tribes manage their own lands without the influence of the White Father in D.C”* (Interviewee 16). Ironically, it was this very image of the Menominee as ‘advanced’ and ‘prosperous’ that marked them to be one of the first tribes to face the federal government's termination experiment.

During 1948-49, the U.S. government began repealing several federal laws with special conditions to regulate Indian conduct, such as prohibiting firearms and liquor on reservations. In 1949, a special Commission report advocated a policy of integration into the rest of the population as a solution to the ‘Indian Problem; (Commission on the Organization of the Executive Branch, 1949). In 1952, Republican Arthur Watkins headed the Indian Subcommittee of the Senate Interior committee. The clearest indicator of the growing movement toward termination was presented by the House Concurrent Resolution 108 (1953). This resolution declared the policy of the United States to abolish all federal supervision of Native American tribes and they would thereafter be held accountable for the same laws, privileges, and responsibilities as all other U.S. citizens. The outcome of this policy was the foundation(s) for an era of termination policy that took away all federal protection from land, religion, and culture. House Resolution 108 became Public Law 280 in 1953.

This new policy granted 'state' jurisdiction over 'civil' and "criminal" offenses committed by Native Americans in 'Indian Territory' in five states, including Wisconsin, that had a large indigenous population (Public Law 83-280 (18 U.S.C. § 1162, 28 U.S.C. § 1360)).

These resolutions quickly passed through both houses of Congress with little opposition. "Unfortunately, the Menominees' image of being one of the 'advanced' Indian tribes in the nation" (Peroff, 1982, pp. 28-29) marked them as a prime target for one of the most ill-conceived congressional experiments in the history of national Indian policy. The first Menominee termination indicator was in 1947 when Zimmerman stated, "The Menominee could be released from federal supervision" (U.S. House Report 2503, 1947).

The BIA began to assemble a list of tribes believed to have the economic prosperity needed to be self-sustaining. At the top of the list was the Menominee Tribe of Wisconsin. One reason the BIA chose the Menominee was that the Tribe had successful forestry and lumber operations that the BIA believed could support the tribe economically.

According to Menominee Tribal records, the Menominee did not vote for "termination," and no one knew what it meant. The BIA Commissioner warned the Tribe that pressure was being placed in Congress to eliminate the Bureau of Indian Affairs, mainly from Senator Watkins of the Subcommittee on Indian Affairs (Menominee Historical Preservation Dept., 2009). In February of 1953, in the 80<sup>th</sup> session of the U.S. Congress, a bill was introduced (H.R. 2828) authorizing a \$1,500 per capita payment to

the Menominees (Peroff, 1982). Watkins personally visited the Menominee Reservation in 1953 (Menominee Historical Preservation Dept, 2009) and stated that the Menominee Tribe would be terminated whether they liked it or not, and if they wanted to see their \$8.5 million, they had to cooperate with the federal government. Given this coercive threat, the Tribal Council reluctantly agreed to provide for a per capita distribution of the Menominee tribal funds and to authorize the withdrawal of the Menominee Tribe from federal jurisdiction. “After Senator Watkins left, the General Council came up with a resolution and asked for a five-year transition period before complete termination” (Peroff, 1982, p. 55).

House Bill 2828 was amended in July 1953, allowing the five-year transition period. Congress passed a Termination Act in 1954 that officially called for the termination of the Menominee as a federally recognized Indian tribe (Menominee Historic Preservation Dept., 2009). With the signature of President Eisenhower on June 17, 1954, House Bill 2828, as amended, became Public Law 399, 83<sup>rd</sup> Congress, as the “Menominee Termination Act” (Peroff, 1982, p. 58). *“I remember when President Eisenhower signed the termination bill in 1954 that was a blow”* (Interviewee 20).

Termination for the Menominee did not happen immediately. Termination arrived for the Tribe on April 30, 1961, and it was evident from the start that termination was doomed to failure. The Menominee Tribal rolls were closed as a result of the Termination Policy. This meant that any Menominee child born during 1954-1973 was not considered an Indian, apparently for assimilation into mainstream American society. *“One day I was an Indian and then the next I was not, and then I was an Indian again”* (Interviewee 20). Wisconsin Governor Gaylord Nelson supported the Menominee Termination and signed



the Termination Policy for the Menominee Indians. “*We still have a lot of resentment because of termination*” (Interviewee 19).

In 1962, the State of Wisconsin declared that the Menominees were subject to its conservation regulations. “The State also argued that the Termination Act had abrogated Menominee hunting and fishing rights granted the Tribe under the Treaty of the Wolf River in 1854” (Menominee Tribe v. United States, 1968). The Menominees brought suit against the State, claiming that their treaty rights had not been nullified by the Termination Act. Wisconsin’s Supreme Court turned the case over to the Federal Court of Claims. The United States Supreme Court agreed to hear the case, and in a six-to-two decision ruled that both the Termination Act and Public Law 280 provided that the Tribe should not lose any hunting or fishing privileges afforded under any previous federal treaty or agreement (Washburn, 1973). With termination thrust upon the Menominee, the sale of Menominee lands promoted the formation of a grassroots group known as ‘Determination Rights and Unity for Menominee Shareholders’ (DRUMS). DRUMS protested the mechanism of termination and renewed a sense of the Tribe’s political and cultural identity (Strategic Plan, *Omaeqnomenewak*, 2007). This began the steps toward restoration of the Menominee people. DRUMS and other Menominee members marched to Madison, Wisconsin to increase awareness of the termination and its negative effects during the past decade (Strategic Plan, *Omaeqnomenewak*, 2007).

Indirect support for restoration to federally recognized tribal status soon emerged from the Nixon administration. On July 8, 1970, President Nixon sent a message to Congress outlining his opposition to the policy of termination (Peroff, 1982). The President recommended that Congress adopt a new policy to provide for Indian self-

determination “without termination of the special federal relationship with recognized Indian Tribes” (Nixon, 1970). Other actions of the Nixon administration suggested a shift toward a more sympathetic Indian Policy. The President recommended Indians for more eligibility from revenue-sharing funds and more tribal self-government.

Congress argued that too much self-determination could result in the Menominee Tribe’s mismanagement of its own affairs, which could in turn lead to bankruptcy of the lumber industry or the dissipation of other tribal assets (Peroff, 1982, p.221). Granting an unprecedented amount of self-determination to the Menominee would encourage other tribes to demand the same authority. This is precisely what occurred, as with the 1968 hunting and fishing case, and sent nervous tremors throughout the BIA. By 1972, the Menominee Restoration Bill was introduced into both the U.S. House and the Senate. Hearings were held in Keshena, Wisconsin on May 25 and 26, 1973, and hearings were conducted in Washington D.C. in June, 1973 (Peroff, 1982, p. 225). The Menominee Restoration Bill passed the House on October 16, and passed unanimously by the Senate Committee on Interior on December 7, 1973. As a result of regaining tribal status, title to the Menominee's land is again held in trust by the federal government. President Nixon signed the Menominee Restoration Act on December 22, 1973 (Figure 5).



Fig.5. The only Menominee member to meet President Richard Nixon regarding the Restoration Act (1973) was Atlee "Nick" Dodge. Photo courtesy of Menominee Historic Preservation Dept (2008).

With the restoration of Menominee tribal status, title to the land was once again transferred to the Secretary of the Interior to be held in trust for the Menominee people. This accomplished two things. First, it removed the tremendous tax burden that incurred when the Menominee lost Reservation status. Second, the lands were better protected through the power of the Secretary. In trust status, the lands cannot be sold or traded without congressional approval. As part of the Restoration process, the Tribe entered into the 1975 'Trust and Management Agreement' with the Secretary of the Interior.

The Agreement gave the Menominee Tribe the right to manage its forests (Self Determination Act 1979), but with the provision that the Tribe cannot sell or trade land without Congressional approval (Trust Land). "The Agreement, which is still in effect,

requires the Tribe to develop and follow a “Forest Management Plan” which . . . details the harvest schedule, the compartment cutting system, the silvicultural prescriptions, and the monitoring system which provides information for determining the annual allowable cut of timber” (Davis, 1993). The only responsibility the BIA has is to oversee projects to make sure the management practices are in compliance with federal regulations.

#### **4.2 Interview results**

Twenty-nine individuals were interviewed on the Menominee Reservation in the summer of 2008 to elucidate insights and perspectives on indigenous knowledge practices and approaches as perceived and/or used by the Menominee people. This section features the results of the cluster analysis performed using the interview transcriptions. In Figure 6, Cultural Preservation (25%) was the cluster that generated the greatest response, followed in importance by Governmental Interactions (24%), Ecological Integrity (22%), and Social Justice (19%). At a 10% response rate, less than half as important as the top three clusters, Economic Viability appears to be of lesser concern than any of the other aspects.

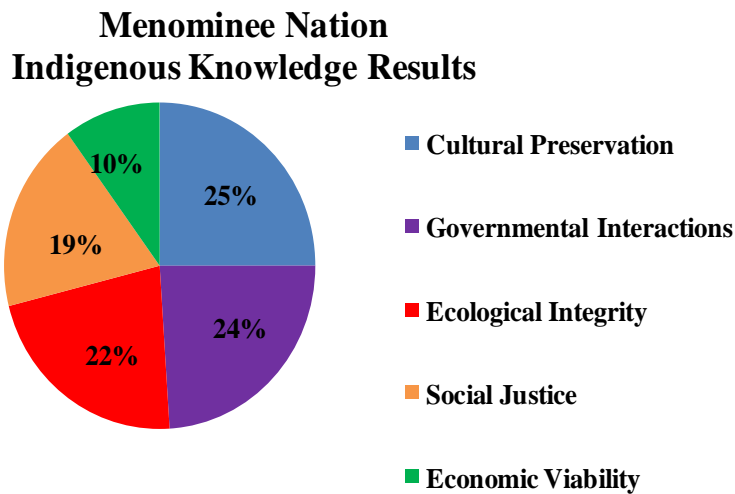


Fig. 6. Cluster analysis results for Menominee interviews.

These thematic clusters reflect the values and beliefs of what is important to the Menominee people, and the interview responses represent their personal and cultural system of who they are and what they believe in. All natural resource management practices, techniques, and management tools used traditionally by the Menominee stem from and reflect their basic belief system, spirituality, and culture based on indigenous knowledge.

The Economic Viability cluster scored the lowest ranking of perceived priorities. A plausible reason(s) for this finding may be that the current timber and gaming markets are depressed with the current global recession. Another possibility is that the Menominees interviewed simply perceive values other than economics as more important in their lives and culture. An example of this perspective is if current management practices are harmonious with traditional IK beliefs, then the interviewees are happy and

express positive comments; if current management practices are not harmonious, then the interviewees perceive that something is not right, they are not happy and they express that what is needed is to restore the traditional ways. Some of the problems voiced were current logging practices, tribal government not listening to elders, importance of knowing Menominee culture, and remembering the next generations.

The Menominee history of sustainability has been in practice at least 150 years under Chief Oshkosh's philosophy of forest management. Another main reason for the strong IK on the Reservation is the one-on-one relationship with the environment. From the interview responses, there are clear implications of this value by the oral traditions and the people who still practice this way of life. Most of the interviews include respect for Mother Earth and how important it is to offer tobacco to thank Her for the gifts (maple sugar, agricultural crops, forests, as well as fishing, hunting, and gathering). Not everyone on the Reservation follows this IK pathway because they were not brought up with these traditions, or they are families who have returned to the Reservation from the cities and never knew their culture or traditions. This lack of indigenous knowledge is a concern for some elders because these families of the "artificial universe" of the cities have no understanding for IK practices. There are now cultural camps that teach children the traditions of the Menominee, and Menominee language camps to teach the language and of the plants and animals to help Tribal members understand their environment and to carry on healthy, respectful relationships with nature. There are tribal ordinances that require the Menominee language to be taught from pre-school through college. The College of Menominee Nation, and the Language and Culture Commission teach the Menominee language to the community. The concerns and problems with sustainability

were expressed as the way sustainability is being approached by the Menominee Tribal Enterprises (MTE), the Tribal Council, and other tribal departments that deal with sustainability and natural resources on the Reservation.

Some of the interviewees believe that there is not enough notice when meetings on natural resource or sustainable projects are taking place because most people do not have access to computers where the times are listed. This lack of communication makes it hard for the members temporarily off the Reservation. Most of the responses indicated concerns and what they feel needs to be addressed on the Menominee Reservation regarding current and past sustainable practices (full interview transcriptions are in Appendix A). Some of the concerns are that the current Tribal Council is not listening to the elders or asking the community for input into their decisions on economic development and sustainability issues. *“The elders’ voices are not being heard on the tribal council and they (tribal council) are missing the important concepts of the messages of the people. Remember that one person may be carrying a voice for seven people; You need to listen”* (Interviewee 7). *“It’s sad that no one else listens to the elders and goes to them for the knowledge, but it’s the outside influence that makes us forget our culture ways”* (Interviewee 1). *“I strongly feel that is necessary that we listen to our elders of the Reservation and have our current government take the time and learn about the culture and language before they can make the decisions for the people. So many times the tribal government has done things without the knowledge of the community for example is taking the woods out of sustain yield for economic growth”* (Interviewee 7).

These concerns come from interviewee responses discussing the current practices (forestry and cultural matters) taking trees out of sustained yield for the casino and strip

mall extension. *“I do not walk through the woods a lot but when we do; I can see the damage of the clear-cutting and what it is doing to the wildlife. I wish the Tribe would have given us the opportunity to take the medicine and trees down by the casino”* (Interviewee 19). An elder who is also very concerned about the current practices and decisions of the tribal government gave the following response. *“The area down by the casino makes my heart weep because the tribal government did not let the people go in there and move the medicine plants, trees, and other cultural items before they wiped out 40 acres to the bare soil. They did not even tell us that they were taking the woods out of sustained yield until the trees were gone!”* (Interviewee 20). Another interviewee expressed great concern for the elders in what the current Tribal Council is doing to the people. *“There is **no** [emphasis by interviewee] public information on what MTE is doing or what they are cutting. An example of this is over by the casino where no one knew that the woods were taken out of sustainable yield which takes them (the woods) out of protection. The political needs to be fixed and they need to ‘open ears’ because the current council has ‘deaf ears’. We need to stop putting our eggs into one basket with the casino projects because soon or later the State will get tired of the gambling then what will we do? We need to be thinking about our future generations like our ancestors did when the Reservation was created back in the 1800’s”* (Interviewee 7).

From these next set of interview responses, some problem(s) were noted dealing with current logging practices and loss of biodiversity on the Reservation. *“My main fear is the poisons (oil and gas spills from loggers) that are being dumped into the soil that is affecting the water tables and the lakes have water milfoil and our fish are endangered because of the outside influences of the government”* (Interviewee 2). *“I do see a*



*decrease in some of the biodiversity because of the current clear-cutting practices”* (Interviewee 4). *“The current practices are overlooking what has sustained our reservation for 150 years. Let the forest renew itself after the cuttings. I think the practices are hurting the reservation. There are people trying to fix the problem by tree plantations, but I will never see them in my lifetime or yours. They are cutting down all the old trees and they rot in the mill yard and I do not think the practices are helping at all”* (Interviewee 1). Another response regarding the status of biodiversity on the Menominee Reservation came from an elder who had worked in the woods for over forty years. *“I sit here and see about fifteen to twenty trucks coming from the mill hauling our best logs off the Reservation to be processed. How come we cannot keep them for us instead of getting the junk wood? Chief Oshkosh gave us directions to keep the woods for the Menominee people. The new clear-cutting practice is bad. All over they are cutting is bad and they were supposed to stop this a long time ago”* (Interviewee 23).

The examples above demonstrate the need to understand the concerns for communication and the importance of the elders’ knowledge before they pass on. The key is to include the elders and the community before making final decisions, especially on economic proposals and projects.

Not all of the interviewee responses were negative about the current IK practices. When asked questions about what is being done currently to enhance the awareness of IK, the next set of responses showed the rich diversity and culture on the Menominee Reservation. *“The Historical Preservation Office works closely with the forestry department when dealing with cultural sites. The director does walk-overs looking for sites that might have been a village, gathering site, burial grounds, or any evidence of*

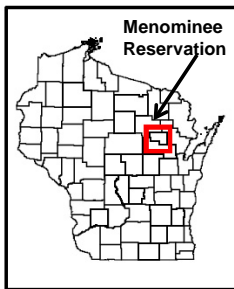
*human activities. Now that NAGPRA is in charge of protecting all sites from being exploited from logging activities, some areas of the Reservation are protected from any human contacts because of the traditional burial grounds and the medicine that is in these sites” (Interviewee 1).*

This next response came from an elder. *“IK is our cultural ways and we incorporate this in our daily lives everyday, by praying to the Creator for the gifts he gives us. Before we do anything we offer tobacco for the things we do (fish, hunt, and gather plants, swim, and our feasts) are all examples of the things we do in the tribal community” (Interviewee 9). “I think there is and the more we study ourselves and the work you are doing is so valuable because if you know your language, culture, traditions, and people you are not living on a island, that knowledge is not just kept with that family. When we share we enhance what we believe and there is a lot of young people who want to study the logging industry, wildlife, plants aquatics for the purpose of continuing the IK and key to our existence” (Interviewee 15). “The most influential thing was the fire suppression for so many years starting about 1905 and because of this it has decreased the species and their habitats because you are not allowing new trees and natural selection, so you are suppressing your plants and trees that need fire to survive and the open space and your shade tolerant species. Now that we are using fire you can see the land coming back to its historical ways. It is important to use fire as a tool to help with the diseases and insects that are threatening the woods like gypsy moths, pine beetles, purple loosestrife, buckthorn, garlic mustard, etc.” (Interviewee 18).*

#### **4.3 Lessons learned for IK-based natural resource management.**

The Menominee are well-known for the philosophies and sustainability practices of their logging industry. From the interviewee responses, there is a strong, deep respect for the environment and the gifts the Creator left the Menominee (e.g., sugar maple, wild rice, sturgeon, harvesting, medicinal plants and herbs, and the various hardwoods throughout the Reservation), which are incorporated into their daily lives. Fire Management is becoming a major management tool. The Menominee Fire Team is looking at historical maps of fire management that was used before fire suppression. They are reintroducing fire to these areas and completing restoration projects to bring back the traditional berry harvest. Interview responses indicate a strong sense of wanting to continue in the traditional ways of our ancestors, remembering the generations to come. As cautioned in one of the Menominee legends - once the language and culture are gone, so are the Menominee people. The interest in learning and retaining the language is very strong among the community members and some of the youth and young adults are speaking the language fluently, as reported from some of the interview responses. The Language and Culture Commission is leading by having language classes and programs to have more fluent speakers on the reservation. The Menominee Historical Preservation Department has been digitalizing old cassette and other recordings of the elders speaking or teaching the Menominee language. With the culture camps, knowledge of the woods is returning. The people remember their oral traditions and the teachings of the elders by putting their tobacco down to remember the spirits and giving thanks for harvesting of a tree for shelter, maple sugar, or anything harvested from the Earth. Tobacco among the Menominee is very important and used daily among the people who practice IK.

Lessons learned are featured through the cultural practices of fish management, celebrations of the seasons, fire management, wild rice harvest, and many more examples of IK on the Reservation (see Figures 7 and 8 featuring two-page fact sheet brochures at the end of this chapter). These fact sheets can be used by the general public and resource managers to understand what IK is and how it is being incorporated into the lives and lands of American Indian tribes in Wisconsin. These are simple things that the public can do like put down a pinch of tobacco when harvesting, gathering, or partaking of any type of sustainable resource project; thanking the Creator for the gifts and being grateful for allowing us to use the land and have a relationship with it instead of the materialistic approach. From the results and interview responses, there are positive steps towards incorporating indigenous knowledge into sustainable development. The lessons learned from this case study show the importance of culture, survival, self governance, and community involvement, and a great sense of pride to be Menominee.



State of Wisconsin

## Menominee Indigenous Knowledge for Sustainable Natural Resource Management



*Following nature's pathway  
to a sustainable future....*

### Educational fact sheet featuring Menominee lessons learned

Menominees are renowned for excellent forest management on their ancestral lands. This fact sheet features examples of Menominee IK approaches to natural resource management.

Indigenous Knowledge-based natural resource management is rooted from personal observations and experiences passed down through generations.

This respect for Mother Earth sustains the Menominee people and all other people. Menominees are proud that they have lived forever in their home land and will always be here.

For respectful peace of mind for anyone to enjoy in a natural setting:

- Place a pinch of tobacco down for the spirits and Mother Earth.
- Acknowledge the environment and respect the gifts given to us.
- Talk and learn nature's way from elders.





Maple Sugar Production

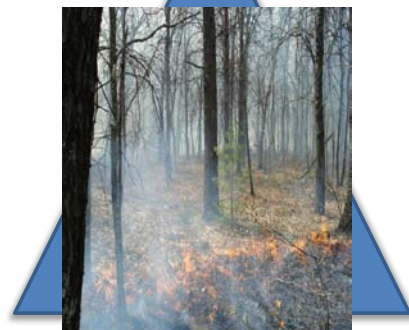
Maple sugar was one of the gifts from the Creator. To this day maple sugar production is a 'hands-on' spring ritual taught on the Reservation via oral traditions in perpetuity.

Through 'sugar camps' maple trees help strengthen the sense of community and provide income for families who participate in this indigenous knowledge practice for healthy food and medicine from the forests.



Fire has been an important forest management tool of the Menominee since the origin of the Creation stories. Fire helps reduce invasive species and increase biodiversity.

Prescribed burns are used to encourage specific plants and ecosystems that sustain wildlife and meet needs of the Menominee people.



Fire Management

Sustainable Forest Management



Chief Oshkosh



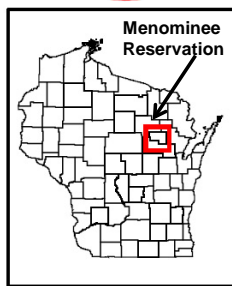
Chief Oshkosh articulated his concept of sustained yield forestry to guide the Menominee in their management of Reservation lands as follows:

*'Start with the rising sun and work toward the setting sun, but take only the mature trees, the sick trees, and the trees that have fallen. When you reach the end of the Reservation, turn and cut from the setting sun to the rising sun and the trees will last forever.'*

Source: Menominee IRMP, 2007.



Fig. 7. Menominee IK-based fact sheet (1) of lessons learned on sustainable natural resource management.



State of Wisconsin

**Menominee  
Indigenous Knowledge  
for  
Sustainable  
Natural Resource  
Management**



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Fish Management

The Menominee celebrate the annual sturgeon spawning migration. It is a time of renewal and illustrates that the fish are performing their duties to reproduce and to provide food for other beings, including people.

The spring sturgeon spawning run is a sacred time for the Menominee. It relates to the process by which the Creator has gifted each species with a purpose. We must learn what that purpose is with respect and thanks to the Creator for providing it.



Celebrations of Harvest

The Menominee celebrate changing seasons with Pow Wows to give thanks and re-affirm community.

Some of the celebrations include the Sturgeon Feast where they honor the spirits of the Wolf River, and other ceremonial services follow the moon and harvest seasons honoring the spirits and Mother Earth. In the fall it is time to celebrate the veterans and honor the elders.

Wild Rice Harvesting



The Menominee people are known as 'Omaeqnomenewak' (People of the Wild Rice), who comprise a strong, healthy, and proud nation since the beginning of time in the Great Lakes region.

Annual wild ricing rituals help sustain Menominee people and their rich cultural heritage that values wisdom of elders and ancestors; joy, hope and innocence of children; and nurturing of Mother Earth.

Menominees strive to promote their tribal language, tradition, history and culture.

Source: Menominee Strategic Plan, 2007.



Fig. 8. Menominee IK-based fact sheet (2) of lessons learned on sustainable natural resource management.



## Chapter 5. BAD RIVER BAND OF LAKE SUPERIOR OJIBWE CASE STUDY

### 6.1 Location and cultural history

The Bad River Reservation in northwestern Wisconsin is the largest Chippewa (Ojibwe) Reservation in the state (Bad River Band of Lake Superior Chippewa Indians, 2009). The Reservation includes lands in Ashland and Iron counties, 17 miles of Lake Superior shoreline, and over 100 miles of rivers and streams totaling 124,655 acres of primarily undeveloped and wilderness land of which 57,884 acres are in trust (Figure 9).

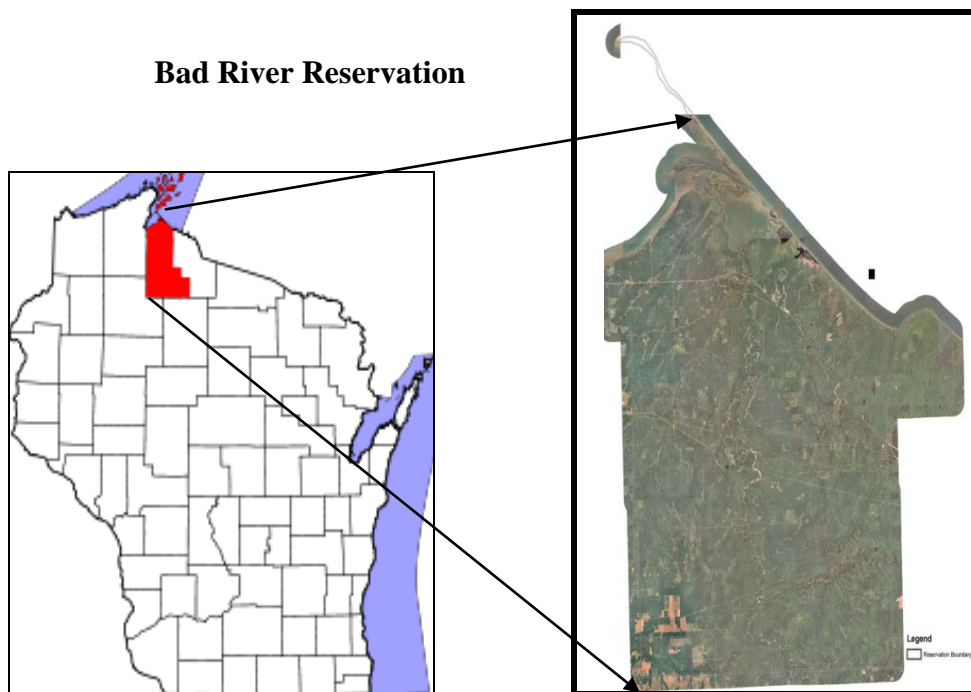


Fig. 9. State of WI and Bad River Reservation boundaries (left): Rich biodiversity of largely intact and undeveloped wilderness on the Bad River Reservation (right). Map on right made and permission to use by Bad River Conservation Dept., 2009.

Odanah, the Ojibwe word for town, is the main village located 10 miles east of Ashland, Wisconsin along U.S. Highway 2. It is the government seat for the tribe (Bad River Report, 2006) (Figure 10).

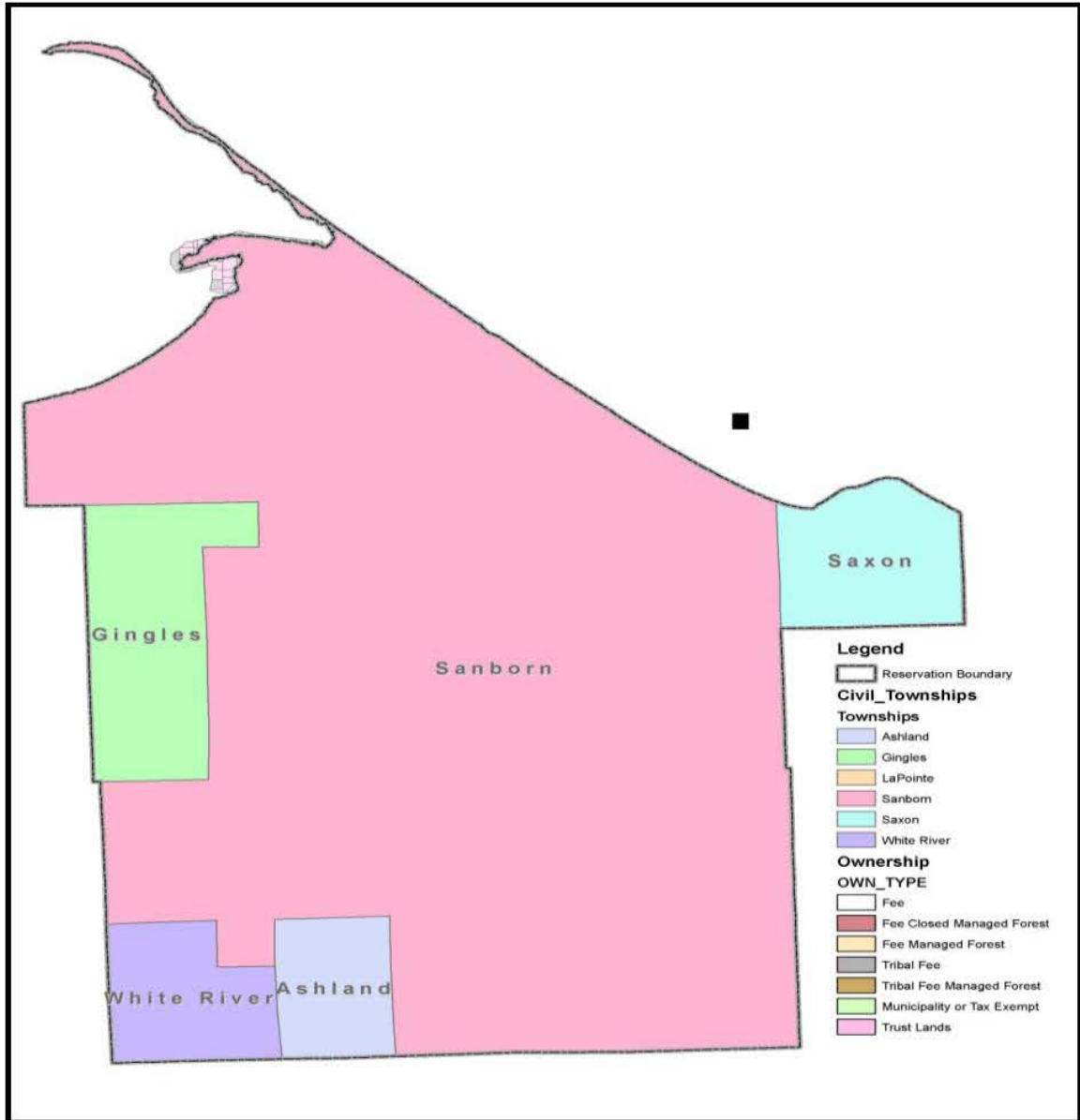


Fig. 10. Townships of the Bad River Reservation. Map generated and permission to use by the Bad River Conservation Dept., 2009.

According to the Bad River Band of Lake Superior Ojibwe Report of 2006, the Bad River Reservation totals 124,655 acres. Featured in the following categories are the percentages of the Bad River Reservation divided into Trust, Fee, or Owned land(s).

- 57,884 (46.4%) acres tribally owned land;
- 34,051 (27.3%) acres considered fee land (Land Taxed);
- 26,813 (21.5%) acres considered other fee land (Trust or Sustained Yield Lands).

The 2001 U.S. Department of Census Bureau Report stated that there were 6,800 people living within the Reservation boundaries. The Chippewa (also known as the Ojibwe or Anishinabe) Indians of present-day Wisconsin are the descendants of a northern Algonquian people who originally lived in an extensive area, mainly north of Lake's Superior and Huron. They occupied the Great Lakes region long before Europeans arrived (Ritzenthaler, 1978). Some of the earlier settlements of the Ojibwe were near Green Bay, Mackinac, and Fond du Lac, Wisconsin. The Ojibwe country in the United States and Canada encompasses an expanse of land from the eastern end of Lake Ontario westward to the vicinity of Lake Winnipeg in Manitoba and the Turtle Mountains in North Dakota; a range greater than that of any other Indian people in North America (Ritzenthaler, 1978; Tanner, 1976).

The Ojibwe were primarily hunters and trappers along with fishing, gathering wild rice and tapping trees for maple sugar. Life revolved around the annual changing of the seasons. Trading with European settlers began in the seventeenth century with furs exchanged for guns, ammunition, metal traps, kitchen pots, and blankets. The Ojibwe soon became dependent on these goods for their daily livelihoods (Satz, 1991).

### *Political history*

Not until after the American Revolution did the new U.S. government initiate its control of this tribe as expressed in the following quote: “Indian resentment of American methods for acquiring land together with efforts to maintain peace on the frontier” (Satz, 1991,). For the Ojibwe nation, control began with the Northwest Land acquisition in 1787 by ‘consent’ implied the negotiation of formal treaties. The first treaty negotiated by the Washington administration with the Ojibwe nation and other Great Lakes tribes was the Treaty of Greenville of 1795. It declared peace between the United States and the Indians of the Great Lakes: “the Indian tribes who have a right to... [unceded] lands, are quietly to enjoy them; hunting, planting, and dwelling thereon so long as they please, without any molestation from the United States” (Kappler, 1904-41, p.). This Treaty was followed by both parties until President Andrew Jackson signed the Indian Removal Act of 1830 that targeted Indians of the Great Lakes region (Satz, 1991). In 1836, the Wisconsin Territory was organized (Tanner, 1987).

Once the Wisconsin Territory was organized, the United States wasted no time in obtaining Indian Lands in Wisconsin and the Ojibwe were disrupted by the Pine Treaty of 1837 that ceded their lands into five different sections totaling 60,000 acres of white pine (Satz, 1991). The treaties of 1842 and 1854 ensured that the Ojibwe bands would not be faced with the loss of off-Reservation resource access (hunting, fishing, and gathering). The Ojibwe lands continued to be reduced with the discovery of copper, an expanding timber industry, and talk of Indian removal to west of the Mississippi River, which was to become a reality for the Ojibwe nation. In the fall of 1848, 16 Lake Superior bands of Ojibwe marched to Washington D.C. to try to end additional talk about their removal

(Satz, 1991). The argument of the Ojibwe delegates was that because the Ojibwe never shed any whiteman's blood and obeyed the laws of 'Great White Father' the Ojibwe should not have to move. After consideration, removal of the Ojibwe to Minnesota was suspended (Satz, 1991). In 1852, Chief Buffalo led another delegation to Washington D.C. armed with a petition supporting the Ojibwe cause. Chief Buffalo met with President Fillmore. President Fillmore's decision was to allow the bands of the Ojibwe Nation to remain in the State of Wisconsin along with the Menominee Nation (Satz, 1991). In 1852, reservations were created for Bad River, Red Cliff, Mole Lake, St. Croix, Lac du Flambeau, and Lac Courte Oreilles (Figure 11).

In 1856, farming supplies were sent to Bad River missionaries because Bad River had better soil conditions than other areas designated for reservations. It took some twenty years before all of the reservations granted in the 1854 treaty were selected and surveyed (Kappler, 1904-41; *Madison Weekly Democrat*, 1878a). Many of the Ojibwe people still engaged in their traditional practices. Some of the problems for the Ojibwe were squatters on cutover lands or on tax-delinquent lands belonging to various counties (Satz, 1991). Against huge odds, the Ojibwe Nation retained a portion of their homeland at Bad River, Red Cliff, Lac du Flambeau, and Lac Courte Oreilles as a result of the 1854 treaty agreement (Lurie, 1987; Levi, 1956; Erdman, 1966; Danziger, 1979; Masinaigan, 1985; *Wisconsin State Journal*. 1990). "*The Reservation became in 1854, which began to regulate the people. When I was a kid we use to go and camp for weeks during harvest times, but today no one does this except the traditional ones*" (Interviewee 2). In 1881, Congress specifically recognized the validity of existing treaty obligations (Kappler, 1904-41; Priest, 1942; Cohen, 1982). "Ojibwe usufructuary (trust responsibilities) rights

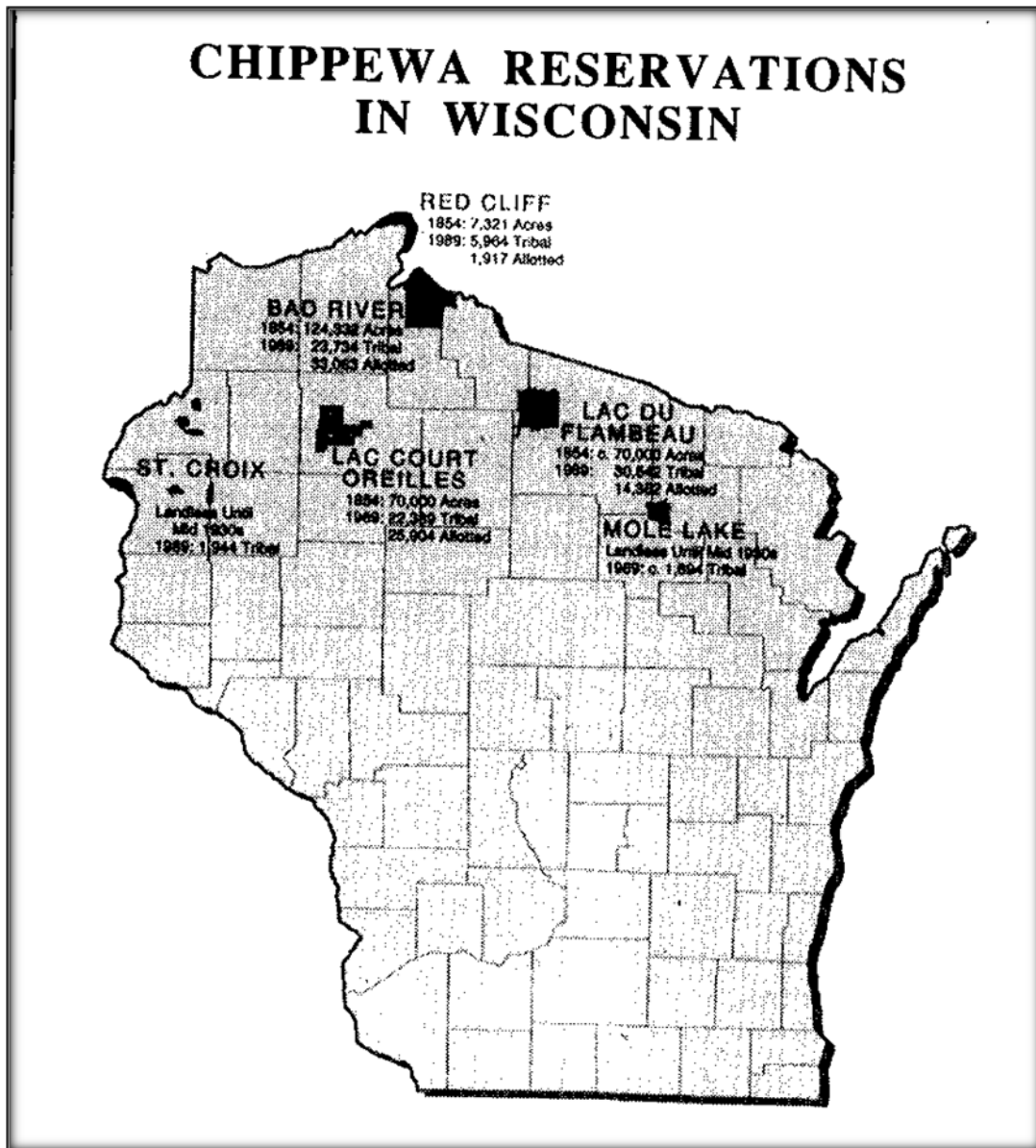


Fig. 11. The Ojibwe Reservations created during the treaty period(s). Map by Sean Hartnett; data from Lurie (1987) and Bureau of Indian Affairs, Great Lakes Agency in Ashland, Wisconsin (Staz, 1991).

in ceded territory as reserved in the treaties of 1837 and 1842 remain in effect” (Satz, 1991). Figure 12 depicts all the ceded land from the Treaties made with the United States. The ceded territories are where the Ojibwe people are allowed to practice their traditional hunting, fishing, and harvesting, off their Reservations.

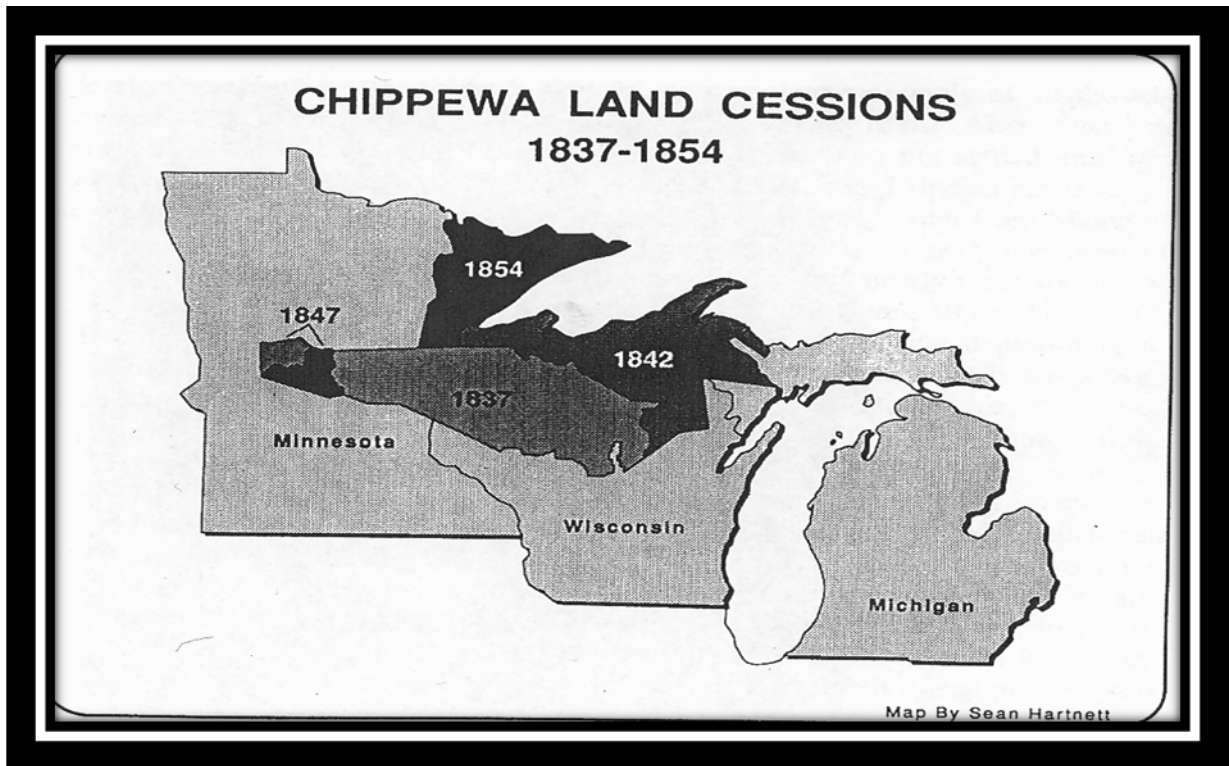


Fig. 12. Chippewa Land Cessions 1837-1854. Map by Sean Hartnett; land cessions associated with the treaties of 1837, 1842, and 1854 are depicted (Staz, 1991).

This statement came after the BIA was adopting stricter regulations, attempting to keep the Ojibwe on the Reservation to hunt, fish, and gather. By the end of the 19<sup>th</sup> century and delineation of their Reservations the Ojibwe continued to follow their traditional hunting and gathering practices on and off their Reservations. Now that the Reservations fell under federal jurisdiction, the general trend of the State of Wisconsin government was to enforce the state laws to include Indians as long as those laws did not interfere with federal laws. An example is from 1849 when a State statute prohibited the sale of intoxicating liquor to Indians. The statute was reenacted in 1858 and again in 1878 (Wisconsin Supreme Court, 1879a). Not only did the state enforce this statute, they also harassed Indians who attempted to exercise their right to hunt and fish in the ceded territories (Satz, 1991).

In 1901, the Wisconsin state legislature delivered a major blow to the Ojibwe Nation. For the next 75 years, the Supreme Court refused to acknowledge the trust responsibility of a full-blooded Ojibwe arrested for hunting and/or fishing off the Reservation. The Supreme Court argued that by ignoring its treaties with the Ojibwe, this would allow the State of Wisconsin to exercise its sovereignty rights to regulate the rights of hunting and fishing (Wisconsin Supreme Court, 1908). Not only was this a dark cloud over the Ojibwe people, the State of Wisconsin continued to encroach upon tribal sovereignty and reserved treaty rights. In 1916, the court cited 1849, 1858, and 1878 statutes to uphold prohibition of the sale of intoxicating liquor to “all full-blood Indians” whether or not they belonged to a tribe (Wisconsin Supreme Court, 1916). The creation of the Indian Reorganization Act (IRA) in 1953 gave self-government back to the Ojibwe Nation. The Tribe took some steps towards self-determination, but did not succeed. *“After WWII, the people started selling the green rice as a means to support themselves because the unemployment was so high and people need to eat”* (Interviewee, 2). In 1953, the organization of Public Law 280 (PL 280) was a substantial transfer of jurisdiction from the federal government to the states in Indian country. This transfer of jurisdiction was required (or mandated) for the states specifically mentioned in the Act. It also permitted other states an option to acquire jurisdiction. Indian Nations, on the other hand, had no choice in the matter (Melton and Gardner, retrieved 2009). PL 280 was an invitation for the State of Wisconsin to enforce the full gamut of its criminal laws on reservations, simultaneously, the “state accelerated its crackdown on Indian hunting and fishing” (Monette, 1990; Wilkinson, 1990). Because of the “unjust arrests” on the Ojibwe reservations, the Bad River Tribal Council proclaimed a “Declaration of War” in 1959 (Bad River Tribal Council, 1959). This “cold war” did not last long; in 1966 Attorney General Follette declared “treaty rights were still in force on the



Reservations and the State's conservation laws only apply when the Ojibwe were outside their Reservation boundaries" (Erdman, 1966).

In 1968, the Menominee Nation won a major case in the United States Supreme Court that finally defined the trust responsibilities of the treaties regarding hunting, fishing, and gathering on Reservation lands. *Menominee Tribe v. United States*, 391 U.S. 404, 88 S. Ct. 1705, 20 L.Ed.2d 697 (1968), brought action against the United States to recover damages for alleged loss of hunting and fishing rights on their Reservation in Wisconsin. The delivering argument was from Supreme Court Justice Douglas, who held that the hunting and fishing rights granted or preserved by the Wolf River Treaty of 1854 between United States and Menominee Tribe of Indians survived the Termination Act of 1954, providing that after transfer by Secretary of title to the property of the tribe, all federal supervision was to end and laws of several States shall apply to a tribe and its members in same manner as they apply to other citizens or persons within their jurisdiction. The Menominee argued that the 1954 treaty did not terminate the hunting and fishing rights within the Reservation borders and that jurisdiction did not fall to the State because PL 280 was only for criminal jurisdiction. The court concluded:

"It is therefore argued with force that the Termination Act of 1954, which became fully effective in 1961, submitted the hunting and fishing rights of the Indians to state regulation and control..." The same Congress that passed the Termination Act also passed Public Law 280, 67 Stat. 588, as amended, 18 U.S.C. §1162... As amended, Public Law 280 granted designated States, including Wisconsin, jurisdiction 'over offenses committed by or against Indians in the areas of Indian country' named in the Act, which in the case of

Wisconsin was described as 'All Indian country within the State, \* \* \* shall deprive any Indian or any Indian tribe, band, or community of any right, privilege, or immunity afforded under Federal treaty, agreement, or statute with respect to hunting, trapping, or fishing or the control, licensing, or regulation thereof.' [\* \* \* Emphasis added]

The Supreme Court case involving the Ojibwe came in 1974 with the Lac Courte Oreilles Band of Chippewa Indians v. Voight. In 1978, Federal Judge Doyle ruled against the Ojibwa. In the following year the Lac Courte Oreilles appealed to the U.S. Court of Appeals for the Seventh Circuit Court, which in 1983 reversed Judge Doyle's decision and reaffirmed the sanctity of the treaties and the right of the Indians to hunt, fish, and gather on and off Reservations on public lands. This came to be known as the Voight Decision or LCO 1. Then, in 1987, Judge Doyle ended the 1983 decision by stating that the "Chippewa bands to exercise their trust responsibilities to harvest nearly all varieties of fish, animal, and plant life available in ceded territory necessary to maintain 'modest living' free from state interference. The state may, however, impose restrictions upon the Chippewa's provided restrictions are 'reasonable and necessary to conserve a particular resource'" (U.S. District Court, 1987a). Later that year, Judge Doyle died and Judge Barbra Crabb took over the final proceedings of the case. Crabb, in 1989, established Chippewa walleye and muskellunge rights using a plan proposed by Chippewa tribal conservation officials in the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), modified by a 'safe harvest' calculation methodology supplied by the State. Then in 1990, Judge Crabb ruled on an Ojibwe off-Reservation deer harvest rights case within the ceded territory (Satz, 1991). This history of the Ojibwe Nation shows the

determination and will of Ojibwe people who know that the hunting, fishing, and gathering resources are their way of life.

“There is evidence that Ojibwe tribal members historically practiced raised-bed agriculture in northern Wisconsin. An aerial photograph (Figure 13) taken on August 4, 1951 captured several early raised-bed systems on the Bad River Reservation, which had been built at an earlier time (date of construction unknown). These raised beds probably improved soil drainage in the poorly drained silt loam soils during wet, rainy springs characteristic of the area. They may also have increased soil temperatures to facilitate seed germination in the cooler northern climate” (Martinez, 2007). There are some attempts to bring back the Three Sisters garden but, due to the current economy, there are no grants able to sustain a community garden. Some families have their own gardens and some members would like to see other tribes start or share seed banks. This would provide more opportunity for members or tribes to have sustainable gardens.

## **5.2 Interview results**

To develop information on indigenous knowledge practices and approaches by the Ojibwe, nine individuals were interviewed on the Bad River Reservation in the summer of 2008. From a cluster analysis of the interview results (Figure 14), Cultural Preservation (26%) garnered the greatest response, followed in importance by Governmental Interactions (26%), Social Justice (22%), Ecological Integrity (18%), and Economic Viability (8%).



Fig. 13. Aerial photograph of the Bad River reservation taken on August 4, 1951. Arrows point to raised-bed agricultural systems (date of raised bed construction unknown). Photo provided by the Ashland County Natural Resource Conservation Service (NRCS).

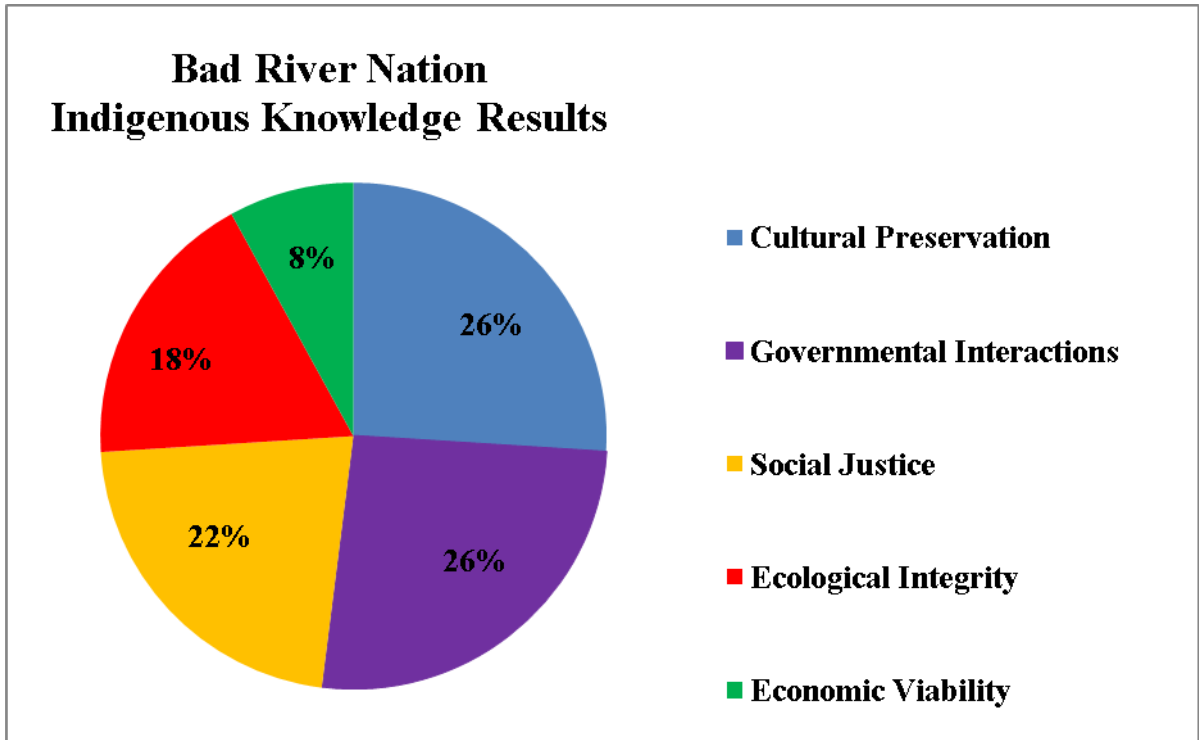


Fig. 14. Cluster analysis results for Bad River interviews.

Ojibwe interview responses represent personal philosophies and values taught to them by their parents or grandparents (full interview transcriptions are available in Appendix B). These thematic clusters reflect the values and beliefs of what is important to the Bad River people. Natural resource management practices, techniques, and management tools used traditionally by the Bad River members stem from the oral traditions passed down to them from generation to generation, and are a source of strength and pride to Bad River Ojibwe.

IK-based natural resource management approaches on the Reservation embrace the Ojibwe personal relationships with the environment. From most of the interviewees, an example of current IK is the use of tobacco to express respect and thankfulness to the Creator. This tradition is a daily practice in the activities of the Bad River people today.

*“There are a lot of people putting down their tobacco when they go ricing, when they go fishing, or hunting; when they go trapping, when they have to do anything with the environment. Even when they go swimming and they first get into the water, they put their tobacco down; when they are gathering anything from the woods, too. The use of tobacco is like second nature to the Ojibwe people. Not all people do this, but there are the people who will incorporate this lifestyle and will put down their tobacco on a regular basis”* (Interviewee 5). *“Yes, I have been harvesting wildlife and wild rice for about sixty years now, and will until I am not able to because of health. When I was a kid we used to go and camp for weeks during harvest times, but today no one does this, except the traditional ones. I am getting too old to climb in and out of the boats, so I have been teaching my grandkids these things”* (Interviewee 3). *“The proper way is respecting everything by putting your tobacco down and praying for the gifts that you are harvesting or being in an area. When you harvest something you share it in the community; it is the proper way of doing things. When you harvest something, you only take what you need and that is also the proper way of doing things”* (Interviewee 9). The following response came from a member of another Ojibwe band describing the culture and practices in his community. *“I guess my community is very active and I come from the Lac Du Flambeau Reservation, but I work for GLIFWC. About 2,000 live on the Reservation and are very active in treaty rights. We ice fish, spear through the ice, we gather wild rice, spear in the spring time, net, and are active in hunting and trapping. So, it is very active. There is still a board type of culture and tradition with my people”* (Interviewee 8).

From this set of responses, IK is still alive among the Ojibwe people and starting to be more accepted as a practice. They consider it extremely important that IK continues to be taught to the next generations. Many of the people who were talked to and interviewed stated that most families continue the traditions of fishing, trapping, hunting, gathering, and harvesting. However, some of the people coming back from the cities do not know of these traditional values and cultural ways. This lack of knowing tribal culture and language is a threat to the survival of the Bad River band. This concern was borne out in the interviews expressed by following elder's response: *"IK is not used as much as it used to be. It is slowly coming back because people are becoming more aware that we are losing all that knowledge as the elders die off. The people who knew the culture, language, and plants are now going home. So we need to look to them as much as we can so we can learn and teach our children"* (Interviewee 1).

The most relevant concern to the interviewees is their relationship with the BIA and other departments that work with natural resources because there is little information available to the public except the information posted on the Internet, for which most people do not have access. When there is a tribal council meeting (town meeting), the people usually do not find out until the day of the meeting or only one day before. Most of the responses indicated concerns with what they feel needs to be addressed on the Bad River Reservation regarding the relationship with the Bureau of Indian Affairs (BIA), and preserving IK on the Bad River Reservation. The following responses represent the captured opinions of the interviewees regarding the BIA and IK values: *"I believe that they are here to keep everyone fighting and bickering and when questions are asked, no one knows what is going on. I do not trust the BIA and this is my own personal opinion.*

*They need to move on and leave us Indian people alone” (Interviewee 3). “Today we do not have per se spiritual leaders in our community, we have language speakers. The language is the most important value and we cannot lose it again” (Interviewee 5). “I think that the Tribe needs to promote more of the cultural traditions to the people and set up programs with the State to allow language and culture camps on the Reservation. We need to have our leaders push for this because the language is losing ground and we need to preserve this before it is too late and the culture is lost once again” (Interviewee 6). This last response talks about the influence of the BIA on how now they are allowing more self governance. “One of the big ways the Bureau is leaving the management authority up to the Tribe itself, but trying to promote intergraded resource management planning. The Bureau provides funding for these projects and it helps promote the sustainable practices, the management of natural resources, and it goes a long way towards that. The tribes develop the plan, the BIA signs the plan and by doing so agrees to help the tribes manage their resources in that manner. The BIA knows how the tribes want to manage their resources. Since the Self-Determination Act and the Indian Preference Act, this is expanding out to the whole Department of Interior and not just the BIA where it is going to have Indian preferences”(Interviewee 6). From these responses, there are concerns about preserving Ojibwe culture and how necessary it is for the current tribal government to reach out to the community and promote cultural camps and language programs. The Bureau of Indian Affairs is the oldest bureau in the United States Department of the Interior (1824) so there could likely be some negative response from the elders because they lived through the assimilation or went to missionary boarding schools for their education but were able to maintain the teachings of their parents and*



grandparents. The BIA is working with the tribes and allowing indigenous nations to make their own management decisions. Their main role is to oversee the funds to make sure the project(s) are in compliance with federal and state codes. *“It makes the BIA more culturally sensitive and have a better understanding of trust responsibility to the tribes”* (Interviewee 6).

An example of this perspective is: if current management practices are incorporating traditional IK beliefs, then the interviewees express positive comments; and if current management practices are not taking care of the environment or other areas of value, then the interviewees perceive that something is not right, they express that what is needed is to restore the traditional ways of the ancestors before them. Some of the problems voiced were current logging practices, governmental interactions off the Reservation, importance of knowing the Ojibwe cultural practices in the tribal government, and remembering the next generations. *“I think we all need to be more involved in getting back to the tribal ends we lost very much soon, but I do not even know how we would do this. We need to get together as a community and see what is being done about that. There is a real fight here because of all the tribes raised with the Catholic religion, so they are fighting the natural religion that was here to begin with. I do not know if you’re going to get anyone to put ordinances with culture yet [emphasis by interviewee]. It took us a long time to get where we are today and it is going to take just as long to get back to these cultural ways”* (Interviewee 1). *“It is very important for the people to know this knowledge and it needs to be done. I want to see our lands protected better and our water protected or we will not have wild rice anymore. Last year for the first time in my lifetime we did not have a harvest due to the low waters in the beds. This*

*is why we moved here because of the food that grows on the water from our Creation stories” (Interviewee 2). The traditional way of life is still very much alive on the Bad River Reservation and continues to be more accepted by the community members. “An example is the fish hatchery. They do not go onto the water unless they do the community water ceremony. The fish hatchery has noticed since they have been doing the water ceremony, they have increased their catch and it has slowly increased. Since then, they began to do this on a regular basis. Now, if this is contributable to the ceremony or not, I am not sure, but I do know that they have a deeper understanding and respect for the water beings and the Ojibwa culture” (Interviewee 5). “In the way Bad River has set up their management plan they have established conservation zones where nothing takes place. It is left alone in its pristine stage except for traditional harvests like birch bark harvesting in the spring, plant collecting, berry picking, wild ricing, and gathering medicines. The way things are going, I feel that there is going to be an increase in the biodiversity of species and their habitats on the reservations because they are islands of biodiversity. The landscapes you get along the boundaries of the reservations are monocultures” (Interviewee 6).*

A concern expressed by all the interviewees is how the State of Wisconsin is influencing some of the forestry and restoration projects on the Bad River Reservation. The Wisconsin Department of Natural Resources owns the soil underneath the water near Red Cliff and the State’s Division of Forestry sets the standards for harvest and annual cuts on the Mole Lake Reservation. On the positive side of the current IK management for the Ojibwe in the ceded territories, they are preserving the traditional ways of harvesting and gathering with the help from the Great Lakes Indian Fish & Wildlife

Commission (GLIFWC). *“GLIFWC is the main body that works with the tribes in creating management plans using the traditional ways because most of the hunting is off Reservation and GLIFWC has jurisdiction for this along with the Bureau in some ways”* (Interviewee 6). *“When the treaties were ratified and the funds were used to establish boundaries of off-reservation land; that is where GLIFWC came from. It has been here for twenty five years now, managing the resources for right-to-harvest and year-round hunt”* (Interviewee 8). *“In GLIFWC a lot of regulations come from talking to the elders in different communities first. The elders have a strong input into what we do here; everything from methods of harvesting to even the negotiation process with the state. When we are setting up regulations we sit down with elders and ask them; how do you do this and when do you do this? What are the seasons for this? If you look at our regulations you will see the proper way the elders do things and everything our regulations are set up is the way the elders do their harvest and management of resources”* (Interviewee 9).

The challenge now is trying to find new and interesting ways of providing this information to the Ojibwe people so they know the things that are going on in the sustainable development and natural resource areas of management. The question is ‘how to inform tribal members and have more input from them on proposed projects’? GLIFWC is already doing this with educational booklets teaching the culture and language of the Ojibwe. Their website <<http://www.glifwc.org>> informs the general public on current management issues in ceded territory. There are monthly or seasonal magazines and newsletters that are distributed on the Reservation, in grocery stores, and other areas for the public to pick up, view, or subscribe to.

The current Bad River tribal government also needs to develop creative methods for delivering this information to the public and promoting the culture of the Bad River band of the Lake Superior Ojibwe Nation. The IK is being incorporated in maple sugar harvest, fish management, wild ricing, trapping, netting, and many more traditional practices. *“The use of tobacco is like second nature to the Ojibwa people. Not all people do this, but there are the people who will incorporate this lifestyle and will put down their tobacco on a regular basis”* (Interviewee 5). The lessons learned from this case study are that these important cultural practices are being incorporated into natural resource management of the Bad River Reservation. The Bad River Ojibwe perceive the importance of maintaining the continual practices of the traditional way since the first treaties were created back in the 1800s. Their ancestors knew that the cultural way of living was going to sustain the Ojibwe people for many generations to come, as evidenced by IK-based fisheries and extensive raised-bed agriculture as the ‘breadbasket of the upper Midwest’ in pre-European contact times. The Ojibwe are a strong nation and proud people who are finding ways to continue incorporate the indigenous knowledge into the Reservation community. The Ojibwe are one of the original inhabitants of Wisconsin that is still here after the history of assimilation for indigenous people.

### **5.3 Lessons learned for IK-based natural resource management**

On the Bad River Reservation, most of the families still practice the traditional way of living by spear fishing in the spring and sometimes in the winter. They also trap, hunt, and gather of plants and animals year round on and off the Reservation. The annual wild rice harvest is in the autumn, which concludes with a Pow Wow celebration to bring families together and thank the Creator for the gifts that were harvested throughout the

year. In the spring, some families continue the tapping of maples and removing the bark from birch trees for basket making. These examples of indigenous knowledge-based natural resource management practices represent traditional Ojibwe lessons learned, which are presented in fact sheets for the general public as well as resource managers and governmental agencies (see Figures 15 and 16 featuring two-page fact sheet brochures at the end of this chapter).



**Bad River Band of  
Lake Superior Ojibwe  
Indigenous Knowledge  
for  
Sustainable  
Natural Resource  
Management**



**Following nature's pathway  
to a sustainable future.....**

**Educational fact sheet featuring  
Bad River Ojibwe lessons learned**



The Bad River Band of Lake Superior Ojibwe is named after the long, winding river that flows through the center of the Reservation, which is comprised of more than 125,000 acres of undeveloped and wild lands. Along the Kakagon River and the Bad River Sloughs are over 16,000 acres of wild rice-producing wetlands. Wild rice, harvested in the fall, sustains the lives of the Bad River people.

The indigenous knowledge is very much alive, incorporated in the harvesting and gathering of plants and animals year around. The Bad River Band is also known for their excellent fish management which includes a fish hatchery on their Reservation.





**Wild Rice Harvesting**

The autumn is when manoomin (wild rice) is harvested on and off the Bad River Reservation. Wild rice management and restoration has always been a priority for Ojibwe tribes because manoomin is such a culturally important food to the Ojibwe people. Management activities to enhance wild rice abundance include re-seeding, assessment efforts, and participation in the State/Tribal Wild Rice Committee.



**Birch Bark Gathering**

Early in June the bark of the birch tree loosens and is easily removed. The bark is used for basket making, canoes, and other sustainable products used for gathering and harvesting plants for medicine and food.

### Did you Know? Facts

- Bad River is one of only three rivers in the U.S. that has a self-sustaining population of lake sturgeon.
- The Bad River Tribe has its own American Legion – Post #25.
- The Menomin (wild rice) Pow-wow is held every August in celebration of the harvest. This event is open to the public and everyone is welcome.
- Desiring always to protect Mother Earth, the Bad River have started their own Air Quality Program – monitoring air quality six days a week using a PM 10 Monitor.
- The Giitiganing Gardening Project offers an ancestral tie for members of the Bad River tribe. This project serves to educate tribal members on growing flower and vegetable gardens and establishes tribal gardens near the ancient tribal gardens found along the riverbed.

Source: Native Wisconsin Official Guide, 2003.



Fig. 15. Bad River Ojibwe IK-based fact sheet (1) of lessons learned on sustainable natural resource management.





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The Bad River Band of Lake Superior Ojibwe is named after the long, winding river that flows through the center of the Reservation. The Reservation is the largest in Wisconsin, containing more than 125,000 acres of undeveloped and wild lands. Along the Kakagon River and the Bad River Sloughs are over 16,000 acres of wild rice-producing wetlands. Wild rice, harvested in the fall, sustains the lives of the Bad River people.

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**Following nature's pathway  
to a sustainable future.....**



**Fish Management**

The Bad River Ojibwe continue to use their indigenous knowledge to sustain themselves through the practice of net fishing.

They operate a fish hatchery that produces walleye and other species sustainably with set release and harvesting quotas. Working closely with the Wisconsin DNR, Bad River fisheries program is renowned for effective management principles and holistic approach to a healthy environment.



**Beaver Hunting**

The current hunting and trapping practices are continued through the next generation of Ojibwe people. Bad River tribal members sustain themselves through using indigenous knowledge of hunting, trapping, fishing, and gathering passed down from the parents that learned from their parents.



**Spear Fishing**

Ziigwan (spring) is a busy time of the year for Bad River Ojibwe who engage in cultural spear fishing that has been an integral activity of their people since the beginning of time.

Nourishing sustenance from the protein-rich fish and spiritual strength through connection to Mother Earth with respect and thanks for the fish harvest characterize harmony sought by the Bad River people.

Through the wise decisions of their leaders and excellent stewardship of their people, the Bad River Ojibwe and all Ojibwe continue their indigenous fishing practices.

Sources: Circle of Flight Bishibayaash: Tribal Wetland & Waterfowl Enhancement Initiative (2008); Native Wisconsin Official Guide to Native American Communities in Wisconsin: Great Lakes Inter-Tribal Council (2003).



Fig. 16. Bad River Ojibwe IK-based fact sheet (2) of lessons learned on sustainable natural resources

## **Chapter 6. ONEIDA CASE STUDY**

### **6.1 Location and cultural history of the Oneida Nation in Wisconsin**

The Oneida of Wisconsin are known as Onkewagon, (Oneida Font) 'People of the Standing Stone'. When the Oneidas lived in New York State they lived in villages and moved every 10-20 years as game and soil productivity depleted. According to legend, each time they moved a huge rock would appear outside the village gates. No one knew how this rock got there. It was too big for even 20 men to move. The Oneidas believed that the rock was following and protecting them. They took the rock as their national symbol and called themselves "The People of the Standing Stone." The original rock is still on the Oneida homeland in New York. While the ancestral lands of the Oneida are located in New York, the Oneida Nation currently spreads over several parts of North America (i.e., Wisconsin, New York, and Canada).

The Oneida Tribe of Indians of Wisconsin is a federally recognized Indian tribe with a 65,000-acre, semi-rural Reservation (Oneida IRMP Draft, 2008). According to figures released for the year 2000 by the U.S. Census Bureau, the total population living on all Oneida reservations in North America was 21,319, which included all individuals, both tribal and non-tribal. There are 16,371 registered Oneida tribal members in Wisconsin, with about 4,065 members living on the Reservation and an additional 2,375 residing in adjacent Brown and Outagamie counties. Some 2,014 members live in Milwaukee and nearly 5,467 live out of the state. The percent of elders on the

Reservation went from 13% to 18% in the last eight years (Oneida Enrollment Dept., January 9, 2009).

The Oneida Reservation is located in northeastern Wisconsin, near the City of Green Bay. It lies along a northeast-southwest axis in Outagamie and Brown Counties, straddling the Duck Creek corridor northwest of the Fox River. (Figure 17.). Much of the Oneida Indian Reservation in Wisconsin was lost to private holdings and only recently have they begun to purchase (i.e., repatriating their tribal lands). With casino and bingo revenues, the Oneida now have the opportunity to restore their Reservation by buying back the lands within their Reservation boundary including urban and industrial lands.

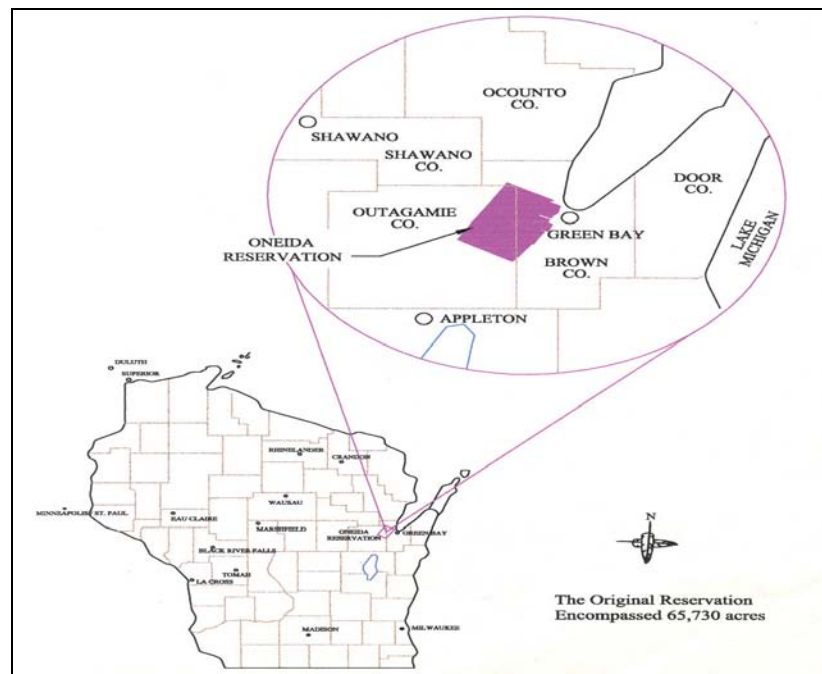


Fig. 17. Oneida Reservation and surrounding counties. Source: Oneida IRMP Draft, 2008.

The Oneida were one of the original tribes of the Iroquois Confederacy in upper New York State. The Iroquois were also known as the Haudenosaunee ('People of the Longhouse'). When the Dutch discovered the Iroquois in 1609, the Iroquois Confederacy consisted of five tribes: Mohawk, Oneida, Onondaga, Cayuga, and Seneca (Ritzenthaler, 1950). The Iroquois were not friendly toward the French. They killed over a thousand French countrymen in the late seventeenth 17<sup>th</sup> century. They also overthrew other Indian tribes such as the Hurons and the Neuter Nation from the Niagara Peninsula; they also conquered the Erie, and the Adirondacks (Ritzenthaler, 1950). When the American Revolutionary War started, the Iroquois League broke up when four tribes decided to fight with the British. The Oneidas joined the American forces. With the Treaty of 1784, the league was consummated and the Oneida received a sum of one thousand dollars and a portion of land in central New York (Ritzenthaler, 1950). A band of Oneidas went to Canada and settled on the Thames River in Delaware Township where a settlement is still inhabited today. Once the white settlers started demanding more land, the Iroquois League tribes were forced to move to various reservations throughout New York State. Some tribal members migrated to Canada.

In 1816, a young minister, Eleazer Williams, became the leader of the Oneida. He held that position for the next two decades. In 1821, Williams led a delegation to Green Bay, Wisconsin to sign a treaty with the Menominee and Winnebago giving the Oneida a strip of land about four miles wide crossing the Fox River (Ritzenthaler, 1950). When Williams returned to New York most of his people were opposed to relocating to Wisconsin and asked the Bishop to remove him. The church and the War Department, which later came to be known as the Bureau of Indian Affairs (BIA), when it joined the

Bureau of Interior in the mid-1900s, backed Williams. When another Oneida delegation was sent to Green Bay, the Winnebago had left the area and only the Menominee remained in northeastern Wisconsin. The Treaty of 1831 was signed for the New York Tribes to occupy Menominee lands.

*However, the Menominee were not satisfied with the land mass provided to the Oneida and asked to have those lands reduced from 500,000 to 65,432 acres based on the Oneida population. There were also two townships of land created on the east side of Lake Winnebago for the Stockbridge and Brotherton tribes. The Brotherton Tribe has 23,000 acres and the Stockbridge Tribe has approximately double that amount (Oneida Culture Dept., 2009). The Oneida chiefs in Wisconsin had sent word to their families in New York who were living with the Onondagas to come to the Midwest because of their land purchase with the Menominee Tribe. There were about 200 people in the group that arrived in 1841 (Oneida Culture Dept., 2009). When the Oneida came to Wisconsin they brought with them a body of beliefs, opinions, and customs, their own language, fragments of their old social and political organization, and the European's religion (Ritzenthaler, 1950).*

Not too long after the Oneida were settled in Wisconsin, another devastating blow came to their people—the Dawes Act of 1887, also known as the General Allotment Act (GAA). The GAA was a tool by the U.S. government by which Indian reservations, held in trust status by a tribe as a whole, could be divided into separate allotments for individual tribal members. Not only did the Dawes Act break up reservation lands, it also had attached a 25-year period before lands would be taxed. After that time expired much of the land held by Native Americans was lost. As a result of allotment, the Oneida

Nation lost all but less than 100 acres of their Reservation (Campisi and Hauptman, 1988). Another difficulty came to Indians in 1906 when the United States made an amendment to the GAA of 1887. “The Burke Act pertained to Indians who took allotments. The law withheld citizenship until the end of the 25-year trust period or until the allottee received a fee patent from the Secretary of the Interior” (Oklahoma Historical and Culture Society, 2007).

In 1934, the U.S. government passed the Indian Reorganization Act, which was designed to decrease federal control of American Indians and to increase tribal self-government. The Act sought to strengthen tribal structure by encouraging written constitutions and to undo the damage caused by the Dawes General Allotment Act by returning surplus lands to the tribes rather than to homesteaders. It gave Indians the power to manage their internal affairs and established a revolving credit fund for tribal land purchases and educational assistance (Wheeler-Howard Act - 48 Stat. 984 - 25 U.S.C. § 461 et seq.).

A benefit to the Oneida Tribe came in 1937 when the federal government bought 1,270 acres of the Oneida’s land and placed it into trust for the Oneida people. Trust land is land that is put into trust by the Federal Government. Trust land is available for the tribe to develop according to their wishes, but a land use change requires completion of a National Environmental Policy Act (NEPA) document. Land held in Trust by a tribe cannot be sold, given or deeded to a non-tribal member. In 1983, Outagamie and Brown Counties (and the towns of Oneida and Hobart) filed a lawsuit claiming that the Oneida Reservation ceased to exist when most of the original land was purchased by non-tribal members. The suit would be dismissed in 1990, but this fostered the current Oneida effort

to buy back Reservation land in order to protect the sovereignty of the Tribe. By the end of late 1980s and early 1990s, the Oneida owned 2,473 acres with 1,690 acres locked in tax-free trust. Today, the Oneida own over 22,398 acres, with 7,414 acres in trust and an additional 1,485 acres in tax exempt status. This is still only a small fraction of the original Reservation land of 8 million acres (Personal communication with community member, 2008).

This buy back of the land is through the design of the Oneida's Constitution, which delegate's decision making power to the General Tribal Council (GTC). The GTC, which consists of all enrolled members of the Tribe over 21 years of age, meets twice a year, and every three years elects a nine-member Business Committee to handle the day-to-day decisions in the absence of the GTC. The Business Committee hires and supervises a Gaming General Manager who oversees the gaming operations and a Tribal General Manager and Chief Financial Officer to administer the affairs of the Tribe and to supervise a group of Division Directors who are responsible for each of the functional units of the Tribe's organizational structure (Oneida IRMP Draft, 2008). With the success of Oneida business enterprises, it is possible for Oneida members to get financial support to obtain a college degree if they choose to do so. Because of the leadership and guidance of the Oneida, they have become very successful at incorporating IK into the community, business operations, education, and within the Conservation Department where traditional philosophies are incorporated into Oneida land management.



### *Origin of the clan*

The Oneida have a complicated structure of clans or groups, which were known by spirits of the air, earth, water, and by certain animals. Decision-making was a function of the tribal members as a whole, and those decisions empowered the speakers and the band leaders to act. In the Oneida traditions clan relationships are inherited from the mother or grandmother of the family. “This type of transmission of the clans is called a matrilineal system. Spiritual, social, economic, and political life are interwoven; one without the other is not considered whole or complete (Spiritual and political are inseparable)” (Brown, 2008, p. 1). The Oneida and Mohawk people each have three clans: Turtle, Bear, and Wolf. Two people of the same clan cannot marry. Each member of the same clan is a relative to all those people within that particular clan. Persons from the same clan of a different tribe are considered brother and sister within the Oneida confederacy.

According to the Oneida creation story, the Turtle carries the Earth on its back, the Muskrat brought mud from the bottom of the sea and placed it on the back of the Turtle, and life grew from there. The origin of the Bear is also in the creation story. The Creator transformed himself into an old beggar, who traveled through the village visiting each clan asking for a place to stay and for some food. Everyone turned away the old beggar, but finally an elder of the Bear clan gave him a place to stay and food to eat. For a while the Creator stayed and taught the Bear people about the medicine of the forest, so the Bear clan people became known as the medicine people as the Oneida understand it (Brown, 2008).

The Wolf clan represents the pathfinders. They are the ones responsible for giving direction in the way that Oneida people should go on their pathways of life (Brown, 2008). Each of the clans has a certain number of representatives or chiefs that are chosen by the clan mothers. The people of the Wolf clan are known as the 'fire keepers', who hold all informational things. For example, they prepare the agendas and direct meeting discussions. The Bear clan provides recommendations that are in the best interest of the clan and nation. The Turtle clan people are known as the 'well of information'. They have all the information pertaining to whatever issues are brought forward to the Tribe. The effect of bringing these different talents and perspectives together is that everyone has to be of one mind to agree with the outcome of whatever is being discussed (Brown, 2008). *"We try to infuse that knowledge in all levels of our community development..., our government is structured around our culture, for example, we have nine traditional chiefs, we also have nine in our business committee, our Indian reorganization of that government. So, that's an example of where the indigenous knowledge is already infused into our governmental structure as well as our social structure, and service structure"* (Interviewee 4).

#### *Oneida culture and indigenous knowledge*

"I think when we first start what we have to do is go back to the beginning. The emphasis is to bring everybody to a point of beginning for them to understand how they all relate to everything that takes place. You can't just throw yourself in the middle of something and think that's going to be the solution because what it does is it creates more confusion to the matter. So we always go to the beginning" (Brown, 2008, p. 1). The Haudenosaunee people, who comprised the five nations, each had their own creation

story with very similar versions. The creation story defines who the Haudenosaunee people are. “The creation story tells of the relationships within this world and of the relationships, as human beings, with the rest of Creation” (Kayanesenh, 2008, p. 2). “This knowledge brings with it responsibilities to ensure that we demonstrate respect and promote balance and harmony in all of our relationships. We are responsible for ensuring that the Creator’s original balance is maintained” (Alfred, 2008, p. 8).

The creation story is the nucleus of IK for the Oneida people. “*My personal definition is based upon our IK...thanksgiving address, which deals with all of creation and our relationship with all of creation*” (Interviewee 4). “*It is the knowledge that began with our creation story and has existed since the time of our people*” (Interviewee 7). “*My Dad always said, “Think in Oneida. Seeing the world from an Oneida prospective, you learn from your surroundings, from your grandparents. A way of life and it involves everything; it is how you see the world is my personal definition of IK”* (Interviewee 10).

The Oneida people have a Thanksgiving address that acknowledges everything from their creation story. “The words of the Thanksgiving offer an idea on how to use the land respectfully, in ways which respect the spiritual and cultural connection indigenous peoples have with their territories” (Alfred, 2008, p.9). When attending any meeting, ceremony, gathering, social event, or other tribal function, you will hear the Thanksgiving Address because the Oneida incorporate this philosophy so they can continue to pass their IK to the next generations. “*Our responsibility is to still to help share what our technical aspects of our relationship are to the air, water, land; which is reflected in our traditional ceremonies as well as in what we call the opening or*

*Thanksgiving Address where each day and each night we are supposed to remind ourselves of all of the elements of the world that bring us life. It kind of is a ritual, a ceremony, and much of the Western world has not had or has lost a lot of their ceremonies. For the Oneida we have been trying to infuse the Thanksgiving Address as the guiding document in the development of our policies and programs. Actually, if you look at each of the elements we have in our creation story, it is fundamentally what our programs are doing is functionally taking on the responsibilities that we have in our culture toward the environment” (Interviewee 4).*

The Oneida people still have traditional longhouses, but they are used mostly for ceremonies during seasonal celebrations. A traditional Iroquois longhouse was usually made from tamarack trees, a dense hardwood. A longhouse could last twenty to twenty-five years. Layers of bark, mud, moss and pine tar pitch were used as insulation, as well as animal skins on the interior walls. The only openings were smoke holes on the roof and the doorways, one at each end of the longhouse. Bark lashed together or animal skins and hides were used to cover the door openings. Smoke holes would have a leather flap for use in heavy rains or snow to keep the interior dry. An indication of the number of families living in a longhouse was the number of smoke holes on the top, as each family would have their own fire for warmth and cooking. Sleeping areas in a longhouse were along the sides of the structure. Some longhouses had cedar chips on the floor for insulation in winter.

Longhouses were usually built in the spring of the year, as the wood was most pliable at that time of the year. Tree saplings were bent over and lashed together with ropes made of vines and plant fibers that were twisted or braided together. The Iroquois

were not nomadic people and preferred to live in one area for an extended length of time. When the longhouse began to decay and fall apart, the land was usually also unproductive and herds of game in the area were diminished. This was the time when the people of the longhouse would seek another location to build their villages. Above the doorway of the longhouse was the clan symbol as an indication of the Wolf, Bear or Turtle clan that resided therein (Oneida Nation Museum, 2008).

### *Agriculture and resource management*

The Oneida Nation is well known for their Three Sisters' garden, which is another incorporation of using parts of the creation story for applying the unique style of planting corn, beans, and squash. *"I am an Oneida language and culture teacher, and it is through the culture class... language and culture class that we teach the students, how to live with the Earth and to give thanks with Earth before they take anything from it... But in the garden here at the Turtle School, they have the Three Sisters [corn, bean, and squash], as in our creation story. We have a seed dance the kids perform, and we have a tobacco burning to open it up for the garden. We give thanks to the Creator and the Four Messengers"* (Interviewee 6). This interview also shared parts of the Oneida creation story of how the Three Sisters came to the Oneida people. This is one of many versions of the Oneida creation story. The Iroquois people all have similar, yet different versions of how creation started:

*There was a sky world, another world. And this woman that lived up in the sky world and this young man were going to have a child, and...she creates tea from this one tree. So he goes and gets it for her from this tree, but it has to be from the roots. He*

*accidentally pulls up the tree and it falls over and it leaves a big hole in the sky world. He tells her and he sees the world through this hole in the sky world and he tells her about it. She is inquisitive, so she comes over by him to see it. She leans over and because she is pregnant, she falls through the hole. As she is falling, she grabs things from the sky world in her hand, and then... down here with just water and the only thing that could survive down here was the water animals and water birds and anything that could live in water. They would have never seen the sun before and according to... our culture, she is the sister of the sun. When the hole opens up, then the sun...her brother, shines through the hole. They finally see the sun that they have never seen before. They see somebody falling through the hole in the light, and they all look up and they notice that she could not fly.*

*So they--the water birds-- fly up and they catch her. They noticed that she did not have webbed feet, so they figured she did not live in the water. They asked the water animals to come up, and a big sea turtle came up and she said that he could put her on his back; then they put her on his back. When she came--when she landed on the turtle's back, she had all these seeds that she brought from the sky world. She wanted to plant them, but she noticed that the turtle's back was rough and there is nothing on it that--she described to the water animals and water birds the soil used to plant these seeds. The water birds and water animals said, "We have seen this at the bottom of the ocean." So they had a diving contest between the birds and the water animals. The loon and the penguin, depending where you are--at least the loon and sometimes it is... the beaver--both came up--almost got down to the bottom of the ocean, but ran out of air. They came up dead. Then the last one to try was 'Onogi', the muskrat. He swims down to the bottom, and just*

*as he loses his breath, he gets some earth from the bottom of the ocean, and brings it up. They take that earth and she spreads it on the turtle's back and it keeps growing and growing, and it covers the turtle's back. She plants her seeds from the sky world and the grasses come up and they cover and carpet the Earth so that the Earth will not fly back into the ocean. Then, they saw the strawberries came up and the grasses came up... I guess, some others... that is about all I heard that came up. So, she is walking on the Earth and then she feels like she is going to have the child. She has the child, a girl.*

*She raises this girl and then they make all these things on the Earth and then her daughter grows up. One day the grown daughter was walking in the meadow and she meets the west wind. She falls in love with the west wind and then she is going to have children. What she does not realize is that she is going to have twins. She tells her mother she can hear two voices and the mother says she thinks she is going to have twins. When it comes time for her to have the babies, one baby is anxious and cannot wait and the other baby is patient. The first one that is born is born the correct way that babies are born. The second one cannot wait to get out and pushes his way through his mother's sides, through her chest on the side of her and she bleeds to death and dies. When they were born, the grandmother did not know who did that to her daughter. Because they had these special powers, they say, because the babies grew up right away. When she asked them who did that, there was no reply. Sky woman who came down is now a grandma to the two boys. The one that was born second said that he was the first one that came out, and so he always took the blame. Sky woman told him to go and bury his mother and...so then he takes his mother's body, he digs a hole into the Earth, and he puts his mother into the Earth. That is the time when it is called 'Mother Earth'.*

*After he buries his mom into the Earth, he noticed things started to come from her grave. She sent up food to help sustain her children here on Earth (they say that her twins came from her chest; actually, from her breast). From her breast came the corn, and in a milky season like right now, if you squeeze the corn that milky substance comes out, which they can still use that as nourishment for babies. If a mom cannot breast feed and cannot afford a lot of formula they still have corn syrup...ain't anything to do with corn; that milky substance is good for babies, and they still use it. The white corn has a lot of calcium in it, which Native Americans used a long time ago for calcium. So, from her breast came the corn to sustain them. From her stomach came the squashes and if you look at the squash, they are shaped like stomachs. Squash is a good medicine for stomachaches; it settles you. From her fingers grew the green beans that give you a lot of protein and energy to help sustain you here in life. If you look at the green beans, they look like fingers when they are hanging on the vine. From her feet came the potatoes, to sustain you, and roots you on Earth; keeps you here on Earth. From her mind grew the tobacco. Tobacco is used when you need help. Lots of times when you are really sick, it is your mind that makes you sick. If you burn tobacco to help your mind, you can get over a lot of the fears that you have” (Interviewee 6).*

The planting technique for the Three Sisters garden is very different than the historical casting of seed in rows. The Three Sisters are compatible and offer benefits to each other. The tall corn stalks provide a support structure for the climbing beans. The beans do not compete strongly with the corn for nutrients because as legumes they can supply their own nitrogen. Squash provides a dense ground cover that shades out many weeds that otherwise would compete with the corn and beans, and the squash plant's



sticky leaves discourage entry by raccoons or other animals. The Oneida also have an orchard with apples and buffalo that help sustain the economy for the community.

Interviewee 4 explained concisely what Oneida are doing in regards to agricultural practices: *“I think our agriculture is a big part of our recovery and rebuilding of our community and our Indian nation in our clans and our structures. Agriculture... organic foods... we have crops of buffalo, traditional diet being brought back into our tribal school, so the kids are getting that. They are out growing gardens and having time as a part of their school year to go back to nature. Some of them take that home so then their home and parents connect to them, so that one of those seven generation—the connection between the parents and the children--grandchildren come out—grandparents’ community, so it becomes kind of a communal activity.”* The Oneida have a sustainable farm that is called Tsyunhekw<sup>^</sup> (Oneida language loosely translated as ‘Life Sustenance’) that operates on 83 acres. This farm has incorporated the Oneida creation story into its mission and grows the white corn, a signature crop of the Oneida people. It helps sustain the community through the cannery. Tsyunhekw<sup>^</sup> also producing tobacco and other traditional medicines and foods along with cattle and buffalo that are grown naturally without chemicals and processed in the traditional ways of the Oneida.

The Oneida Nation recently initiated the Balanced Scorecard strategic planning process to ensure that all tribal actions are progressing toward the same goals. Through this process, the Tribe identified the need to develop a management plan for the Reservation’s resources. The Oneida Tribe’s senior management has also recognized the need for a resource management plan. Development of an Integrated Resource Management Plan (IRMP) for the Oneida Reservation will provide direction and fulfill

needs for resource management planning now and for seven generations. Support for the IRMP comes from both the government and community members. Completion of an IRMP for the Oneida Reservation will support BIA Government Results Performance Act (GRPA) goals. The IRMP will ultimately define how Oneida manage both forested and agricultural acreage within the Reservation (Oneida IRMP Draft, 2008).

## **6.2 Interview results**

Thirteen individuals were interviewed on the Oneida Reservation in the summer of 2008 to elucidate insights and perspectives on indigenous knowledge practices and approaches as perceived and/or used by the Oneida people. This section features the cluster analysis results performed from using the interview transcriptions. In Figure 18, Cultural Preservation (25%) was the cluster that generated the greatest response, followed in importance by Governmental Interactions (22%), Ecological Integrity (21%), and Social Justice (21%). At 11%, Economic Viability was less than half as important as were the top three clusters. It appears that the Oneida people in Wisconsin are much more concerned about preserving their Culture, Governmental Interactions, Ecological Integrity and Social Justice than they are about their Economic Viability. The Oneida people see their social structure and environment as being far more important than is their economic viability.

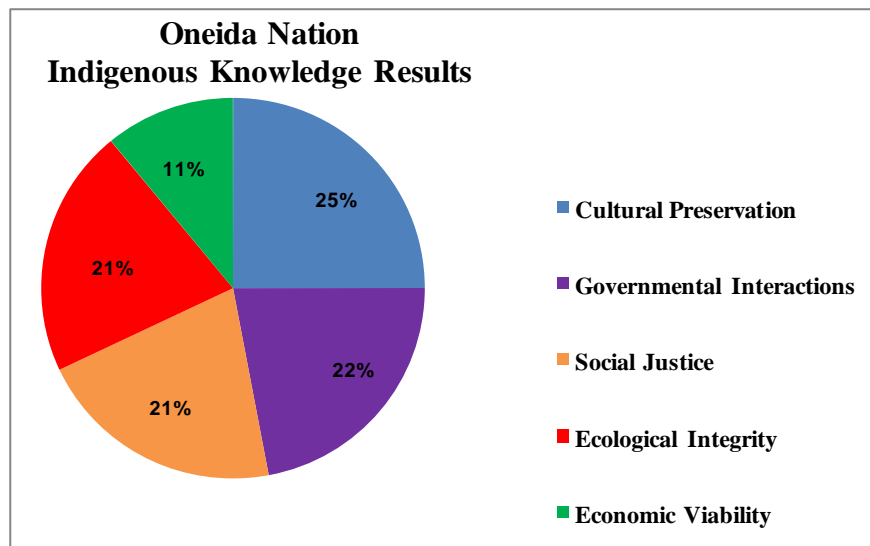


Fig. 18. Cluster analysis results from Oneida interviews.

These thematic clusters reflect the values and beliefs of what is important to the Oneida people, and the interview responses represent their personal and cultural system of who they are and what they believe in. Any natural resource management practices, techniques, or management tools used traditionally by the Oneida stem from and reflect their basic belief system, spirituality and culture. Most of the responses indicate concerns and what they feel needs addressing on the Oneida Reservation regarding current and past sustainable practices (full interview transcriptions are available in Appendix C).

One concern identified the loss in biodiversity due to the invasive species coming onto the Reservation and negatively impacting trees and certain agriculture crops. *“It is causing devastation to the environment. Even just here, in our community here, there are different species that are becoming extinct because of these non-traditional ways of land management. It causes a disruption in the natural way of the environment, when you cause that type of devastation”* (Interviewee 2). *“In our Reservation, when the land was*

*lost through the allotment process that is when the application of the Western-European natural resource management practice was done by the non-Indian who owned the land.*

*That is when the property was clear-cut and wood was taken to the paper mills”*

(Interviewee 3). There is concern about how the State and private land owners are managing the non-Indian lands because their management practices are affecting lands near and adjacent to the Reservation boundaries.

Some concerns identified during the interviews involved the influence Western society is having on the youth. The culture is having a hard time surviving in the communities and the current government is not fully listening to the community members. From the interview responses, there are great efforts within the Turtle School, which is the Oneida Tribal School supported by the Bureau of Indian Affairs (BIA), to promote Oneida history and language. “The language is being taught as well as the oral traditions of the creation story along with the understanding of what it means to ‘live Oneida’. The Turtle School incorporates this indigenous knowledge by having a Three Sisters Garden and a medicinal garden with herbs and medicines. *“In the garden here at the Turtle School, they focus on the Three Sisters and tell of their story. All the kids in the school do a seed dance all around the garden, and then they come back in as part of the opening ceremony to start the garden. Each grade is going to plant something else in the garden”* (Interviewee 6). *“In our schools there was this wonderful project where they had the kids composting. They had the kids learn about the worms, bugs, and other insects by making charts. The school plants a garden every year and they use worm fertilization and compost from the school cafeteria. The kids take care of it during the year and then people come in during the summer. Then in the fall they have a harvest and*

*invite the community for a feast and they also do this with the maple sugar”* (Interviewee 7). Through various BIA grants, the Oneida have opportunities to move forward in promoting their culture and language for the generations to come.

The Oneida have incorporated their oral traditions and the structure of their clan system into their daily lives, using the teachings of their ancestors in New York and Canada along with the generations in Wisconsin. *“One thing we are trying to do is incorporate the names, the Oneida names, for various projects, various names of animals and how we are bringing about protecting and enhancing our environment. We are beginning to incorporate those values into those natural resource-features”* (Interviewee 1). Another main reason for the strong IK on the Reservation is the one-on-one relationship with the environment. From the interview responses, there are clear implications of this value by the oral traditions and the people who still practice this way of life. *“The tribal community here has a longhouse of spirituality where the people get together and practice the cultural aspects of the Tribe. We also have a group that represents that belief, that system, which helps us in making some of our environmental decisions and development of our practices”* (Interviewee 1).

Most of the interviews include respect for the environment and discuss the importance of offering tobacco to give thanks for the gifts (maple sugar, agricultural crops, as well as fishing, hunting, and gathering) by the Creator and Mother Earth. Not everyone on the Reservation practices or knows of this Indigenous Knowledge pathway because not all the tribal members were raised or were taught the traditions because of the assimilation era when many lived in distant cities. Now that these families are coming back to the Reservation many lack IK values for the environment because in the cities

they did not learn respect for the environment or the values of the Oneida community. Most of the tribal members returning to the Oneida Reservation do not appreciate their environmental surroundings and do not have a one-on-one relationship with Mother Earth. One of the concerns is that the cities teach about individualism, the Reservation teaches group focus and the values of sharing. Most of the things that come from the cities are considered negative by the Oneida community. These negatives include drugs, gang violence, and a lack of appreciation for what is Oneida. *“Our community struggles with identity because the city is next to us and people are starting to treat people differently on how you deal with another. An example is the gangs and violence because of the identity challenges, i.e., ‘It is not cool to be Indian’. We need to change this thinking with our youth”* (Interviewee 10).

The interview responses indicate that there is an effort to bring Oneida culture to its youth. *“A lot of the students that come to this school live in cities, and they never get tired of going to the woods. When they do go into the woods, lots of them are afraid of the woods nowadays. Just to get out into the woods and doing something in the woods, and seeing that nature is your friend and you should not be afraid of it. Instead of just seeing it on pictures and a video game, you are actually out there doing something”* (Interviewee 6). Some of those interviewed wished that there were more programs for the youth to promote the traditional way of living (e.g., bow hunting, residing in longhouses, and planting Three Sisters gardens). *“Through the conservation is getting the youth involved more by pulling kids from the technology of hunter safety classes. We are taking the gun out of the picture and teaching the youth on how to use a bow which is the traditional way of hunting and teaching them to respect and make them aware of the*

*natural environments to protect and cherish with the respect to the environment. The gun is a European thing and disrespect to the animal spirits where the bow is natural and comes from the environment where the animals live and there is an offering ceremony once the prey is killed” (Interviewee 13).*

The Oneida have created wildlife refuges and restored wetlands so the people can experience what a healthy environment really is. Revenue from Oneida economic industries made possible various recent, systematic land purchases of parcels within the original Reservation. A specific example is through the Oneida Environmental Services and Land Development Commission that bought back the deserted railroad land(s) that pass through the Reservation from west to east. This same Commission is in the process of making a nature trail that will eventually surround the Reservation boundaries so that community members can walk or ride bikes around their lands. This path is intended to also improve air quality on the Reservation and create better health through less use of cars and more exercise for community members. There are other land parcels that are left alone for plants and cultural purposes; commercial land is being used for development of housing and other buildings on the Reservation. Recently, the Oneida Environmental Services and Land Development Commission finished a restoration project on Duck Creek (historically important area for fishing) to reduce surface water contamination that was negatively impacting the stream’s fish populations.

The strong presence of IK on the Oneida Reservation is evident by the tribal council and other departments that deal with natural resources. These political entities include the community in all project proposals and for making the final decision on proposals. Almost all of the interview responses included mention of how this approach

has strengthened the relationships with community members because they feel they are a part of the decisions that will benefit the generations to come. *“I think my influence in the work I do is community involvement. Having conversations with the people is the way we (Oneida) want things done around here. Thinking Oneida is involving everyone in the development plans and be part of the decision. ‘Meaningful involvement’ is the traditional way of living”* (Interviewee 1). *“We have been trying to incorporate that into our whole community. We have a seventh generation philosophy... if you look at it, not just visionary looking ahead, but in a sense of myself, my children, grandchildren, great grandchildren... my parents, grandparents, great grandparents, you have the seventh generation structure. We have our own tribal school system. We have many programs dealing with environmental protection, government social services. We try to infuse that knowledge in all levels of our community development. The direct involvement, of course, in a management tool is through larger structures of traditionalism within our community”* (Interviewee 4).

The Economic Viability cluster scored the lowest ranking of perceived priorities. Perhaps even though farming industry and gaming markets are depressed with the current global recession, the Oneida people feel secure with the way their economy is being managed. Another possibility is that the Oneidas interviewed simply perceive values other than economic as more important in their lives and culture. An example of this perspective is if current resource practices are harmonious with traditional IK beliefs, then the interviewees express positive comments; if current resource management practices are not harmonious, then the interviewees perceive that something is not right, and they express that what is needed is to restore the traditional ways.



The Oneida have committees that are composed solely of elders and community members. Before a project is approved the proposal goes through these elders and community members. This system derives from the historical cultural beliefs (Clan system) and values of the Oneida people who continue to practice IK values on the Reservation. The Oneida are now working with various federal agencies to incorporate this IK into the management of some non-Indian lands in Wisconsin. The Oneida are focused on sustaining their natural resource management practices into the future.

### **6.3 Lessons learned for IK-based natural resource management**

The Oneida Tribe is incorporating modern technology with traditional beliefs and values in developing community based sustainable programs for resource management. To accomplish this goal they hire staff trained in modern technologies and methods. Before the projects and activities promoted by these trained professionals are implemented they must be approved by the community. This approval comes from community meetings, notices in the Tribal newspaper and through a Board made up of Community members. This group meets twice monthly to evaluate programs and projects. They have three full time staff that meet with proponents, value proposals, give promotional talks in schools and at community events, ensure that the community is aware of projects and prepare documents for review by the community member board.

### *Lessons learned fact sheets*

IK-based lessons learned from the Oneida Nation are presented as fact sheets featuring white corn harvest every fall, maple sugar gathering in the spring, annual Pow Wow season, Turtle School where Oneida culture and language are being taught to the next generations, and other cultural practices including buffalo management on the Oneida Reservation (see Figures 19 and 20 featuring two-page fact sheet brochures at the end of this chapter). With these fact sheets people will be exposed to a deeper understanding of the relationship with nature and the respect for the land. The knowledge and teachings within the Oneida community reflect a strong cultural awareness and connection with the land and issues that sustain the people for generations to come. From the lessons learned fact sheets, the general public and natural resource personal can increase understanding and consider IK approaches for natural resource management, tribal ordinances, and daily life on a pathway towards sustainability.



## Oneida Indigenous Knowledge for Sustainable Natural Resource Management



*Following nature's pathway  
to a sustainable future...*



### Educational fact sheet featuring Oneida lessons learned

The Oneida are renowned for their Three Sisters (corn, beans, and squash) agricultural practice. This fact sheet features examples of Oneida IK approaches to natural resource management.

Indigenous Knowledge-based natural resource management is rooted in personal observations and experiences passed down through generations. This respect for Mother Earth sustains the Oneida people and all other people.

For respectful peace of mind for anyone to enjoy in a natural setting:

- Place a pinch of tobacco down for the spirits and Mother Earth.
- Acknowledge the environment and respect the gifts given to us.
- Talk and learn nature's way from elders.



Oneida Buffalo Farm

The magnificent Oneida Buffalo herd consists of about 100 head, which are grass fed with hay and grain supplements on rotating free-range paddocks. This sustainable buffalo management results in healthy animals and highly nutritious food for the Oneida people. Buffalo are one of the main locally grown protein sources available to the Oneida.



Maple Sugar

After the long winter, Oneida conduct an annual harvest of maple sugar from the trees every spring with the renewed promise of nature's provision. The maple is a gift from the Creator, for which tribal members are thankful as reflected in traditions of the Oneida. This practice is being taught to the children and the community to carry on this indigenous knowledge practice for generations to come.

Source: Oneida Nation website, 2009.



White Corn Harvesting

Caring for the signature Oneida crop—white corn—is a key cultural event every autumn enjoyed by tribal members and non-tribal guests. White corn represents milk from Mother Earth and Her nurturing care of the Oneida. In return, the Oneida people have great respect and appreciation in planting and harvesting white corn as the essence of their relationship with Mother Earth.



Fig.19. Oneida IK-based fact sheet (1) of lessons learned on sustainable natural resource management.



**Oneida  
Indigenous Knowledge  
for  
Sustainable  
Natural Resource  
Management**



*Following nature's pathway  
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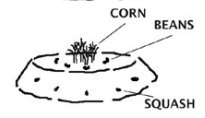
For respectful peace of mind for anyone to enjoy in a natural setting:

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Oneida Tribal School

The Oneida Tribal School, designed in the shape of a turtle, is operated with BIA grant funds to teach Oneida culture to the children. Here the children learn their language, culture, and how to think 'Oneida'. Learning about traditional medicinal plants, herbs and foods, a special activity is planting and caring for a Three Sisters garden (corn, beans, squash) at the Tribal School including a seed dance celebration. Renewable energy, energy conservation, and use of new biking and walking paths for healthy lifestyles are also encouraged.



Community is a valuable resource for the Oneida people, and community strength is re-affirmed during tribal celebrations and social events. Indigenous knowledge is passed down from one generation to the next, and the voices of the Oneida community are welcomed by tribal leaders to inform decisions and sustainability.

Source: Oneida Nation website, 2009.



The Oneida Nation holds an annual Fourth of July Pow Wow that brings the community and outside members to the Reservation for celebrating the family unit and the harvests that occur during the summer (fishing, plant gathering, and some medicines). Other Pow Wows are held in Spring, Fall, and Winter seasons.



Annual Pow Wows



Fig. 20. Oneida IK-based fact sheet (2) of lessons learned on sustainable natural resource management.

## **Chapter 7. DISCUSSION**

### **7.1 Case study comparison and contrast of IK-based values**

From this thesis research, it is evident that traditional knowledge is alive, reinforced, and used actively on the Wisconsin-based American Indian reservations featured in the three case studies. The culture, philosophy, and oral traditions, of creation and life have been incorporated into the daily lives of tribal members as well as into their natural resource management practices. In this section the strengths and some of the concerns expressed in each case study will be used to help frame similarities and differences between the values and belief structures of the Menominee, Bad River Ojibwe, and Oneida Tribes related to sustainability. An overarching commonality of perspective is the importance of trying to interact with nature. It is nature that sustains all life and IK treats nature with respect and understanding. It is because of the need for understanding and respect that IK is being practiced and promoted among the tribes of Wisconsin and elsewhere.

With current practices of sustainability, it is necessary to find alternative methods or philosophies to manage our natural resources. Knowledge of climate change, polluted water and degraded soil are causing ordinary people at the local level to take small steps toward sustainability by doing little things in their daily lives. Such actions include composting, planting a garden, installing energy-efficient light bulbs, eating local and seasonally available foods, and many others can make a difference. The awakening of an

ecological consciousness holds great promise for the behavioral change needed in modern society to embrace sustainability.

Indigenous knowledge for sustainable development represents a body of cultural wisdom on natural resource management that incorporates caring and respect. Common ground exists between tribal and ecological approaches to natural resource management and emergent societal perspectives that promote a shift toward sustainability. Spirituality, belief systems, and customs of tribal people embody their IK and define who they are and how they live. Over generations, accumulated IK is shared and strengthened through oral traditions passed down from one generation to the next. In the larger society—even if IK is accepted as desirable—not everyone will understand or fully appreciate it.

Some of the interviewees in this research perceived a legitimate concern with misinterpretation of traditional IK-based values and the relationship to the environment by dominant society. This concern was especially expressed with regard to the need for the rituals practiced in gathering and preparing herbal medicines, foods, shelter, and clothing. The seasons, moon phase, weather conditions, time of day, attitude of the collector, and status of the collector are deemed critical and a strict protocol is followed out of respect and thanksgiving for Mother Earth. In addition, persons receiving traditional healing treatments must be in the correct frame of mind for the treatments to be effective. There can be a backlash from the tribal community when sharing indigenous knowledge. The fear is that non-tribal people receiving the information may not be in the correct mind set to receive the teachings. *“Well, I rarely use the word ‘indigenous’ and it seems like you always get in trouble using ‘traditional’, so how about we use ‘old knowledge’ because a*



*lot of times information is passed on through oral traditions. Old history is the old knowledge that an elder uses to pass information” (Interviewee 6, Menominee).*

Not all the responses were negative about the future of trying to mainstream IK into the dominant society. The interviewees believe that it is necessary for us to teach others before it is too late but to be cautious with what we share. *“Sharing it with others it does not matter as long as we maintain it here. If people want to learn this knowledge that is fine and if they do not want to learn, it will affect us in some way. In the global perspective it is no different, but it is very important that we keep the sacredness of our ceremonies a secret” (Interviewee 19, Menominee).* *“There are a lot of education programs going on like GLIFWC to provide public information to indicate that the tribes are following the traditional practices of hunting, fishing, and gathering; how they respect the land; how these resources are so important to the tribal people; and how they protect them. A group like GLIFWC provides that information to the general society” (Interviewee 7, Bad River Ojibwe).* *“There are prophecies from way back that one day our white brothers will come to us and seek our knowledge and we see this happening today. We always knew it would happen, like the scientists at Cornell University are studying our hill planting of the Three Sisters, so it is happening“ (Interviewee 7, Oneida).*

On the Menominee Reservation some of the concerns expressed were that the tribal government needs to find ways to increase public participation of Menominee members; sharing in decision-making with the Menominee Tribal Enterprises (MTE); the importance of enhancing cultural practices and language; and planning for future generations. *“The current practices of MTE are not following the directions of Chief*

*Oshkosh and making the Menominee forest a tree farm because the value of white pine. Clear-cutting should be looked at differently than what it is today as a money tool for the Menominee people” (Interviewee 12, Menominee). “It is very important to the Menominee and we need to push harder so the tribal council hears us. I know how the politics are run up there and right now we need more people like you because education is important and you think about the people first from hearing you talk. It is so important that the people come first, but the current government is forgetting that and worrying about themselves and their families and forgetting the whole community” (Interviewee 9, Menominee). “It’s sad that no one else listens to the elders and goes to them for the knowledge, but it’s the outside influence that makes us forget our culture ways. I beg to differ because I am traditional person and it’s in my heart as it’s in yours. It’s common sense when you think about it. It is important for people to get a hold of the mill, the casino and bring them to the same page and work hard to preserve what little we have left and remember who we are and where we come from” (Interviewee 1, Menominee).*

#### *Tribal similarities*

The cluster results of all three case studies were similar in identifying cultural preservation and governmental interactions as highest priorities. Social justice and ecological integrity were deemed second highest and near the top two clusters for all three tribes. Also, a clear similarity of economic viability as the least important issue existed in the thematic cluster results for all three case studies. These interview results are consistent with traditional indigenous values and worldview of most American Indian people. Common to all three tribes is the belief system of their creation stories, oral traditions, and teachings of their elders and ancestors. The specific, place-based original

and lifestyle may be different for each tribe, but the respect for tobacco, the songs and prayers before and after harvest times, gathering events, and social events, show the understanding and respect for their surroundings and the natural environment.

The Menominee case study shows the strength of ecological integrity with the continual knowledge of the philosophies of Chief Oshkosh. *“One of our chiefs, Oshkosh, told us that when we are going to log, that these trees are the spiritual forms that we pray to. These trees are the closest relatives to the woodland tribes. At the beginning of the authorization to cut these trees, I think it was necessary to tell the grandfathers we need them for food and such. Just like hunting deer and fishing, there was always a feast offer to the grandfather for that species to say when you are put down on this Earth the Creator told you what your purpose was to sustain the lives of the human beings and their knowledge”* (Interviewee 9, Menominee). *“Well, the first thing that comes to mind is the logging practices which is well-documented that started around 1909 and the words of Chief Oshkosh that explains sustainability for he stated, ‘We will start on the east side of the Reservation and slowly towards the west. You always leave the big trees for seed and when you get back to the point you started then you move in forty acres and do this until you get back to the beginning, the trees will be ready once again to cut’”* (Interviewee 12, Menominee).

Another example of strength is the careful management effort of the Menominee Historical Preservation Department by creating tribal ordinances to protect cultural and burial sites. *“Also the forest is being protected by the historical preservation department and not allowing cuts near cultural sites, or near the rivers because of erosion”* (Interviewee 6, Menominee). *“There are ordinances that have been placed into tribal*

*law like the restoration sites in the forest are objectives to improve gathering sites; traditional berry picking, maple sugar, wild rice, and hunting camps. Ordinance 04-22 is for the protection of water because it is a spiritual use and the concept is also cultural. Then there is Ordinance 05-22 that protects historical and cultural sites in the forest. This also helps by placing big buffers around rivers, lakes, and streams so there is no erosion and these cultural sites are protected” (Interviewee 7, Menominee).*

The Menominee Reservation has brought back fire as a major management tool to help restore historical gathering sites for berry picking and to protect forests by reducing incoming invasive weed and pest species. *“I know that they are using fire management because we always used fire to control insect populations and diseases that harmed the woods and plant nation” (Interviewee 14, Menominee). “The Tribe makes sure that the development of fire is done by looking at historical sites and maps showing burn areas, then come up with a prescription plan to use fire to bring back that area for berries and hunting along with gathering sites. We make sure everything we do is what the Tribe has done in the past” (Interviewee 18, Menominee). “Now that we are using fire you can see the land coming back to its historical ways. It is important to use fire as a tool to help with the diseases and insects that are now threatening the woods like gypsy moths, pine beetles, purple loosestrife, buckthorn, garlic mustard, etc.” (Interviewee 18, Menominee).*

As a reservoir or island of biodiversity, the Menominee Reservation is a place where tribal members use traditional practices of hunting, fishing, and gathering of plants. With the wise decisions of the ancestors and the current tribal council, the Menominee are making a sustainable community for the next generation. As with any

constructive action, it is important to listen to the elders and learn from the mistakes of the past, and to remember the importance of making an offering of tobacco when out in the woods. The Menominee continue to transform themselves in an interactive relationship with a constantly changing environment that has lasted from pre-contact times through the termination era to its status today as a self-governing native nation.

Similar to the Menominee, the Oneida feel strongly about maintaining the importance of culture and language in their communities and tribal school. *“When it comes to conversation Oneida seem to know where it is going and have realized the State should have listened to the Native Americans. I believe that conservation here with the Oneida is becoming more IK because the students are learning to know about everything in nature and taking care of it and living with it. Not wanting so much, leaning to not want so one is Native American. This is what I love about life because when you want so much and do not get it; you become depressed. So just be happy with what you have, be clean, clean minded, and be grateful!”* (Interviewee 6, Oneida). *“We have a mission and core values that families are based on ‘Tsi? Niyukwaliho tt^’ which means everything about us is from the creation story to today and a strong economic system. Our task is to get people informed about that knowledge by using it and spread it out more and more into the community of our people. Then our people can automatically think ‘indigenous’. One of the aspects that we are doing here at the historical preservation office or the cultural department is cultural wellness, which is the diet and how to live ‘Oneida’”* (Interviewee 7, Oneida).

The Oneida are concerned with the governmental interactions between the State and federal agencies that deal with them. The BIA does not have a strong influence on

the Reservation because of the self-determination of the tribal government. There are now collaborative steps with the Wisconsin DNR and U.S. Fish and Wildlife Service in working with grants and programs to restore wetlands, wildlife refuges, and other land management or conservation habitat improvement projects. Another concern mentioned in the case study was that families moving back to the Reservation do not know the culture or the one-on-one relationship with the environment. Access to associated programs and initiatives to teach important cultural aspects to the youth, and the need for increased efforts by tribal involvement in affairs with off-reservation agencies were also identified. The one aspect that stood out the most about the Oneida is their effective method for actively encouraging the involvement of its citizens in tribal affairs. This makes the Oneida the leader in communication and social justice among the three case studies. The Oneida can serve as role models by passing these proactive steps and programs on public involvement along to other native communities who are just starting to do this. All three case studies indicated a need to find new and creative ways to enhance public participation in Tribal decisions regarding natural resource projects or proposals on their Reservations.

From the Bad River case study, the Ojibwe possess strong cultural knowledge of fishing, hunting, trapping, and wild rice harvesting, which is still taught and practiced within many families in the community. The oral traditions are very much alive and this knowledge is being developed into some IK-based cultural programs. *“One of the things I was telling people about my ancestors is that they only carried four things for survival and took that with them. If we can sustain ourselves the way our ancestors did by only taking what was needed for survival and teach the people this knowledge we can have a*

*sustainable community” (Interviewee 4, Bad River Ojibwe). “So it has been recognized that it is the language that is so important to preserve to maintain those traditional values and the belief system. There has been a real active effort in maintaining the language so you have the knowledge, and once you understand the language fluently not only in mind, but in heart, you understand a lot more on how to do things in the environment and in your daily life” (Interviewee 5, Bad River Ojibwe). “I think there is evidence of how hard the tribes have fought against being assimilated into the general society and how hard they fought to reaffirm their rights to do that. They hunt, fish, gather, and do things that are important to them spiritually and physically” (Interviewee 6, Bad River Ojibwe).*

Some of the challenges for the Bad River community are cooperation with State jurisdictions on the Reservation, the BIA regarding resource management, and the need for the tribal government to listen to the community. *“I look at the government myself, as Native people are still not considered human beings, and we are under the mighty hand of the forest and the animals. I look at the Bureau of Interior as a tool to satisfy Native people in funding them. They do have some helpful tools in our management and assist us in funding to help us with our jobs. We are using that assistance in managing our culture ways for the people and our treaty rights. So they have some benefit, but I do think that the almighty government has yet to recognize Native people to this day. We are still underneath the Bureau of Interior, which use to be the Department of War” (Interviewee 8, Bad River Ojibwe). “I do not know what the Tribe is doing about this. If they are getting out there and implementing this traditional aspect, I do not think the Tribe is and they should be teaching our children. If they do they need sugar maple camps and all that*

*deals with our culture, it is really sad that the Tribe does not do this because we are one of the biggest reservations in Wisconsin!” (Interviewee 1, Bad River Ojibwe).*

Also another major similarity with each study is that about 30 percent of the interviewees believe that some of the current practices (Western approach) of management are creating more harm than protection of the environment. This concern was expressed when interviewees were asked if they perceive an increase or decrease in the biodiversity. *“The clear-cuts decrease the biodiversity for years then it comes back after awhile with more problems of tree diseases, invasive species, and our waters are becoming polluted because of motor boats on Legend Lake and other lakes. The dams on the rivers stop the fish from spawning in their historical waters; look at what the dam has done to the Menominee because Shawano dammed the Wolf River. If you look at the Western management you can see that there is no real protection for the animals, plants, water, and soil because of the attitude to have dominion over everything. Most of the practices are some form of Native American culture and tries to adopt the Indian management, but if you do not respect the land or its resources it is not going to respect you and you can see this on non-tribal lands” (Interviewee 23, Menominee). “Decrease! The Western philosophy is that they protect one thing and focus on that one thing, where they do not look what is around them. If you are going to protect something you have to protect all and the European philosophy does not follow this for they only protect one species and forget everything else!” (Interviewee 9, Bad River Ojibwe). “I perceive a decrease in biodiversity because of the way people value species; many life forms are not considered worthy of protecting. There are large numbers of people, including managers, who have very little use for snakes, bats, amphibians, and/or species of*



*insects. We do not know how valuable these life forms are as necessary components in maintaining ecosystems. If we leave any species out of our protection, we risk having the system collapse or at least reduce in species diversity and productivity. If we do not begin to appreciate all forms of life, I fear a continued loss of species, ecosystem integrity, and collapses of natural systems” (Interviewee 1, Oneida).*

From the three case studies, strong similarities exist with cultural preservation, governmental interactions, social justice, and ecological integrity. Tribal governments, state agencies, and some federal agencies are working to find ways to incorporate indigenous knowledge expertise into natural resource management decisions. Recognized expertise includes fire management and sustainable forestry practices from the Menominee; organic gardening and restoration of wetlands from the Oneida; and traditional practices of hunting and gathering of plants and animals practiced by the Bad River Ojibwe people.

#### *Tribal differences*

Tribal differences that stem from separate creation origins and cultural practices are evident as distinctive, yet complementary strengths from which IK-based lessons for sustainability can be learned. The Oneida are known for sustainable food security via the Three Sisters gardening, restoration projects being completed on historic sites such as Duck Creek for fishing and gathering, and for having a strong community base for inclusive and participatory decision-making. Special expertise that distinguishes the Bad River Ojibwe includes fisheries and wetlands management (e.g., fish hatchery is well known for walleye research and restocking of the tribal waters), and their unique

techniques for fishing, hunting, and gathering plants and animals on and off Reservation. Also, Bad River Ojibwe people were renowned at one time for their raised-bed agricultural practices that are being re-initiated on the Reservation today. They are also recognized for their wild rice cultivation and sustainable harvest. The Menominee are the leaders in forest sustainability as evidenced by the extensive, healthy, forests managed for more than 150 years. NASA uses the Menominee Reservation as a green landmark from space. The Menominee are known as the People of the Wild Rice, but due to loss of their original land holdings that included extensive wetlands where traditional wild rice beds existed (the Menominee Reservation today is mostly forested), wild rice harvesting is not able to sustain the Menominee as it did in historical and pre-contact times. There are families and community programs that teach how to gather wild rice using traditional ways. The Menominee are protecting their lands by introducing ordinances in the Tribal Constitution that prevent logging or development near water or cultural sites. These tribal differences represent a rich variety of tools providing IK-approaches with keen insights and talents that taken together help fill a well-equipped tool box that may be useful in designing a sustainable future.

## **7.2 Future of IK-based natural resource management**

How indigenous knowledge and other intellectual property are shared and what is shared among the non-native communities is controversial (Brush and Stabinsky, 1996; Nabhan et al., 1996; Roy, Parkes and Bicker, 2000). In *Custer Died for Your Sins* (1969), Vine Deloria Jr. gave a more focused appraisal of what tribal nations and Indian individuals needed to do to strengthen their internal and external sovereignty. He advocated that tribal governments adopt policies to clarify and structure what social

scientists, particularly anthropologists, would be allowed to research. Because of the intellectual exploitation that had been occurring for several generations, Deloria wanted tribal communities to take control of their resources and require anthropologists to apply to the tribal council for permission to conduct research might implicate tribal members or their resources. This would help ensure that the rights to the royalties, payments from research being done, and the knowledge itself not be sold. The following example illustrates this protection of intellectual property rights concern and how it can be mitigated. In the summer of 2007 the UWSP-GEM graduate student researcher on the Menominee Reservation was requested to meet with the Menominee Language and Culture Commission to ask permission to perform this thesis research there. The request came from the tribal council. After the research was approved by the Menominee Language and Culture Commission, the following step by the researcher was to sign a Memorandum of Agreement with the Tribe of Menominee Nation that requires discretion of the material for future publication within the case study. The Menominee Nation will receive proportions of royalties, if there are any, from future publications related to the research.

Although IK is practiced in many ways by people throughout the world, each group has its strict guidelines for traditions and rituals to which they adhere. Unless one grows up with those traditions, he or she cannot fully honor or respect IK-based rituals or traditions. Even individuals who may be tribal members but did not grow up on the Reservation are commonly not respected for their IK knowledge or value systems. Those who have grown up with traditional values are reluctant to share those views with those who have recently returned or have not had the opportunity to grow up with those values.

If members of the same tribe are unwilling to share values and traditional ways with each other, it is obvious why they are fearful of sharing with persons in dominant society.

Much of the power of IK is in the attitude of the teller and the person receiving the information (Personal communication, Oneida, 2008). If either is not of the proper attitude and if the proper steps have not been taken to prepare both parties, the lesson will not take place. It is possible to talk generally about IK and how it is used by Native Americans in managing their resources, but specifics are not possible if respect is to be maintained with the communities from which the information was gathered. Without a proper mind set, neither the teller nor the receivers will gain from the knowledge.

Sharing indigenous knowledge by tribal people with dominant society poses an interesting dilemma, which has challenged brilliant thinkers such as Black Elk, Aldo Leopold, Barry Commoner, and Vine Deloria, Jr. whose wisdom and guidance is worthy of consideration. On the one hand, Black Elk, a revered Oglala Sioux spiritual leader of the 19th century, interpreted his vision of the 'blue man' (symbolizing greed, lies, destruction by dominant society that had to be mitigated for survival) as the only way indigenous people and dominant society could survive would be when native people teach dominant society that nature is the source and basis of life, meaning, and spirituality. Unless dominant society learns nature's ways from native tribal people, they both would perish (Neihardt, 1988). The current global environmental challenges call out for solutions that indigenous knowledge may provide. Sharing this wisdom may prove crucial for not only sustainability, but for survival, as Black Elk envisioned. On the other hand, there are some good reasons for information not to be shared, based on lack of good will and trust. For example, tribal peoples who are brought up with a grounded

understanding of oral traditions, their origin and ancestors, and a nature-based culture may fear (at worst) yet another stealing of cultural IK wealth by dominant society for use at their expense. Even if more tolerant, tribal peoples may not be confident that dominant society can understand the traditions, values and spirituality associated with IK-based approaches necessary for effective IK-based natural resource management.

While IK is important in managing natural resources and in living in the environment holistically and sustainably, understanding IK requires a great depth of understanding traditions, knowledge, and beliefs that cannot be easily passed from one group or individual to another. Lack of sharing is made more difficult because Western science attempts to be the absolute answer for environmental problems. Western science in itself is limiting the full acceptance of IK practices. “The essence of science is to adopt the pretense that the rest of the natural world is without intelligence and knowledge and operates primarily as if it were a machine” (Deloria, 1999 p. 67). Dominant society’s conviction that Western science’s management practices are ‘the right and only way’ prevents acknowledging other resource management pathways that may be equally or more valid. In *The Closing Circle* (1971), Barry Commoner expressed concern for conflicts between science and politics. The isolation of science from such practical problems has another unfortunate consequence; most people are less interested in the discipline of science than they are in its practical, short-term applications and effects on their daily lives. The separation between science and the problems that concern people on a day-to-day basis has tended to limit what most people know about the scientific background of environmental issues. Yet, such public knowledge is essential to the solution of every environmental problem. Commoner’s point was to ‘close the circle’

connecting environment, technology, economics, and government in harmony for sustainability requires a call for integration and systems thinking across academic disciplines, societal sectors, and governments for the greater good.

As mentioned earlier, there are steps being taken toward introducing a curriculum of indigenous knowledge. An example is in the state of Alaska where the government acknowledges indigenous people and grants them traditional education. At the time of statehood, a dual system of public education existed in Alaska: municipal and territorial schools served the urban, predominantly non-Native population, and Bureau of Indian Affairs (BIA) schools served the Native population of rural areas. Although the territorial legislature sought to unify this dual system a lack of money slowed progress. By adopting this section in the state constitution, the people of Alaska affirmed the goal of unifying the school system. All rural BIA schools have been taken over by state-financed local school districts. This process was accelerated by the so-called Molly Hootch case (*Hootch v. Alaska State-Operated School System*, 536 P.2d 793, 1975). “This case was brought in 1972 on behalf of a group of Alaska Native schoolchildren to compel the state to build and operate secondary schools in the villages” (Alaska Constitution, Article VII, p. 121-122).

The University of Alaska-Fairbanks has created an Alaska Native Knowledge Network (ANKN) which serves as a resource for compiling and exchanging information related to Alaska’s Native knowledge systems. It was established to assist Native people, government agencies, educators, and the general public in gaining access to the knowledge base that Alaska Natives have acquired through cumulative experience over

millennia. To acquire more information on how to set up an IF curriculum, see ANKN at <http://ankn.uaf.edu/index.html>.

In 1976, the Ojibwe nation in Wisconsin brought forth lawsuits to maintain their original treaty rights for hunting, fishing, and gathering on ceded lands in Wisconsin. As a result of animosities rising from the court's interpretation of Ojibwe treaty-based rights in 1983, the educational commission held a series of hearings to gather community testimony. The commission's report called on the Department of Public Instruction and the American Indian Language and Culture Education Board to enact legislation and develop curriculum focusing on Wisconsin's Indian history, culture, and treaty rights issues. This was approved in 1989 when the Wisconsin state budget appropriated funds for creation of an American Indian Studies program. The requirements for this Act were for the local school districts to include the provisions of Wisconsin Senate Bill 31 (biennial budget) in their local school curriculum by September 1, 1991. As part of the curriculum effort, legislation required that the state superintendent of schools develop a curriculum on Chippewa Treaty Rights for grades four through twelve, in cooperation with the American Indian Language and Culture Education Board. This publication is available from the Department of Public Instruction (Publication Sales, WI Department of Public Instruction, Drawer 179, Milwaukee, WI 53293-0179).

Three supplementary requirements which affect local school districts and teacher training institutions were also part of the proposal. One essential was that local school boards must provide an instructional program at all grade levels, designed to give pupils an understanding of human relations, particularly with regard to African Americans, Hispanics, and American Indians. A second required post-secondary teacher training

institutions to include the study of Wisconsin Indian history, culture, and tribal sovereignty as part of the human relations code requirement for teacher licensing, beginning July 1, 1992. The third statutory provision, included in the 20 Standards (i.e., part of DPI's audit on public schools), required each school district to include instruction on tribal groups in Wisconsin, twice at the elementary level and once at the secondary level, commencing September 1, 1991 (Milwaukee Public Museum, 2009). This initiative has been hard to enforce within the State because of a lack of funds and because a major priority to the Board of Regents in local districts do not give it priority. There are steps being taken by indigenous organizations trying to have this Act be enforced so there is an educational awareness of the IK being taught on reservations.

Vine Deloria, Jr. (1999, p. 66-67), a defender of the American Indian rights movement in the latter half of the 20<sup>th</sup> century, offers some insight to the dilemma. “We should look at the epistemology of Western science and tribal traditions... In an epistemological sense, there is no question that the tribal method of gathering information is more sophisticated and certainly more comprehensive than Western science...this mixture of data from sources that the Western scientific world regards as highly unreliable and suspect produces a consistent perspective on the natural world. Where do we go from here if science does not fully accept traditional values? Knowledge of the historical relationships can be exceedingly useful in modern science in providing guidance for ecological restoration projects.” Deloria advocated that the solution to the unsustainable pathway of the ‘artificial universe’ is the tribal structure and pathway of connections with nature and community. “Part of the experience of life is the passage of time, the fact of personal growth, and the understanding of oneself produced by the



reflective memory processes” (Deloria, 1999, p. 53). Hopefully, over time and as the indigenous knowledge is more accepted, we can learn from the memories of the past and bring forward the practices that have always been there but have been forgotten due to the ‘artificial universe’ in which we are so accustomed to living. With the guidance and encouragement from the communities we live in, this knowledge is possible. All we have to do is listen and remember to be grateful for the gifts Mother Earth gives us and thank her with acknowledgements of prayer or tobacco to respect all life forms of Creation.

Aldo Leopold emphasized the urgent societal need for a “land ethic”, which was his call for “dealing with man’s relation to the land and to the animals and plants which grow upon it” (Leopold 1949, p. 216). Leopold’s ecological vision and outlook were based on his observations that the prevailing natural resource management efforts and underlying societal norms akin to Deloria’s ‘artificial universe’ of the dominant society were not working correctly at the time *A Sand County Almanac* was published. At the dawn of the 21<sup>st</sup> century, a nexus of holistic systems thinking, ecological-economic-social linkages, deep ecology with mainstreaming indigenous knowledge, tribal culture, and spirituality in reverence to connectedness of nature/Gaia/Mother Earth may be emerging at long last. This overdue merger offers reason for hope and optimism in redirecting human behavior and activity towards sustainability.

To end this section, some IK-sharing challenges and concerns of the three case studies are elaborated. Concerns were expressed by interviewee responses to Question 6a, ‘Describe how you feel about mainstreaming IK approaches in the future management of non-tribal local or state lands?’ Some representative responses are presented below. “*I am worried once my time is up here and wonder if our culture is going to be preserved for*

*my grandkids and their grandkids. It is so important that we hang onto our culture because once it dies so does the Menominee people and this goes back to our creation stories. The Creator gave us our commandants and our seven gifts tobacco, maple trees, wild rice, berries, medicine from the plants, the animals that depends on the protection of the forest, and our spirits of the water” (Interviewee 2, Menominee). “Do not think that we need to give away anymore than we have to. We have given up so much and still to this day I do not think that non-Indians are going to respect the environment if you try and teach them. Maybe in about another 25 to 30 years this might happen, but not until they have accepted us as people and treat us with the respect we have earned over the years. There are too many generations of genocide and assimilation that needs to be corrected in the mindsets of people” (Interviewee 5, Bad River Ojibwe). “I do not think that the non-tribal people have any interest or any motivation to grasp what we are trying to say at this time. I think that things have to get really bad in the environment before non-Indians consider the way Indian people do things. We are not there yet” (Interviewee 3, Oneida).*

### **7.3 Conclusions and recommendations**

Objective One of this research was a literature review of Native American IK practices in natural resource management on tribal lands. This objective was fulfilled as presented in Chapter 2, which described philosophical and practical differences between indigenous and non-native approaches and their relationship to the environment; examples of IK-based natural resource management conducted by tribal nations across the United States; as well as beginning steps by some United States agencies in working with tribes and finding ways to incorporate IK into managing non-tribal and state lands.

Objective Two was to develop case studies of IK-based natural resource management practices in three Native American tribal communities in Wisconsin. This objective was completed as discussed in Chapters 4-6, which described the indigenous knowledge being incorporated on the Menominee, Bad River Ojibwe, and Oneida Reservations. Objective Three was to develop educational materials for IK-based natural resource management and sustainability. This objective was met by the preparation of two fact sheets or bulletins featuring relevant examples of IK lessons learned from each of the three Wisconsin-based tribes studied. The objectives of this thesis research have been completed, and it is hoped that this work will lay the groundwork and direction for a positive pathway of continuing to strengthen IK into management practices on the three Reservations and other tribal lands, as well as mainstreaming IK as a bridge to managing non-tribal lands. The ultimate goal is to develop resource management practices that secure a sustainable future for all.

#### *Limitations of the study*

In considering the interview data, perhaps the most relevant factor was not interviewing as diverse a group as desired to achieve a balance of responses. Additional factors may include a perception of fear on the parts of some interviewees that their information might be taken out of context or misinterpreted or that other tribal members might not appreciate what they said. Some of those interviewed may have fashioned or embellished their answers somewhat to meet the expectations of the interview. Another difficulty encountered was in expressing to a single audience what is not written down and is based upon a long cultural history through oral transmission, i.e. IK information cannot be shared in the way western society shares information (indigenous people

express and share information through stories that are explicit to a specific audience or small group forum, not usually to people of diverse age groups, social, or economic levels in one sitting).

A limitation of the study was the small sample size of the interviews conducted for the Bad River Ojibwe and Oneida Tribes. A variety of factors limited access or availability of the researcher to potential interviewees. Despite the reconnaissance and approval of the participating tribes to conduct interviews with tribal members for the case studies, the researcher was not a member of the community and was considered an *outsider*. This reality may have made certain individuals hesitant to participate in the research study. Because of some internal political dynamics occurring on the Bad River Reservation at the time of the research, many community members there were very hesitant to speak to the researcher when asked about their Cultural Preservation and Indigenous Knowledge. The sacredness of the cultural practices of certain knowledge not to be shared was respected by the researcher. Finally, several tribal leaders, elders, and natural resource managers were simply not available during the times the researcher could conduct interviews. All of these factors contributed to a small sample size that may have resulted in under-represented responses and increased the bias on the parts of the few interviewees who were available and willing to provide their perspectives. Other sources of bias may have been individual persons' history of the BIA, assimilation of tribal people, and the fact that some of the interviewees did not grow up traditionally on the Reservation and are therefore less familiar with the tribal culture and IK-based natural resource management practices. On the Menominee Reservation, some of the responses came from individuals who have been working in the forestry department for

many years and have negative opinions about the supervisors, governmental interactions, and did not understand what the Menominee are doing with regard to sustainable development.

The responses gathered from the case studies voiced both progress and setbacks when dealing with natural resource management and with the challenges of incorporating IK knowledge into the communities with an understanding and acceptance of something new that has been here for generations. Notwithstanding the above limitations, the researcher is confident that the interviewee responses were sincere, genuine, and honest, and the case study results and conclusions drawn from this study are valid and justified.

*Recommendations of next steps for further study*

Some next steps proposed for further study in the *GEM Indigenous Knowledge for Sustainable Development Program* supported by a USDA/CSREES grant to Global Environmental Management Education Center are:

- Incorporate IK lessons learned into GEM Perm culture Design Certificate course and other potential GEM short courses and training seminars;
- Create a web-based GEM IK for sustainability learning circle to share and link with others interested in IK-based natural resource management; and
- Explore GEM partnership(s) with interested Wisconsin-based tribes to further develop IK-based educational materials and demos.

The final conclusion for this section is that IK may serve as a valuable resource of lessons learned for sustainability that indigenous people have used for generations and

still use today to survive with the challenges expressed in the interview responses. Facilitated by IK-based wisdom to help re-connect and close the circle of life, hopefully dominant society will respond to Aldo Leopold's call to develop and act upon a "land ethic". The old knowledge from Wisconsin tribes and other indigenous people can be identified to manage natural resources for a sustainable future. Vine Deloria, Jr.'s call to adopt a "tribal antidote to the artificial universe" holds great promise for mainstreaming indigenous knowledge and moving dominant society towards a positive, "can-do" future for sustainability.

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## Appendix A: Questionnaire survey results for Menominee Reservation interviews

The questionnaire survey was created to identify the indigenous knowledge practices still being used by Native American tribes in Wisconsin. This research project proposes to inform dominant society of a new pathway toward sustainable resource management by mainstreaming indigenous knowledge used by Native Americans. The lessons learned can be incorporated beneficially for more effective, sustainable, natural resource management throughout the world. The purpose of this survey to help address the objectives of this research by:

1. Identifying what Indigenous Knowledge is and how it relates to sustainability of resource management within the tribal community; and
2. Talking to individuals in resource management and elders requesting how The IRB-approved interview questions and clusters addressed by each question are featured below.

<b>Cluster addressed by Question:</b> Ecological integrity; Economic viability; Social justice; Governmental interactions; Cultural preservation	<b>Interview Questions:</b>
Cultural preservation Ecological integrity	1. What is your personal definition of Indigenous Knowledge? How is this knowledge used or interpreted in the sustainability practices of the tribal community?
Ecological integrity Cultural preservation	2. What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?
Social justice Cultural preservation	3. What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?
Cultural preservation Social justice	4. Was any natural resource management practices historically conducted solely or primarily for social or other non-food/shelter/clothing purposes? If so please explain.
Governmental interactions Social justice	5. How does the BIA determine which management practices will be implemented for your tribal community? What is your opinion of the BIA interactions with your tribal nation?
Cultural preservation Ecological integrity Social justice Governmental interactions	6. Describe how you feel about strengthening IK approaches in the future management of your tribal lands. Describe how you feel about mainstreaming IK approaches in the future management of non-tribal local or state lands.

Ecological integrity Social justice	7. After applying Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats?
Cultural preservation Governmental interactions	8. Please explain some of the cultural aspects that are being incorporated into tribal natural resource management. How are they carried out once the prescription has been placed in the Tribal ordinance?
Economic viability Social justice	9. Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?
Economic viability Cultural preservation	10. What sustainable livelihoods do you envision as viable in your tribe?

### **Transcriptions of Indigenous Knowledge Responses from Menominee Reservation Interviews**

A total of 29 Menominee interviews were completed for this thesis research. Names of the interviewees are deliberately omitted here.

**Menominee interviewee 1:**

**Q1.**What is your personal definition of Indigenous Knowledge?

**Response:** Indigenous knowledge is things that are passed down from generations to generations. Father knew the knowledge of the plants from working in the woods. Used the knowledge to help him to manage the woods and not disturb these plants that were used for medicine or shelter.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Currently there are programs to help promote our culture ways. Examples are the language and culture camps, sugar maple, wild rice, and gathering berries.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The historical preservation office works closely with the forestry department when dealing with cultural sites. The director does walk-over's looking for sites that might have been a village, gathering site, burial grounds, or any evidence of human activities. Now that NAGPRA is in charge of protecting all sites from being exploited from logging activities, some areas of the Reservation are protected from any human contacts because of the traditional burial grounds and the medicine that is in these sites.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The interviewee did not know how to answer this question, so they asked to move onto next question.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Berry gathering and harvest seasons were a time to reunite family and friends once a year. Otherwise, I do not know of anything else.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know much about the management practices that the BIA does because I got into trouble protesting the clear cutting; so I focus my attention in other areas.

**Q5a.** What is your opinion of the BIA interactions with your tribal nation?

**Response:** Never trusted the BIA, looking at termination and how the BIA terminated and Senator Watkins pushed for termination. The punishment was because of the lawsuit the Menominee won against the United States. I believe that the forest is being cut down at a faster rate and the Reservation is looking like “a dog with mange.” So, I do not trust the BIA!

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I know it’s very important for us to go back the traditional ways without the outside influence. Have to harvest the information by research and the elders before they pass on. The only way to survive is to have the intimate knowledge of the bears, bees, and the elements of each direction. Need to be clear and the knowledge has to be of the past and bring it to the present.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal, local, or state lands?

**Response:** Did not answer this part of the question.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** At this point, I can see the hurt because they (the loggers) do not follow the ways and patterns of Chief Oshkosh on his vision on how to manage the woods. My father taught me everything and now there are so many bare spots it is ugly and the wildlife are being affected even the fish. My biggest sense of loss is the medicinal plants that are no longer there in the woods. The current practices are overlooking what has sustained our Reservation for 150 years. Let the forest renew itself after the cuttings. I think the practices are hurting the Reservation. There are people trying to fix the problem by tree plantations, but I will never see them in my lifetime or yours. They are cutting down all the old trees and they rot in the mill yard and I do not think the practices are helping at all.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** They did not know of any and preferred not to comment on this question.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** If the Menominee harvest these trees at the right price and invest for time to establish furniture that they can use from the lumber not sold. The tribe needs to be quicker and smarter in their decisions. There is maple sugar and some wild rice being done by some families. But there is nothing else I can think of. The lakes on the Reservation cannot sustain the wild rice for selling. There is enough only to sustain the tribe now.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Did not know how to answer this question except that is important for the tribe to quit thinking about the economic growth and remember the philosophies of our elders. Money is not going to save our Reservation!

**Q11.** Is there anything else you would like to add or search for this research?

**Response:** It's sad that no one else listens to the elders and goes to them for the knowledge, but it's the outside influence that makes us forget our culture ways. I beg to differ because I am traditional person and it's in my heart as it's in yours. It's common sense when you think about it. It is important for people to get a hold of the mill, the casino and bring them to the same page and work hard to preserve what little we have left and remember who we are and where we come from.

## **Menominee Interviewee 2:**

This interviewee responded in an open, free form rather than by answering the formal survey questions during the interview. The information provided covered questions 2, 4, 6, 7, and 10.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Growing up on the Reservation, you are taught at a very young age on what tobacco is for and the gifts the Creator gave the Menominee people. Everything we did used tobacco and prayers and respected Mother Earth. I grew up with both parents speaking Menominee and remember my father getting beat in the government boarding schools because he did not know English words. We would have to prime our water pumps so we could have water and knew that water was very sacred and putting tobacco in the water carriers to respect the spirits of the water. When the influence of the dominant society came into the Reservation and the tobacco was not being used for ceremonies, I had a sick feeling in my stomach.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Everything we did was to survive through the seasons. The social gatherings were a time to reunite with family and celebrate the harvest times as a whole unit and then after the celebrations the clans went back to their settlements on the Reservation. There were clans in Keshena, Crow Settlement, Neopit, East Line, South Branch, West Branch and the traditional in Zoar. If we did come together as a whole we would starve through the winter, so everything we did was to survive and sustain us.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** The main concern for elders is that the traditional ways are being lost due to the large influence of the dominant society. Now when you called to come and speak to me, I wondered if you were going to bring tobacco and you did. That shows me you understand the meanings of respect and that is why I am visiting with you.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal, local, or state lands?

**Response:** I would love to see our knowledge being used by the Western dominant society because we need everyone on the same page of caring for our Mother the way the Creator intended it for us. I am worried once my time is up here and wonder if our culture is going to be preserved for my grandkids and their grandkids. It is so important that we hang onto our culture because once it dies so does the Menominee people and this goes back to our creation stories. "The Creator gave us our commandants and our seven gifts tobacco, maple trees, wild rice, berries, medicine from the plants, the animals that depends on the protection of the forest, and our spirits of the water."

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** My main fear is the poisons that are being dumped into the soil that is affecting the water tables and the lakes have water milfoil and our fish are endangered because of the outside influences of the government.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** We need more education on how to prevent these diseases affecting our waters and our forest, because whatever is being done is not doing anything but creating more harm. I believe that it is important to have educational programs to help not only the children but the adults as well to know the threats to our environments.

### **Menominee interviewee 3:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Well, when I was growing up, I used to go out with my father; see he was a trapper and learned that way, and would always show me what to use for medicine and my wife taught me a lot. What we did was to live day by day and sustain ourselves. The wild rice was the main part to our livelihood because we also had a buyer. Cranberries and other berries were always in the fall time and everyone came together and worked as a tribe and afterwards everyone would go back to their settlements. (Clan systems)

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** The interviewee did not know the answer to this part because he/she could not focus on the meaning of the question. The interviewee believed that the knowledge taught to them at a young age was very important to survive in today's lifestyle.

**Q2.** Do you believe the cultural traditions are important?

**Response:** Yes, it's very important to who we are as people, because it's the knowledge of our elders that made it possible for the people of today.

The rest of this interview did not cover any other questions because of the elder's memory and what he/she did contribute is the knowledge on how to trap, fish, and various plant harvesting.

**Q3.** What important elements of the historical logging do you believe was important to the culture of the Menominee?

**Response:** In the old days, we had help from the animals like the horses and buggies that were a huge part of the culture and now if you look there are no more animals. The technologies have taken the one-on-one relationship away from the logging and now we have chainsaws and big machines and there are no men on the ground when logging.

Interview ended



#### **Menominee Interviewee 4:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Indigenous Knowledge is knowledge handed down orally from your elders. For the Menominees the philosophy is taking care; the example is the forest and the inherited knowledge was passed down from past generations for a culture and spiritual resource.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Interviewee did not answer this part of the question.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I see some of it, back again being a tribal member and working with the resource and the ability to do and say what you can do with the resource because it is Menominee. You can see this more with the ordinances passed through the tribe. We did an ordinance where you must protect a cultural area within the forestry practices of the tribe.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The interviewee did not know how to answer this question, so they asked to move onto next question.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Well, the philosophy of only taking what is needed of the certain animals fish and birds for survival, for food and clothing and the philosophy of being Menominee is to just take only what we need and to use everything we can for that animal, fish, or bird we can use for shelter, clothing, and food. Even medicines were used from our resources. Wild rice, of course, is the mainstay of the people and identity of the people and the maple sugar, too. Along with those is ceremonies and prayers before we harvest those, and in those prayers we thank the Creator for giving us and we will try to use everything from the environment for shelter and food.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA does not dictate which management practices we use because as a sovereign nation we have the ability to create our own policies. We only have to be looked at by the BIA because of the Self-Determination Act. They do have some input when we create some management practices, but most overall the BIA lets us do what we want because of the Trust lands on the Reservation. The BIA is mostly a courteous entity and they do not have much input on what we do on the Reservation.

**Q5a.** What is your opinion of the BIA interactions with your tribal nation?

**Response:** The interviewee does not have a high opinion of the BIA because of the past history with the Menominee nation (termination) and the current clear-cutting practices being implemented by the Menominee Enterprises which is a separate entity of the tribe. There are no BIA officers or BIA forester currently on the Reservation.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Here on the Reservation there has to be indigenous knowledge from the traditional people because we are the ones who work with the elders. Bringing those ideas or practices in the future of the Tribe, we cannot do much with non-trust lands or fee lands; we can only recommend doing with Menominee County what they can do by the laws and ordinances created by the Menominee and have them forced to be followed. Only tribal members have to follow these laws, but also non-tribal members within the Reservation boundaries.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal, local, or state lands?

**Response:** Maybe in the future the tribe can look into how to implement those practices and polices created by the tribe to be followed by everyone, so we are all managing our resources the same way then having two different environments. (e.g., Reservation and State Lands)

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Well, from the prescriptions of the forestry, we can determine because they are on trust lands and how we do cut our forest management and preserve our cultural lands or resources. National Environmental Policy Act (NEPA) has to be a part of the management practices and the Environmental Services has to be included because of the federal laws that have to be in compliance with this office and National Historical Preservation Act. We make sure that the compliances are there for them to assist cultural resources when proposed cutting in the forest and there are those mechanisms in place to insure the future the preservation of cultural sites and environmental resources within the Reservation. I do not let anything get by as far as cutting through burial grounds or mounds and cultural sites. I work with the forestry department and we go through and mark off these sites so they do not go through these cultural sites.

I do see a decrease in some of the biodiversity because of the current clear-cutting practices.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Well, I just mentioned that because there are laws that have to be in compliance with those federal laws. The tribe is working on an IRMP to protect the cultural resources within the tribal community and our resources for survival. And I do believe that once this IRMP is finally approved by the tribal council that those cultural sites will be protected, but carrying out those laws is another question.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Of course there is economic growth through cutting the forest and selling of the timber, but we as a Tribe have to think about the cultural aspects of doing this and not just thinking about the money in those situations, but also to take care of the cultural environmental resources as they do plan for the economic future of the Tribe.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Sustainable, we go back to the forest back to the conservation and the codes and ordinances that do take care of the resources and were establish by tribal members and tribal departments. Working with different entities on the Reservation and those laws and ordinances will protect our cultural resources.

**Q11.** Is there anything else you would like to add about IK for this research?

**Response:** I think that the Tribe should always look into the past when preserving our resources of the Reservation being cultural or natural. To make sure that IK of the tribal members are utilizing those process and those are being done through community meetings. Let the community have a say in the management of the Reservation. The knowledge is there but we have to let the people know what we are doing; for example, the casino expansion and the strip mall and the woods that were taken out from sustainable yield and giving the wood to the mill for pulp. The community did not know this was being done until the woods were cut down to the soil.

## Menominee Interviewee 5

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is knowledge that has been passed down from the generations, the knowledge given to us by our ancestors, animals, spirits, creator, cultural hero. IK is the knowledge that has been seen important enough to be passed on from generation to generation, not only to be learned but to be practice this knowledge on a daily basis.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** When thinking about sustainability, I right away think about the forest. Right now, I just started to make a wigwam and we pray before we strip bark and as we are stripping the bark, I right away was thinking about the harm we are doing to the tree and somebody told me that is the traditional way in thinking that the tree was there to provide for us. And that by letting the tree go without coming to its own fulfillment of to provide shelter for us is even worse than stripping the bark off.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** This interviewee had difficult time in answering formal questions; the traditions have always been here it is just that now it is coming back into the community and our people are starting to incorporate this into the environment and the community.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I do not know if I can answer this question, because I was raised off the Reservation.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Thinking about using fire to clear away brush and used for berries and different plants created a park- like atmosphere in the forest. When I think about that, our dancing grounds that have the giant pines growing from the middle of the woodland bowl give a natural beauty. We chose the land for its natural beauty and what it means to us culturally. With the meanings to the landscape is important and once you lose those names or its meanings you lose the purpose of the land and that is why its so important to teach our children and members before we too lose its meanings.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Well the BIA, I think I'm not really sure of the BIA and MTE. I have heard stories about the termination and the lawsuit we won against the government. The big part of it is BIA which was the war department in the beginning and I believe that the BIA still has this mentality today.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I have a large distrust for the BIA because of its mismanagement and I think that why it has spread across Indian Country because it is not the fear of the government, it is the history of the BIA and what they have done to the Indian people. With the treaties that were broken with the United States and the genocide of our cultural ways because they feared us and our spirituality. So I do not trust the BIA interactions with the Tribe, but do not know of how they work with the Forestry department within the Tribe.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands.

**Response:** Being a part of the language culture and being immersed in the woods among my people and everyday I am learning new things from the elders and the history that has been recorded before they have passed on. We are now starting to connect with the community and it is interesting to see the older generations reconnecting with the IK because it is so important to our culture and the future of the tribal lands. Like I said before once you lose that culture you start to lose your identity.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands?

**Response:** It is hard to go from the Western view and try to re-indigenous myself in a traditional way, coming from the city it is hard to break away from the influences because of the computers at work and the daily nonsense of the philosophies we learn. There has to be a serious change in the Western world for IK to root within the dominate society. So, I do not think this will happen anytime soon.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I see an increase; the only way to describe it is from my own experience. We are looking at native plants and a diversity of plants for the preservation of our cultural life. When working in gardens here and at home I see an increase of the biodiversity but it is not because of the Western technologies it is because of the IK knowledge and planting various plants.

In the woods though there is a decrease in the habitats of animals because you do not see them anymore. For example, raccoons, badgers, foxes, wolves, and even the bears are disappearing because of the current clear-cutting practices implemented by the Mill and Marshall Pecore.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I have the honor and being able to go to a tree ceremony and ask the trees to ask them to help us in harvesting and cutting. The tribal council was there and other departments were there and hopefully they were able to walk away with them from this, but only time will tell. Hopefully with the influence of the youth they will take ownership of their culture and we learn those old ways.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** There are different things out there in the forest that we could do to raise money like mushrooms, art, birch bark, maple sugar, and other various things we harvest from the land on the Reservation. But it is necessary to teach this IK to our people and the prayers that go with the harvesting of plants and animals.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Well, I think that we have a lot of resources, the Wolf River that did provide power for the Tribe and we have the resources to do things different than the rest of Wisconsin. It is so important that we keep this land pristine and sustainable and not in the name of economic development. Not throwing garbage out the car window or in the woods, even when you are fishing. This is why we need to teach our people the IK of our elders because there was no disrespect towards Mother Earth.

**Q11.** Is there anything else you would like to add about IK for this research?

**Response:** Well, there is a lot to be learned from our Tribe and we have to reconnect with tribes around the world that impacts medicines and sustainability across the lands and learn from them. We need to bring IK to everyone for it is the indigenous people who were given the knowledge to sustain Mother Earth and teach others.

## **Menominee Interviewee 6:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Well, I rarely use the word ‘indigenous’ and it seems like you always get in trouble using ‘traditional’, so how about we use ‘old knowledge’ because a lot of times information is passed on through oral traditions. Old history is the old knowledge that an elder uses to pass information.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** You can go a long way with interpretation, all that I have done and for instance cutting those cedars for the sun dance grounds arbor. I went to an elder of mine and he told me that I am going to need sixty cedar trees for the arbor, so I went to my nephews. These boys were my nephews who were taught by their fathers on how to selective cut trees and knew what to look for by knowing their environment. Before we started my nephew put tobacco down and said a prayer before we started looking for trees. We only took what we need and I notice this about the boys, who were much younger than me, then I thought about it and this is an old time practice that these guys are doing. While we were out there, one gentleman told me we did not want this tree because it had a bend in it, and this tree would be good, while we were out there we moved from one area to another only taking what we needed. When I thought we had enough we left the swamp when we finished my nephew again put tobacco down and said a thank you prayer for the trees that took in this good way. This how it is interpreted from what I know to be old practices like selective cutting. This is what our ancestors taught us only to take what we wanted, and offer tobacco with a prayer for what you are doing before and after.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, the forestry is now using a method on how to select certain trees and which cut method to use. My nephew works doing this and comes and tells me these things are he is doing in the woods. I would never know these things if it was not for my nephew telling me things. Also the forest is being protected by the historical preservation department and not allowing cuts near cultural sites, or near the rivers because of erosion.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The interviewee did not know how to answer this question, but thinks that the old knowledge is what helps decided what management practices and philosophies should be used.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I do not know really of any social activities except when it was time to harvest plants and berries. But I remember my uncle who was trapper taught us on when to check your traps in the spring and winter because it was necessary to know how to sustain yourself and know your environment. My auntie would teach us how to make blankets out of beaver furs and turbines out of muskrat hides. Everything we did was for shelter/food/ and clothing.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know how the BIA works with which management practices implemented for the Tribe. So, I am not going to answer this question.

**Q5a.** What is you opinion of the BIA interactions with your tribe?

**Response:** The BIA does help out with programs and grants. The building we are sitting in is a BIA building from the settlement we won in 2000 and they gave me a new office. I do think that the BIA does need to have less input on how we prosecute our cases because we are the only tribe in Wisconsin that is federally protected and the other tribes are Public 280. I do not trust the BIA because of its history with the Menominee, but they are now trying to fix the past but until us as Indian people stop living in the past the BIA will always have a negative opinion from Indian people.

**Q6.** Describe how you feel about strengthening IK (Old Knowledge) approaches in the future management of your tribal lands?

**Response:** I feel that there needs to be more awareness, because Legend Lake is becoming much polluted because of the whites and their toys that leak gas and oil into the water that leads into the Wolf River. It seems to me that our tribal council needs to write more laws and ordinances that prevent this from happening. They say once you lose your language you lose who are and the tribal council is not thinking of our children's children. That is the difference from when our ancestors choose this land and thought about the next generation and protected what we have now. We have to remember the philosophy of our ancestors and teach our children and continue the old knowledge before we lose ourselves.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Interview did not comment on this part of the question.



**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Well, my family hunts and we have hunted in the same spot for many years as I can remember. The area had a nice runway where you could see the deer coming, and we would put men along up and down the runway. Well, one year we came to our spot and it was gone to clear-cutting. I was angry and wondered if the deer are here, so after the first couple of years, I noticed the area coming in and the berry bushes were thicker and there were more deer. Because the deer love to eat the top of trees and bushes, even the bear walk through these areas. So, I would say that there is an increase, but there are some parts of the Reservation that are hurting.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Interviewee does not know what the conservation does, so did not comment.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I really do not know if there are many opportunities through cultural except if you call the strip mall and casino economic growth, then, yes. I do hope the tribal council remembers that we are known for sustainability because of our woods and remember the philosophy of our ancestors and how to manage the woods. The area where the strip mall is where the old Tucker homestead was and someone was telling me that there are bones back there and the area was a cultural site for berry picking. That is your family's land back there.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I would like to see more programs that teach our children the old knowledge and the Tribe finds a way to preserve our woods because it is who we are as people.

**Q11.** Is there anything else you would like to add or share about the old knowledge to this research?

**Response:** When you first asked about how do I see the old knowledge being interpreted is you know about the tornado that came through here last year in June or July? Well, back in April we had a sweat lodge and had a medicine man visiting, after the ceremony the elder told us that we needed to stand in front of the lodge and smoke our pipes when the lighting and wind comes to help divert it from the towns on the Reservation. I believed him because the spirits went through him to warn us about this, and I follow this way of life everyday 365 days and I know you do also follow this way of life. So, we did what the elder told us to do and took turns standing in front of the lodge smoking our pipes and praying. How many people would have believed this elder on this Reservation, not too many people follow this way and that's why it is important to teach our younger generations this old knowledge.

## **Menominee Interviewee 7:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK relays on the things I learned through living on the Reservation my whole life. The philosophy ties the messages of the seven generations. Taking care of what is given to us. A large issue-but simply for the most part the Menominee philosophy of the seventh generations looks out for everything, taking care of the resources that have been giving to us. People in the community feel this is important.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Interviewee did not comment on this part of the question.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, I sit on the conservation commission for the Tribe and we listen to the tribal members when making management decisions. An example of this is the issue for Traditionally Spearfishing because it is first cultural, cultural is what we do and need to make the right decisions. The elders' voices are not being heard on the tribal council and they (tribal council) are missing the important concepts of the messages of the people. Remember that one person may be carrying a voice for seven people, "You need to listen." The constitution before termination was set up that the people were the deciders of how to manage our resources and cultural traditions and the tribal council listened to the people and now after termination the people are not heard. Why is this??

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The interviewee did not know how to answer this question, but thinks that the old knowledge is what helps decided what management practices and philosophies should be used.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I believe that you can tie in social because sustainability incorporates social activities. The lake sturgeon ceremony in the spring brings the whole community together because it's a time for celebration and remembering the lake sturgeon and the importance for water and how scared it is to our people and the whole world if you think about it. Sustainability and social is vital to the bigger picture—sustainability is shown and taught to our people. It just does not belong to the Menominee, the Creator owns it. Share to keep conserving resources.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA through close communication and consulting with the Tribe decides how to manage the forestry practices on the Reservation. My experiences are sixteen years with working with the BIA and find myself a political person. The BIA today is not going to make a management decision without first talking to the tribe. We need to let go of the past thirty years of what the BIA has done to the Tribe and need to listen to the younger generation. The tribal council is wrong for not giving an opportunity to the people. The Tribe is a sovereign nation and that has to be held to the highest standards.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** If we the Menominee Tribe are consulting and carrying a message to the Bureau they are going to listen. The first failure of the Tribal Legislature is the Menominee Tribal Enterprise (MTE) and the operating of the Mill, because they are wasting the resources and something is broken up there. MTE is falling behind and we need to walk towards more steps in conservation than clear-cutting. There is no public information on what MTE is doing or what they are cutting. An example of this is over by the casino where no one knew that the woods were taken out of sustainable yield which takes them (the woods) out of protection. The political needs to be fixed and they need to “open ears” because the current council has ‘deaf ears.’

**Q6.** Describe how you feel about strengthening IK (Old Knowledge) approaches in the future management of your tribal lands?

**Response:** Very strongly for the people and the resources. Our resources are lacking the knowledge of our ancestors. Resources management has to be a bigger component because the Europeans depend on the textbook knowledge and the Natives do not. We are starting to lose the ecological knowledge aspects because of the influences of the Western world and their technologies. The tribes out in the west are using their knowledge and have the best environments within their reservation boundaries. What we need to do is adopt the GLIFWC model, collect the information and go backwards down the ladder of Integrated Management. Today’s management does not allow us to go there because of the deaf ears on the council.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I do not think it is time for us as Indian people to do this because we first have to fix the problems on the Reservation and then think about letting the whites have this information. You have to be careful and not give everything away because you will have nothing left for you.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Anecdotally the biodiversity is dealing with the many practices and I do believe that in three to five years it will be better, but right now it's not. There needs to be an IRMP in place and go from those prescriptions. Right now there is a draft of one; but it sitting within the tribal council because there is no money because they think that the casino is going to be the savior of the Reservation, but boy, are they wrong.

I myself and other departments put this IRMP together by listening to the people of the Reservation and what they think is important. For example, fire management is now coming back as important part of the woods because historically it was done to control the berry bushes. The council need to put this IRMP into practice before it is too late.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** There are ordinances that have been placed into tribal law like the restoration sites in the forest are objectives to improve gathering sites; traditional berry picking, maple sugar, wild rice, and hunting camps. Ordinance 04-22 is for the protection of water because it is a spiritual use and the concept is also cultural. Then there is Ordinance 05-22 that protects historical and cultural sites in the forest. This also helps by placing big buffers around rivers, lakes, and streams so there is no erosion and these cultural sites are protected. I do know that these are overlooked some time and the forestry department goes into these sites and still cuts and for example the area by the casino, I know for a fact that there was no NEPA procedures done because if there was an EIA and a EIS done they would not of cut down that area because of the cultural site and the burial grounds behind there. That use to be the old Tucker homestead back there.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** The interviewee could not think of any and asked to move onto the next question.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Forestry is not the answer/livelihoods are not important. Economically-logging is a tradition and the MTE is losing its economic source because they send the prime wood off the Reservation and the Mill is dealing with the crap. The trees that were cut down by the casino went off the Reservation for pulp prices because the tree market is hurting also to the economy right now and there are no good prices for prime white pine. We need to look at the forest products like maple sugar, ash baskets, wood working, and other things we use from the woods. Secondary products are the future and the Tribe needs to start recognizing this first!

**Q11.**Is there anything else you would like to add about IK for this research?

**Response:** I strongly feel that is necessary that we listen to our elders of the Reservation and have our current government take the time and learn about the culture and language before they can make the decisions for the people. So many times the tribal government has done things without the knowledge of the community for example is taking the woods out of sustain yield for economic growth. We need to stop putting our eggs into one basket with the casino projects because soon or later the State will get tired of the gambling then what will we do? We need to be thinking about our future generations like our ancestors did when the Reservation was created back in the 1800's. And the tribal government needs to listen to the people because they know what the Tribe really needs.

## **Menominee Interviewee 8:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is passed on through generations—very useful for today’s world. IK is the knowledge that I use for hunting, trapping, fishing, and gathering plants and berries. I learned this from my father and he learned it from his father and so on to as far as I can remember.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I think that there is some being incorporated because it is the prescribed knowledge; it is the common sense, but is not always that case. It depends on what people are calling IK. IK is more of a general or broad general idea applying the inherited knowledge given to us.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The conservation aspect is the biggest and still being used. The Tribe does its best to preserve for the future. Logging is the oldest practice on the Reservation and it is still applied into the current management practices today.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The whole family in some degree is in charge of making the decisions. It depends on if the family unit uses the IK passed down or if they are from the cities.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Historically probably not. Things had to be done depending on how far you go back. It also depends on which resources were used or needed for survival because in the old days everything we did was needed to survive, not just for social activities. The harvest times were a time to gather with members of the Tribe you do not see everyday.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA interacts is on forestry and other resources are grant funded—they are there for the reason to be; finding different approaches and consulting with the Tribe.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** The interviewee did not answer this part of the survey because of position with the Tribe.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think that IK is a buzz word. How we do things—mixing with modern science can be applied to broader ideas from IK. The general idea is getting the plane done.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** The interviewee did not respond to this question; due to previous response.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** There is always going to be an increase/decrease because of the results of what is happening around the Reservation. Evidently for species and habitats—is what you are trying to get from a commercial standpoint and then you manage for them or the forest.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Consulting with the community is the process we are doing now and the culture reviews of the forest sorts out the details of NEPA and then the BIA signs off on the proposal and we go from there. The tribal ordinance—does not look at this. There are ordinances that protect the water, buffer zones, and burial grounds along with cultural sites.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Forestry management can be done any way “Sustain Yield”, trapping, and selling plants for medicine.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** The forest needs to remain in tact because the forest cannot support us, it does help us in stumpage payments of \$200 and that is only when the Tribe is feeling generous. We need to improve the constitution and the mill so we can start improving the lives on the Reservation.

## **Menominee Interviewee 9:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Indigenous knowledge is ancient knowledge that is not learned from academia. It is passed from generation to generation.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Well, you know there is an accelerated intrusion through technology and academia. A good example is this forest. We have about 247,000 acres of the oldest virgin hardwood stand in Wisconsin- a matter of fact in the Great Lakes region. One of our chiefs, Oshkosh, told us that when we are going to log, that these trees are the spiritual forms that we pray to. These trees are the closest relatives to the woodland tribes. At the beginning of the authorization to cut these trees, I think it was necessary to tell the grandfathers we need them for food and such. Just like hunting deer and fishing, there was always a feast offer to the grandfather for that species to say when you are put down on this Earth the Creator told you what your purpose was to sustain the lives of the human beings and their knowledge. When we make a feast and appeal to the grandfathers, the species will show itself. When they started cutting the trees in 1908, the BIA authorized the ability. Oshkosh said the only way we can harvest these trees is by taking the mature and dead trees. So, he advised the process to cut the trees in 40-acre sections by starting on the east of the Reservation and then once you came back to the beginning you would move in 40 acres and so on until you came back to where you started because the trees will be mature again to cut. That cycle of cutting in a sustained yield would take 30 years to do and there would be more trees once you began. By cutting out the dead and mature trees was the sustained yield. Modern-day cutting like silviculture and other modern-day technology of forest farming was introduced by the ones who went to school to learn about forestry. They cut up and burned a hundred acres of timber because of the testing of the soil they determined that certain species would thrive better. So they wasted all that timber. When the market dictates white pine they clear-cut and plant pine exclusively. The problem is that is not sustained yield and becomes forest farming. The medicines that grow on the Earth beneath the trees are the pointers to these plants like ginseng because it grows naturally. The problem is that people are selling these plants, and soon the plants will disappear because you do not sell medicines.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** IK is our cultural ways and we incorporate this in our daily lives everyday, by praying to the Creator for the gifts he gives us. Before we do anything we offer tobacco for the things we do (fish, hunt, and gather plants, swim, and our feasts) are all examples of the things we do in the tribal community.



**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** In the old ways our chiefs were the ones who made the decisions. Today no one listens to the elders because of the influences of the Western societies and the money is tearing the tribal council apart. Chief Oshkosh's philosophy of sustained yield was using the cultural traditions for natural resource management.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I cannot remember that the things we did were not for food/shelter because everything we did was to sustain us and live. In the spring we came together to celebrate the new life after a long winter, and each season we came together to work as a Tribe so we could survive for the next winter. Berry gathering, maple sugar, wild rice, and gathering plants were all social events for the Menominee people.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know how the BIA determines because there is no BIA forester within the Tribe since we won the settlement back in 2000. I do know that the BIA consults with the Tribe if they want to do something in the woods like the clear-cutting, and they check to see if the prescription has been fulfilled to the proposal of the management plans of the forest.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I do not trust the BIA because of its history with the Menominee's termination and the genocide of our culture and languages. I remember getting beat by the nuns because I refused to speak English. So I do not trust the BIA.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** It is very important to the Menominee and we need to push harder so the tribal council hears us. I know how the politics are run up there and right now we need more people like you because education is important and you think about the people first from hearing you talk. It is so important that the people come first, but the current government is forgetting that and worrying about themselves and their families and forgetting the whole community. IK is how we have survived through assimilation and the genocide of our culture and practices. I remember practicing our ceremonies in hiding because it was forbidden to do such things, and now we have the chance to bring it back to our people so let's do this in a good way.

**Q6a.** . Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** The white society is not ready for this knowledge because they do not know of the culture and the background for the songs and prayers that go with our harvesting and management practices or they do not want to learn because it is a theory and not solid science. The interview ended here as the Interviewee had to leave for a meeting that had been forgotten.

## **Menominee Interviewee 10:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is anything that has to do with tribal and the way the natives view their culture and their resources which is indigenous.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Well, I can give one from the fish and wildlife resources; that a lot of wildlife is based on one. My main thing is that the forest has a sustained yield management for the Menominee forest. My main goal is to monitor the wildlife and fisheries of the forest and it is the main concept of coming back to Native Americans tribes because that they management their lands better than the State and its problems with invasive species.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, right now all the management is according to the strategic management plan and managed for each Menominee clan system. There are five major symbols that come- first the black bear, sturgeon, not moose but the white tail deer, sand hill cranes, and a bald eagle -so in turn trying to write a management plan that will suffice with the traditional knowledge. One of the things is the bald eagle plan. Go to the historical preservation department and show how much the bald eagle means to the Menominee. Hopefully they will protect the bald eagle and other symbols of the clan system. I sit on the forest management prescription and manage for the traditional knowledge for each species and manage for the clan system.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not understand the question and asked to move on.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Not in this era and not since I have been here and that's 1985 and everything has been traditional for the past two years and cultural that been pushed to the forefront, but historically, no.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** That is easy; fish and wildlife management for the Tribe. The BIA will stand by anything I present to them. Our relationship right now is that they fund the programs for fish and wildlife and in turn it is up to the Tribe and their priorities are in the forefront. So it is up to whatever we show them and they force no management on to us.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** There should be more, there is a gentleman in our Great Lakes Region that is in the Minnesota office and our relationship between us and them we are able to work hand in hand with other tribes, and the BIA is vital to the Indians in the Great Lakes Region. Our other partnership is with the U.S. Fish and Wildlife.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I give you an aspect from being the director of the conservation, and the GLWIFC director and it is all through the Great Lakes where the traditional or indigenous knowledge; we want to make the cultural priorities number one because when you sit down and talk strategic management you want to have everyone involved and it is where in the past my knowledge was book, book, book, and now it's gone back to what the people want. Tribal people wanted a sturgeon plan back in 1994 and in two years to develop it. Fourteen years later we have a fishing season and that is what we manage for when they said it was going to take 20 years.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Well, I think that the IK should stay in its boundaries what I think is successful is that with all the knowledge we have, the states are coming to the tribes and asking how do you do this or how we do that, we have more a local intensive approach and their management plans are very broad and basic. I do not see us stepping forward in the political boundaries and the way we can do this is cooperative between them and other tribes may want to keep their knowledge home bound.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I do not know if it is Western that the tribal philosophy is using but it seems to be working because the biodiversity from question one. And that is why we are fighting with the Federal government to have a management plan that uses the same philosophies because right now there are more species because the non-tribal lands are doing badly.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** It gets back to all the other questions you brought up and it goes to the strategic plans and be bounded by it to manage for the tribal society. Once it is in place it will be followed because the tribal members want the cultural and traditional knowledge.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Simply answer, no.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Well, again all the management we do, the main emphasis is the white tail, black bear, bald eagle, timber wolf, and the major hawk species. All the Tribe's resources are important and will push us farther.

## **Menominee Interviewee 11:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK, I believe, is the own experience that a person learned by people within a lifetime. It comes from knowledge by living in a particular spot and the knowledge that is learned from that area, knowledge of food, housing, survival, forestry, and farming and all those resources from the culture of that area not from a text book.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Well, I believe that the knowledge that is learned from a long period of time makes it actable to that context of that area. This knowledge is based on much history and is appropriate for helping that area sustain because it comes form that area.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, I guess I have seen them and read about them, and there are tribes in Peru that plant many species of potatoes because they do not know how the environment is going to be that year. So by planting many different species one or more species will sustain itself if an outbreak of diseases or bugs may attack the other species. That is the difference between a monoculture and a permaculture. It is a safeguard to livelihood and it is like the Menominee forest that has many different species. So you want to maintain diversity and the biodiversity has been the very big plus for IK because it comes from within the culture of the people.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not know this question because of being non-tribal member.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not know this question because of being non-tribal member.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Does not interact with the BIA, so declined to answer.

**Q5a.** What is you opinion of the BIA interactions with your tribe?

**Response:** Does not interact with the BIA, so declined to answer.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think it is essential because tribal lands need to be carefully managed. Specifically there are lots of threats because of the demand of the resources and people who live on that land know it best. They have a good implication if they put a disturbance on their lands or system. I believe that the people know the contents of their land and know of the threats from off the Reservation and know the rippling effects by certain disturbances like fire management, roads, demand for timber, or oil.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I would be careful with mainstreaming because everything is assumed the same. What works here might not work there because of the different variables I mentioned earlier like roads and other disturbances. Climate, soil and geographic is constantly changing and have to be adaptable and experimental and try new things. I would be very careful with mainstreaming IK; I think it is very valuable to take components from it because the concepts can be used like a formula and try in different areas and not have the same results as you would somewhere else.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Definitely a decrease in biodiversity. Most definitely there is a traumatic decrease in biodiversity and cannot place it all on Western science because there are lots of different variables. Western science and the idea of work here have been detrimental. Because it does not go good with economic progress, because you want things simple. Biodiversity does not work that way. It provides rich elements like stopping diseases and things like that.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Does not know the tribal ordinances.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I do certainly believe there is, for economic growth because on tribal lands the tribes have been successful with diversity and can be worth something like the plants for diseases. This can be untapped but the tribes need to keep the IK properties. In the rain forests this is happening with the companies and giving literally pennies for their knowledge and then patent it so the tribes have no rights to their knowledge. As long the tribes can maintain their sovereignty and consult then maybe you can mainstream the IK, but I would be careful.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** A sustainable livelihood is living close as you can within the boundaries of your area. What foods, building materials, and maintain an economical society; growing your own garden helps you maintain the food in the local community rather than relying on fossil fuels to transport them.

**Q11.** Is there anything else you would like to add about IK for this research?

**Response:** You hear about a rich variety of IK all over the world and it is constantly changing and it is what is needed for the sustainability of the Earth. We need to look at the case examples of what those people are doing because the Western way is not working and is destroying faster than restoring. We can learn and apply those grains of gold, the Menominee does this with their forest and around the world the IK have been using their knowledge for generations and generations. This is where IK comes in.



## **Menominee Interviewee 12:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK, there is a lot to be said about that; it is a life-time pursuit and it starts in the womb first then forward, and there are different levels of knowledge. It is a pretty big place to cover and sustainable development. The Menominee have always practiced respect for the Earth, water and is the values for life. When you take anything from Mother Earth, always offer tobacco and a prayer for whatever spirit you are talking. My IK came from my dad and grandparents and there is a lot of literature written about that topic. If you are going to harvest, you offer tobacco and a prayer and especially if you harvest medicine. Unless you have the songs and prayers it is not going to be worth it because you need to follow the way you are taught. Five hundred years ago it is little different than today because you need to vast knowledge of indigenous sustainability for life. There is a procedure in wild rice, maple sugar, fishing or hunting and that meant survival and the prayers and songs that went with it. In our modern day we follow the similar practices and many do this. In today's world we need to follow this and give thanks.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Did not answer this part of the question.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I know recently at the College we had the first annual thank you ceremony for the trees. As indigenous people we see the trees as animate objects that have a spirit and are alive. We had some of the people that do logging and other officials from the different departments on the Reservation and other people from the community and we had a prayer and feast to thank the trees for the harvest of our woods and the logging practices. This is the first attempt to bring the sustainability into our daily lives.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Interviewee did not know how to answer this question.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Well, the first thing that comes to mind is the logging practices which is well-documented that started around 1909 and the words of Chief Oshkosh that explains sustainability for he stated, "We will start on the east side of the Reservation and slowly towards the west. You always leave the big trees for seed and when you get back to the point you started then you move in forty acres and do this until you get back to the

beginning, the trees will be ready once again to cut.” The Menominee are well known for their sustainability practices. Around here some people use moss for generating small incomes.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Well, as the Menominee people and other tribes, we have a unique relationship with tribes and treaties are the main thing that keeps the tribes safe from the government except the Menominee people lost everything because the treaties were not held. The trust responsibility is what helps keep the Reservation safe because the BIA has a say in what the forest may be cut and how much. This is very controversial because of the sovereign status and I do not feel that the BIA should be having influences on reservations. This is a tough area to talk about because of the controversial relationships within the BIA and Indian affairs to come to an agreement on management of the forest.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Again, I have touched the issue with trust responsibility vs. sovereignty because the nation is number one and in the case of the Menominee Tribe is over State government. Historically the BIA has not been a good option for native people. In the treaty making area 1840-50's the Menominee and other tribes had an Indian agent that was appointed by the U.S. Department of Defense and President; and those agents were corrupted. In 1978, with the passage of the Self Determination Act, the native people determined how to work as a nation and recognize the sovereignty of the people. So, as you look historically, the interactions with the BIA was not good for the native people. I believe the BIA should be dismantled as an entity of the government.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** From a personal perspective I believe that the logging is necessary, but not the best thing for the forest from an indigenous sustainability viewpoint because the animals and plants thrive in the forest and the logging does impact that and from an indigenous standpoint. I would not like them to log if they could do it financially. Let the forest grow naturally and be almost returned to a natural setting with abundant resources. You can find this in Canada where they have not cut, mined, etc. Unfortunately the Menominee forest is used for marketing and making money from the woods. The current practices of MTE are not following the directions of Chief Oshkosh and making the Menominee forest a tree farm because the value of white pine. Clear-cutting should be looked at differently than what it is today as a money tool for the Menominee people.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** It is well-documented that the Menominee forest is a model nation-wide for sustainability practices and the big companies off the Reservation which cut down their trees and create landslides, erosion problems because the trees are gone is not a good thing for the wildlife and the environment. People should look at Menominee forest

where they only cut down what they need and have protection for the buffer zones and manages for the wildlife and plants. So I think that people need to find the respect for the environment.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** It is hard to measure because of the data collected a hundred years ago. Take a look at the white tail deer where 50 years ago the populations were very low and now there is much more per mile. To say logging practices have decreased the deer population is hard to say. The wildlife is not here as it used to be because the logging operations do take away the resources for certain animals and plants. It is hard to decide if there is an increase/decrease, but personally would say a decrease in the biodiversity.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I do not know of this because it is not area.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Besides the logging, I cannot think of anything except some of the wild rice, maple sugar, and beaver trapping.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I guess, there is potential for clean water for sale.

### **Menominee Interviewee 13:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK, that's to me the original teachings and knowledge that we used for survival or to gain other types of positive benefits or to avoid the negative aspects and this original knowledge is without the influence of Western science.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Well, it is interesting; much if it is imbedded in our thoughts and practices. Many people really do not know it is there. The past several generations have been spoiled or ruined or hurt by the whole Western tendency and were told that was the truth and what it is. What we were told at home comes in conflict with that and determining what is true. The media and Western science believe different because it has to be reproducible and written up and published and that is not what IK is about in reality. Our knowledge is different and takes awhile to remember that. What our grandparents told us what is true and we now seeing this in our management practices today. We can survive without going that route of the Western society and we can implement our knowledge because it is the truth of our ancestors.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The biggest picture of sustainability is there and when talking about some of the cuts that happen in the forest the concept of waiting and giving three years for natural regeneration selection to take place shows the old knowledge of waiting to know your environment. The whole concept of looking at the plants is also another way of IK. There is science in our IK and thought of romanticism. A lot of what we have was given to us and the knowledge that comes with that is science.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I am not aware of this except the Tribe and its departments makes the new management practices from observing the plants and animals.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Actually I really don't know of anything and need to think about this for awhile. I do know that certain cuts in the forest are used for shooting cover for the various tree species which helps utilize the soil. Otherwise, I do not know of anything else.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The whole concept of sustained yield was established years ago and when we look at sustained yield they are talking about volume and quality of woods for processing. When the timber market value presents itself, which is the principal concept that they need to follow. There are other things; we talk about plants and medicine, but the main thing that the BIA deals with is the timber market.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Interviewee did not give his opinion about the interactions with the Tribe. He did talk about how necessary it is to have the BIA understand the practices of the Menominee because of the past law suits brought against them because they did not understand that the Menominee look at the environment first before anything else.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think we have no choice, we know what needs to happen and if we look at the whole concepts of the IRMP it looks at all areas of the land and community. Many people look at the woods as a huge farm and have to harvest each year from that. Well, I struggle with that because I look at the woods as a living entity first and when you look at it from a commercial entity that approach is not where you look. The IK approach you first see that the woods are a living entity and everything is connected and you put your tobacco down next to a tree. We are taught that the trees can talk to another we told what ever we do the plants and trees can talk which we do not understand yet. This environment is whole living breathing thing and if we do not approach the environment in this way then looking at it as a commercial entity then we are going to have problems with our values towards the environment.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think of the same thing, when in the past and non-natives look at IK get a hold of that they feel they can substitute that in their own version and it creates problems. Because they do not have the interpretation that we were taught to understand the prayers and songs that go with management of our resources. But on the other hand there are many things that we know that can be taught to the world and save it and help the environment and surroundings. We have to make sure the surrounding buffers do not create negative effects on the reservations. So you want the teachings so that their not negative and we want people to be taught right when dealing with us.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I would say Western science may give us some efficiencies, but the most part I do not think it increased our biodiversity (except the invasive species so the increase is negative). But that said, if we say we continue with natural single tree selection may doom us to a climax forest in many of our areas where we want to keep diversity, because we know to manipulate our environments with the technology, and if we continue to suppress fires, or alter nature we are going to have more problems then we started with. We need to follow the prophecies our ancestors where you only took what you needed.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Part of that is we need to stay away from specific areas on the Reservation burial grounds and ceremonial grounds. We held a tree ceremony where we thanked the trees for harvest. The current ways are harming the woods so we are thanking them for their lives. We are protecting or not changing that area. There are laws that protect our waters, soil, and airs because of the surrounding areas are changing the environments.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** There is none.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Planting fields and gardens and fruit trees, I think those options need to be put on the table. This is viable for the animals and the clear-cutting stops this from happening; that is why it necessary to go back to Chief Oshkosh's thinking.

## **Menominee Interviewee 14:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Teachings handed down from previous ancestors and generations that are particular for us that you cannot find in classrooms or books.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** That is not really being used to the full extent that it could be right now because the current legislature is assimilated; they do not speak their language at the horseshoe, they do it from memorizing or do not know their traditional ways because they were not around elders growing up. It is not a bad thing because you can always learn and most people are not taking the time.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I know that they are using fire management because we always used fire to control insect populations and diseases that harmed the woods and plant nation. They did incorporate buffer zones along the rivers, and highways.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I do not know, for it is a difficult question. My father did work at the mill for 40 years, and talked to his employees about the management of the woods, because he was taught by his father and grandfather and his father. When my father tried to have this knowledge imposed because of the cutting practices, Marshall Pecore told him to go away for he is an old man, and he had a college degree and why should he listen to him. So my father gave up on warning them about the clear-cutting and what it is doing to our woods. Not respecting our elders does not give us the knowledge they know to help us.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I do not know anything that was non-gathering because everything we did was to help us.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I think they determine it by approval. The Tribe submits their plans and they approve there plans, but make sure what the plan proposed is within the federal laws. This shows the bureaucracy between the government and the tribes.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Granted they have scientific backgrounds, but not the culture. I think that they are more repressive at times and I think that our best interests are in their best hearts and we have to be careful how we relate to them.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I feel it will happen if we have native people involved in decision making as yourself and others from tribal communities and learn and seek out their culture. Not just in natural resources, but in education itself because you cannot have a non-native teaching culture because of the culture gap between the two.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think honoring Mother Earth is great, but not giving our knowledge to them it is not the right thing now. I think there are a lot of them who take it and mainstream it without the respect and knowing the ways behind the language. Mainstreaming in general is not in our interest and they still believe that our ways are romantic. We can save the world if they would listen, but there is too much racism still today.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I think it can help us because of the left brain scientific knowledge, and openly discuss it with us. We can learn from them, but the elders are the answer. I think there is suppose to be an increase, but there is not. With us losing our pines is more detrimental to us then they say it is. Like I said earlier we can listen to them, but we do not have to adopt their ways. In time we can see the damage done to the plants and animals with the medicines.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management. How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Conservation from what I understand, because they know our needs and those needs are necessary because people do not know to take what they need, and you can see this with the dead deer carcasses that are left on the roads. There is protection of our waters and buffer zones along the rivers and lakes.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** We have to be careful not to exploit ourselves with our resources. Our culture resources are our elders and we have to be careful of what we tell people and we do not share everything.



**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think it is the natural and elder resources and give them the levels of respect they deserve as we were taught growing up. We adopt other people to help us; just go with your tobacco and ask.

## **Menominee Interviewee 15:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK to me is knowledge that is inherent to native people and the experience of hundred of years and the very fact that we have been able to maintain our way of life that has always been ours shows you the sustainability for your report. We have survived through our IK and the oral traditions.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Did not answer this part of the question.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I think the key to that is how we listen to the voices of our elders and take into consideration and what they have taught us about the world we live in. We have a very strong oral tradition and still follow the advice from people 100 to 200 years ago and into corporate that into our businesses.

**Q2a.** Are there any plans for the tribe to be using the oral traditions into a management practice or daily activities?

**Response:** I think there is and the more we study ourselves and the work you are doing is so valuable because if you know your language, culture, traditions, and people you are not living on a island, that knowledge is not just kept with that family. When we share we enhance what we believe and there is a lot of young people who want to study the logging industry, wildlife, plants aquatics for the purpose of continuing the IK and key to our existence.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not know of anything so asked to move on to another question.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Everything we did was to survive and gathering was our social community coming together as it does today in our ceremonies being done on the Reservation.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Well, I think that is different from a long time ago when they told us what to do. Today they listen to the people who have college degrees in certain areas and what the BIA does not know is what we know. We too have are scientists, biologists, and

other professions and the IK that was given to us by our elders. Now the BIA listens to us because we do know what they know and beyond their scientific degrees. We are dealing with them on a daily basis and not in a vacuum and communicating with us.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I do not want to answer this due to the politics and my position.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I am a very strong proponent for this. We take all our information we have learned over the generations and the institutions can incorporate this into the education of our kids. I support all the academic institutions on the Reservation: College of the Menominee Nation, East-West College and all the other great education opportunities for our people. Being an educator, I know how important to have our culture and language incorporated into the lesson plans and there is a huge effort in preserving our environment using our knowledge of the environment.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think this an excellent idea and for too long people have thought we have myths and legends as romantic and if they study what we have done and see the years of sustaining ourselves they might say we have to think about using this IK. It makes it a healthier ecosystem if we can use this IK.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** When we use the state knowledge we can the damage to the woods, and when we use our IK you can see a richer environment and species.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I think there is a reflecting of the government by and of the community. It is a mere reflection of the people that occupy the land. Are we doing the things are ancestors will do and have an eye out for the future. We have a strong tradition and the Menominee have a tradition to listen to the past and present and the future. Look at the data and see what is working and not working and incorporate what works for the people and the beauty of the Menominee and we will take what works and what does not we get rid of it.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** We have to work through that because the Constitution to allow us to do that in certain ways and we can start looking at biomass. We have to be careful of not exploiting our resources and we need to look at the humans and how are they involved. We need to include the human for management of our resources. I believe that we could do some ecotourism but the Constitution does not allow for this. We have to make our resources work for us and we have to honor the trees because they are brothers and sisters. I do think that there are opportunities for economic growth.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Education is the key because we do not have a strong economy without the high paying jobs, but we want all our Menominee to flourish and benefit from our culture. This is a great place to live and it is because we have sustained the Menominee for hundred years and still today we are continuing to for the future. To understand the Menominee people you have to understand the sustainability. I think it is important for the work you are doing, Rory, for we need Menominee's publishing our perspectives and not have our children reading someone who is from the west coast. They will be reading a Menominee who knows their culture, language, and know where they come from.

## **Menominee Interviewee 16:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is knowledge based upon historical ties to a culture and experience the culture domain written and oral history previously handed down by the generations of the Menominee people.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Well, for on our forest the life blood for the Menominee nation and the wolf is secondary when it comes to sustainability. It is the forest that keeps the culture and livelihood for the Menominee people for so many generations.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, the recent IRMP, Doug Cox, played a part in it based on years of practice and has a prescription that has been fine-tuned for the Menominee to operate their sustainability.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Well, there is starting from the top down the tribal legislature and attorneys. Policies are established by the government and do not run contrary to the previous policies established. The MTE is in charged of running our resources and the Tribe has a say over what they do.

**Q4.** Were there any natural resource management practices historically conducted solely or primarily for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Well, it was a mixed bag of sustainability of the past like taking game and the current forest attests to the traditional Menominee respect for all living creatures in the woods where you take enough and leave for future growth. This goes for the waterfowl and fish species where you do not need to be depleting them for personal gains.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Policy is established in D.C. and a lot of times tribes are saddled with government policies that do not relate to them. This is where the BIA is known for getting rid of the language and culture and the history books are now showing this was a genocide attitude. They were here to destroy the tribes and it still carries this shadow with them. With the self determination going on now the tribes can tell them what they need or how to manage their lands in their own best interests and the BIA has no option but to listen to the tribes.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Well, the BIA can be a hindrance, I have witnessed this myself in 1978-79 when the Constitution was being established and we had nine candidates for election and the BIA held nine different elections for the first tribal body of legislature. There was no need for that, but the BIA thought it was necessary and because of this it stalled the Constitution from being put into tribal ordinance. Studies have been done to show the relations of the past with the BIA and tribes and it shows the inconsistency and the law suits for mismanagement of tribal lands or forests. The Menominee were the first tribe to win against the government back in the early 1900's, and because of this I believe that the Menominee are punished. So I do not have a high opinion of the BIA and think they should be dismantled as a government agency. Let the tribes manage their own lands without the influence of the 'White Father in D.C'.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Very enduring to it because it is what our survive-ability is about preserving our language and culture based on traditional teachings. We need to preserve our heritage and cultures for the future of the Menominee people. It is there all you have to do is want it and find it from the elders.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think non-tribal government can learn a lot from tribes. The holding the lands in common is an effort on the government for protecting the tribal lands from being lost. There is no ownership of the land and the air. We have to remember our teachings and only share certain knowledge because you cannot give away otherwise you will have nothing left for yourself.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** That has been a raging conflict for the past thirty years and can show you many cases that the state of art technology and the practices of Marshall Pecore "DOES NOT" work and is creating a huge decrease and proving harmful for the Menominee people in the biodiversity in the species and habitats. The clear-cutting does not leave anything standing after an area is cut and then when a wind storm comes through that area is more damage because there is nothing to hold the soil and trees in place and the tornadoes are proving this. Look at the one last year near Zoar and the 1990's in Neopit where the shelter wood was destroyed by these storms. I am not a fan of this practice and Marshall Pecore needs to go.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** You are going to have to ask Doug Cox on this one and have to pass on this question, Rory.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Yes, when the tribes embrace their culture their economics become more viable. There are some opportunities for ecotourism, but not much else besides the tree markets.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Furniture making, green technologies like biomass from our forest and other things along those lines.

## **Menominee Interviewee 17:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK basically, from my point of view, is being able to understand your culture and language and different tribes have their own philosophies. We have to be culturally sensitive and aware of whom we are as Menominee people. If we can identify that concept and learn more about what it is and how it is still in tact and give people a broader sense of what we need to do to maintain our values.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** It is in the school system and is the biggest step, because the language is being taught after many years of where you were told not to talk your language or practice your religion and was lost. It is in the preschools through grade 12 and it is coming back strong because you learn the concept of the oral traditions and what it means to be Menominee. It is one of the lost identities that is missing of understanding who we are as a people and with the IK in education we can start recycling the knowledge for the next generations because there will be elders who know the IK.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Like I was explaining earlier it is in the schools and that trickles down into the community. Our community reflects the environment and you cannot have the two without the respect for your environment.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** It starts with the people from the community and then the tribal government puts this into practice.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I think there was a lot back then because people talk about this and it was their way of life and survived off Mother Earth and they learned it as kids. It is a everyday package for them and it is good to remember this because we are losing our elders, but they talk about this and the water gathered and wood being gathered for survival.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA does not because of the sovereignty of the Tribe.



**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I do not care for the BIA to me because their middle people because tribes have become strong enough where they are sovereign. The BIA was used for pushing the views and values of the Western society. Like the getting beat up for speaking your language. We do not need the BIA because the tribes are self-sufficient where they can run their businesses. The BIA was designed from the War Department and you saw this growing up with the genocide of our religions, language, and culture.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I love it and my father Sparky Waukau was very adamant about teaching of our people and helping preserve our woods. The children are now finding out that you do not need to get into trouble because they understand the culture. With the teachings can bring back the culture to make sure it continues for the future. The Tribe's strategic plan is doing this by showing what is needed in the community and using the needs for the management of our resources and I just love it.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** The interview declined to answer this part of the question because they feel that IK is not for sharing period.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I personally think that there is some advantage to this, but there needs to be a balance to this. We cannot ignore this ability of the Western society, but they have to know the respect need for the resources to stay intact. There is some decrease because of not understanding that the environment is a living entity and you have to be grateful for the gifts given to us.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I do not know this because; I deal with the laws of the community and not the woods.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I think there could be more and needs to be more. There are some things that the MTE could do with the products from the woods. The tribal government needs to look at this and be creative while maintaining the sustainability.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think what we need to do is stay on target and can moving by putting our values and culture comes first. Our values for Mother Earth keep us sustainable and we need to pass this along. We need to turn our kids around and identify themselves with their cultures and not the Western society (gangs, drugs, other things coming from the cities) because if they knew the culture they would know that we respect everything like ourselves first and the people of the Menominee.

**Menominee Interviewee 18:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** To me IK is the knowledge passed down from your grandparents and the knowledge that you use daily.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Does not live in the community.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I feel like fire management is very connected to IK because if you look at the Menominee origin stories about how fire came to Menominee and fire is very much a tool. Fire management is part of the management on the Reservation. Fire is the first tool used from all indigenous people all over the world. Coming from Colorado and seeing the different attitudes towards fire was very humbling for me. Understanding from the Menominee history and seeing this land today was historical because of the 500 hundred year old villages shows signs of fire management.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The Tribe makes sure that the development of fire is done by looking at historical sites and maps showing burn areas, then come up with a prescription plan to use fire to bring back that area for berries and hunting along with gathering sites. We make sure everything we do is what the Tribe has done in the past.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not answer.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Does not implement because the Tribe sets the standards for their practices and the BIA signs off to make sure the prescriptions were fulfilled and NEPA is followed because of the federal lands and trust lands.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not answer.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** It is very important to keep the IK alive and it is being used in the management of fire and other resources.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Did not answer.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** The most influential thing was the fire suppression for so many years 1905-1910 and because of this it has decrease the species and their habitats because you are not allowing new trees and natural selection playing effect so you are suppressing your plants and trees that need fire to survive and the open space and your shade tolerant species. Now that we are using fire you can see the land coming back to its historical ways. It is important to use fire as a tool to help with the diseases and insects that are now threatening the woods like gypsy moths, pine beetles, purple loosestrife, buckthorn, garlic mustard, etc.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Did not answer.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Did not answer.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** The oral traditions and IK needs to come back because of this knowledge you have the prescriptions to sustain the environment. The elders are the ones that know this knowledge and they are the stories to help the Menominee people. The fire management is becoming a major part of our practices and it is because it is the IK for so many generations. You do not need herbicides if you use fire. The politics on the Reservation is so bad and there are people in MTE that are going to hurt the Menominee. For example there was a cut to happen with white pine because it needed to be thinned out because of the fire suppression and it was ready to go but the management stopped the project because the white pine market was not there, so this area is suffering environmentally because of this type of mismanagement. This is a huge example of dropping the ball when you can help the environment but putting money over the resources. The one thing the Tribe can do is express on the authority over MTE because

they can take the contracts from the mill and have the Tribe manage the woods and manage the mill different from the Tribe. Instead of sending the prime wood off the Reservation keep it here. Run the mill like a business instead of a chopping block for the woods. The politics are a huge problem around here.

**Menominee Interviewee 19:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK that knowledge that is really old and passed down oral and sometimes written and old stuff like maple sugar making.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** That is a tough one. The plants, animals, trees, and medicine still give us life and sustainability, and remembering not to take more than you need so the environment can keep growing for the people.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Through our education system because I am a professor and lawyer for CMN. Also through our culture activities on the Reservation, for example Pow Wows, Sturgeon Feast, Big Drum, and other things we do as a community.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** We all participate in culture activities but not in the occupation of natural resources.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** All I can think of is the shelter and food. Here in our yard we try to grow medicine plants and we go around the Reservation gathering plants for medicine. We do not let people pick the milkweed because there is not a lot of milkweed around. We have three of the four elements in our yard.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know and hope that we decided.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** The Menominee have done good to try to keep the BIA out, but my life span covers the termination era. Mother will know more. We still have a lot of resentment because of termination.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I do not know about the Tribe, but in our family we do this and I will pass my IK down to my daughters, grandkids, and other members of our family.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands or state lands?

**Response:** Sharing it with others it does not matter as long as we maintain it here. If people want to learn this knowledge that is fine and if they do not want to learn, it will affect us in some way. In the global perspective it is no different, but it is very important that we keep the sacredness of our ceremonies a secret.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I hope that there is not much invasive species coming in certain areas, but do not know because I do not walk through the woods a lot but when we do, I can see the damage of the clear-cutting and what it is doing to the wildlife. I wish the Tribe would have given us the opportunity to take the medicine and trees down by the casino.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I really do not know this.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** There is nothing except the logging industry.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Pellet stoves! We have the resources here, but the sawdust leaves the Reservation and someone else does this. We have to go into Shawano to buy are pellets.

**Q11.** Is there anything else you would like to share on IK or for this project?

**Response:** This is a good place to live except the social problems that are infesting our community. There needs to be more involvement from the tribal government listening to the people.

## **Menominee Interview 20:**

This interviewee was an elder his/her/ memory could not remember and they could not hear well so declined to answer some questions because it was hard to understand.

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** I lived it so, but being away from the Reservation for so many years, there is not much changed and the IK is the knowledge that you learn growing up and then you pass it along to your kids like I have done.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Being raised on everything growing up and because of that I do not eat deer because I had too much of it growing up.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I do not know for being away for so many years in the city except to come home and visit. Now that I live home I notice some of this, but the politics are just awful with the way families fight. This is not how the people treated each other in the past and it makes me sad to see this.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The lumber industry, the family is very tight and everything is family orientated.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** The medicines are a way of life to us and we use this all the time and I remember my sister did this and was my herpetologist.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Did not answer.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** You really want to know? One day I was an Indian and then the next I was not, and then I was an Indian again. I remember when President Eisenhower signed the termination bill in 54; that was a blow.



**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Did not answer.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Did not answer.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** The area down by the casino makes my heart weep because the tribal government did not let the people go in there and move the medicine plants, trees, and other cultural items before they wiped out 40 acres to the bare soil. They did not even tell us that they were taking the woods out of sustained yield until the trees were gone!

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Did not answer.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Since I have come back, the Tribe has done some things like the transportation department.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** We see five to six trucks a day with our prime wood leaving the Reservation. Why cannot we do this when we have a mill? It makes me upset to know that our trees are being taken for only money and the people do not see this money except once in awhile when they decide to pay only \$200 for stumps when the trees are worth more than that!

**Q11.** Is there anything else you would like to share on IK or for this project?

**Response:** Did not answer.

## **Menominee Interviewee 21:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK to me is going by what other folks told me. A long held belief on how the natural system works, and in forestry try to mimic the natural disturbances and human, fire, wind and managing them for the composition of the forest.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** We use a forest management plan which is based on the input by the members and its ten year plan (we are in the process of writing a new ten year plan) and it dictates the whole scheme of areas for timber use and non-timber like gathering, wildlife, water quality, aesthetics, and other issues and try to incorporate all the goals into the management and use the long-held beliefs and understanding on the forest operates and use that to guide our management for year to year for natural disturbances. Wind and fire have been used historically by the Tribe and we are now using this knowledge to restore the areas of gathering for berries, hunting, and harvesting plants for medicine.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Does not know being a non-tribal person and lives off the Reservation.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Does not know being a non-tribal person and lives off the Reservation.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Does not know being a non-tribal person and lives off the Reservation.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** You look at the management plan and develop a harvest schedule based on and several silviculture principles that look at several issues of sustainability like forest composition, economic and sociological. In forest we focus on maintaining the maximum diversity in species, so you could all do single tree selection and in the long run you decrease the diversity of species. So that is why we pushed for even-age management of aspen, white pine, red oak and other species that are shade-tolerant. They approve this and we do this every year.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** It changed so much over the years and there is a trust responsibility without micromanagement and no short cuts are taken. The BIA is made to keep Natives in check with their resources and should be stricter when dealing with the tribal government so the resources are more available for economic growth.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Fire is being implemented more than herbicides because you get the pre-settlement conditions by using this knowledge and benefits the non-timber resources and get the other effects you get with fire. There is a lot of evidence of fire being done historically by nature and tribal members. There was even-age management done before the clear-cut so it shows us that IK was applied long before we started to mimic the natural disturbances. So we are implementing our fire management heavily into the prescriptions of the forest management plan.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think it is there already in a lot of cases when looking at the U.S. Forest Service where the forest management is not dominated by the economic section of the society. When you look at the Menominee there is a longer rotation between the selection of trees because of the IK and the understanding of the forest. The State and U.S. Forest Service are now realizing this and starting to adopt the Menominee practices because the forest is much healthier and has more white pine and hardwoods. The State is realizing that it does cost more for regenerating white pine and it is good to see them catching onto the Menominee. It shows the historical ties to the forest and the Menominee have always had this and other places are now starting to learn this.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** There is an increase and we have the data to prove it. The data that we have is from the 40's and measure it to today by the mortality rates and the health of the forest. The Menominee go through and removes the dead trees first then go after the mature trees unlike the state that does this backwards. There is a lot of diversity in the stands like you have aspen in sugar maples and this was here before we got here and fire is the main reason to believe that the IK was always here.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Does not know being a non-tribal person and lives off the Reservation.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** This interviewee is very much for the clear-cuts and using the Menominee forest as a modern day tree farm and believes “that the Menominee needs to cut more of the white pine and hardwoods to create the quantity then the quality of the tree species for economic growth.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Beyond the forest management, I do not know of anything. The Mill needs to keep the prime wood instead of shipping it off when you could do it on the Reservation. I think you can learn a lot from IK and the Menominee is a great way to show this knowledge and compare this to other places you can see the freshness of the Menominee in the responses of people.

## Menominee Interviewee 22:

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** That is a pretty tough question right after lunch, personal definition of IK; I think it is an understanding of the land and environment that you live in and knowing the process of living in the environment. When you say IK today people's minds quickly jump to how tribes lived out of subsistence living, but in doing so that they gain intimate knowledge of the environment they live in because they had to or else they would not survive any other way. That your knowledge of the environment you live in would be my personal definition.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Right now, I think the majority now interprets from other sources because we do not live that way by going to the store, electric and people do not use the IK. But there is a large effort in bring it back and integrating into the management that is done and the teaching we do for the children. IK is not prevalent or as encompassing as up close and personal as it used to be when you had to depend on how you interacted with the environment to determine to survive or not; but it is there but of course its been downgraded or reduced. There is an effort to bring it back and I think some people have different ideas of how to bring it back and the common theme is focusing on how people live in their environment.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I would say management or prescriptions you mean any resources that the Tribe is doing. Those ones are the forestry and the efforts that go on here—fire, forestry, and forest development are the three main ones in the forestry department. My job deals with these and when you talk about forest management is that anything you do you do out in the woods effects how it functions environmentally or an ecosystem that's managed good or bad Timber harvesting is the most visible management activity and as far as that goes, the main thing they do there is the primary goal is that it is a healthy forest. MTE has stated they have based it on Chief Oshkosh's management plan, where you start on the east and go west that is what they base the forest management on here and or have stated they base their forest management on.

And the second part of their goal is that they acknowledge the archeological site. The historical preservation records everything down there and everything do with that is tied into culture; they acknowledge it, then implement it into their practices. Now for fire management; they have started to look to culture more and tie back into what role did fire play in our tribal history and there is and academic study they are doing now looking at historical fire regimens and how it did play into that. Some of the presentations they show is a picture of a cleared out area underneath pine and show a blueberry camp blueberry gathering site and showing that fire was a part of the Menominee culture history that tied

back into the environment by using fire management as tool then which is what they are trying to today. Not only balance the suppression of fires to protect the people and property but as a management the landscape forest development is much as I can say is that they connect through the archeological site. Right now we have a new person who is Menominee that is trying to bring the culture into the practices of forest management. In the presentations he is incorporating the language into the practices.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not know.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not know.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** How do they determine; one of the things is that if you go back into the documents to see what the tribes wanted to do with their land to avoid the typical stereotypes of the BIA dominance of the direction of the tribes. They look back the trust management agreement between the tribes and United States that all forest land will be managed on sustained yield concepts based partly on that and been reviving this effort called Intergrated Resource Management Planning and that was to recognize that tribes have more goals and objectives than just producing timber on their land. They have culture resources not just archeological, but the culture like burning an area for improving blueberry gathering sites and out in the western tribes they actually do things to promote huckleberries. As much as they call them preservation areas where nothing happens in them and if you have an IRMP in place the BIA acknowledges that the tribes are letting them know this is what we value most on this place of land. This is an effort to try and get away from just clinging to the allowable cut that you need to cut in your woods every year or you are not successful in managing it. I think that they have taken a bigger step in acknowledging an IRMP and working with the tribes.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I think that is good and all that they are working with tribes and having consultations but there is that political side of the BIA where there are continual assaults on tribal sovereignty daily in Congress, in courts and all the up to field level guys that have the understanding of the relationship better than the guys up here. It all sounds good up here, but down here they carry out the unity to what works best for the tribes. Since working up here the past three years and seeing the policies and hearing things these policies still have the hint of backroom politics stuck to them. I do think you need to separate those two, the political and the operational.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think what we are doing now is revising the IRMP and gaining community input and stopping there and putting the information from 2005 and using that to inform on how the management plan and the deadline we are working under is. In September we present a draft to the public and then close the loop. Where the last one was written and approved by the board of directors and there was no input from anyone else, it is like they are talking to you, telling you what should be done and presenting to inform the public but the public has comments as well and there is no plan or dialogue to the public. The communication flow is the number one way to incorporate the IK and present a way to show why you need to manage the woods by using science, but you can also not look at do we really need to clear-cut all the trees within the prescription in front of us? No, you do not because that is not how our ancestors managed their woods. They only cut down the dead and mature trees living trees for regeneration and tree cover for shade tolerant tree species.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think there are a lot of issues out there right now with IK or intellectual property rights where tribes have been exploited in the past on others peoples' terms. If you can work with the tribes and to whatever extent they want to share their knowledge then it is on their terms to share this with the world, people, etc. That would be a tribe's decision and that is what the IRMP is about where the language and culture commission, that share shows on how the Menominee are protecting their culture and language. I think to whatever extent a tribe agrees and this has already been done through other achievements.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** That is kind of a good question there because you can look at in seasons or look at in different stages of as the trees regenerate and you are going to get more diversity in the clear-cut and as they grow there is less food and you have a decrease. So, it looks there is a no or yes answer and look at those two things. In natural resources, they are not just looking at acres of an area but they are also looking at the whole landscape of the State and tying that back to the culture in those areas. It can be depend on the age and what life is in that area to say weather there is an increase/decrease of biodiversity.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Talking from forestry there is a process and they have an inventory, but that is not always right because it is a computer related and then the forester walks through

the area and decided whether it was right or wrong and then goes back and writes the prescriptions. Once it is approved then the men go out and do this and then the BIA comes in to see if they have stayed within the prescription. Then once it is signed off they go through with the treatment plan. Then once the treatment is done everyone comes back to make sure everything was done in compliance and then signs off on it again and that is it. Culturally the only thing is the archeological compliance sites where no one goes through that area, but I do know that in the past there were treatments and cuts in areas where we should not be and had no business in. Also, there are the buffer zones that are along the rivers, lakes, streams, and other areas that are protected because of the possibility of run-offs or erosion taking place. Every 15 years we have the historical preservation come and do walk-over of burial and cultural sites because these areas might come up again in the new management treatment plans. The foresters especially the Menominee ones can identify cultural sites, burial sites, gathering sites, and hunting and sugar camps. There is always someone looking out for these things.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Did not answer.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Besides current, I would guess my main goal is to keep pushing on this—my idea for the natural resource crew to the Tribe, like a job corps for the 18-24 years of age. The main thing was to provide job training for those youth and get an interest in natural resources. That would be a sustainable boot camp to get our youth dedicated to natural resources and there is a lot of non-tribal members working here and I enjoy working with them, but we have to look for the future and get our youth involved and keep the Menominee traditions going and that IK.



### **Menominee Interviewee 23:**

When the questions were re-worded, the interviewee understood the questions asked. These re-worded questions were added to this interview.

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** I am not a very smart man and do not know what this word means, I never finished high school and was in the woods by 17-18 years of age and have done every job on this Reservation from logger to police man. What else?

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Through the hunting and maple sugar along with the Menominee language being taught.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Did not answer.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The ones who work in the management positions are not the people anymore like it used to be a long time ago when the tribal government listened to us.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I remember going to a meeting when I was eight to ten years old and he died right after that, he was a smart man. I remember going to a meeting in Zoar at the round house but do not remember what it was about. Everyone spoke Menominee but I did not speak it because it was forbidden so I never knew. Wild rice was not a major topic until the last twenty years, you never heard anyone ricing around here. Maple sugar, I have made it my whole life and after my dad died it was ten years before I made my own, and I have a sugar bush behind my house. I am too old to do it now, but my nephew comes over and does it for me and I can them to make sure it is done, for it is a lot of work to make maple sugar.

Boy, the ants sure do come in when you spill it and this spring we made 84 quarts which is not much, but for the family it is enough. When I was in Neopit I made about 500 quarts with a fella who is passed away now. It was too much, we had buckets over-filling and it took us about a week and half to finally can it. We have 200 tapped now which is enough for the family because you have to cut wood, burn it and it has to be very hot, drain it, and cure it once it is cooling down. I learned this from my father and he learned it from his father and so else. What else you have for me?

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** They do not anymore.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I do not like them because of the history with the Menominee people and that they are not stopping the clear-cuts. There are too many laws that stop people from getting caught for what they are doing to the woods. No one listens to us the people who hear these things going on.

**Q6.** Alternate question: You have worked in the woods for a long time can you tell me the cultural ways the woods were managed using the old logging traditions?

**Response:** We had an A frame made from elm tree that would help us to load the trees onto the wagons with the horses and it was slow like it is today. I was sawing logs in 1956 and now a day they have machines like scissors and cut them down for the small trees and need saws for the big trees. You do not see many people on the ground only machines now.

**Q7.** Alternate question: Do you remember the cultural ways of cutting? If so please explain your opinion on this.

**Response:** In the woods the horses disappeared, the chain saws took over. Two man saws those days that was 45 pounds and now they are 20 pounds. The way they are cutting now; that clear-cutting is no damn good they might say in four to five hundred years they might say we have the best trees but now they cut down the best trees and the white man comes in and takes the prime wood off the Reservation. I sit here and see about fifteen to twenty trucks coming from the mill hauling our best logs off the Reservation to be processed. How come we cannot keep them for us instead of getting the junk wood? Chief Oshkosh gave us directions to keep the woods for the Menominee people. The new clear-cutting practice is bad. All over they are cutting is bad and they were supposed to stop this a long time ago. This one time Marshall Pecore, the superintendent over there, was always working in the woods and this one time there was a beautiful stand of hardwoods with one hemlock in the stand. They marked this whole area to be cut because of that one hemlock and I asked Marshall why not just go in there and remove the hemlock, and he responded "the porcupine will not having anything to eat." The Tribe needs to get rid of Marshall because the clear-cuts are bad for the woods and he has been in trouble so many times in the thirty years in office. He also told other elders to shut up because they do not have a degree and do not know what the woods need.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Does not know.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Does not know.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think that they need to stop the clear-cut and go back to the way we logged fifty years and there are places like the place with scrub oak because that is good fire wood that is all. The casino is a joke because we do not make money and we will never because they pay the people who work there are driving new cars. The people need to listen to us elders because we know the IK. I do not know if there is anything else I can share with you.

## **Menominee Interviewee 24:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** The knowledge of our ancestors and the knowledge that has been passed down to this day.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Well, I see it in different ways of this because there are certain families that still make maple sugar and have a sugar camp and there are families that garden. They have little gardens and some are bigger than others and they still do things like save the squash and dry it out. It is called Indian squash and you cannot just go out and buy the seeds so they use the seeds from their squash over and over each year. Those are two things and in the arts they use porcupine quills for beading and outfits, and then canning fish is a big thing like your garden and berries and there are all sorts of things done by the people on the Reservation and off.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, some of the people try to use some of the language. You see it is different when you grow out in the country like where I did up in the Crow Settlement area and that is even different than growing up in the village of Keshena or the village of Neopit. Because you are more connected to the natural resource and you hear things like in the winter when it is below zero and see that in the Menominee calendar because on the month is called 'popping of the trees'. What I believe it is because when you live out in the woods and in the January thaw the sap starts running up the tree and then you have a hard freeze like thirty below and what happens is the top of the trees explode and it sounds like; from living out there like a cannon going off boom, boom, boom when one of those trees explodes. The people in Neopit and Keshena may never hear anything like that. So, there are things that have been passed down hunting, fishing, smoking of the fish, looking for worms at night, there are all sorts of things that have been passed down. Hunting is a big thing up here it really is because there is people who have a mother and father who do not have a job or have the means to get a job and have twelve kids. I do know a family up in Neopit like this and they do a lot of hunting and everyone of their kids know how to hunt even when they are 4 or 5 they still use to going out there and they can feel in the air when it is fall time and it is just within them and it is the spirit within them and passed down by them by their mother and father and their grandparents or uncles and aunties and what they do is they fill their freezer up and eat that all through winter. There are a lot of people that still in all actual reality we do the bartering system because there are people who might need their roof fixed or electric worked on and because they do not have the money to give in return for their services they may give baked goods, meat, or whatever they can give for the help they received and that is how we sustain and this how I see it happening.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Covered in the previous question

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** The deer hunting is, and there is the berry gathering that will go on forever as long as the Menominee hang onto their forests and as long as we have the river and keep it clean free of pollution. Look at the months of the calendar. There are blueberry and strawberry moons when we do our burial ceremonies, naming ceremonies, and use them in all feasts in the ceremonies that we do. That is the natural resource management.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know if the BIA determines that, I think that we determine that and send it to them for approval.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Well, what I know about the BIA is that we are the only race to have a bureau, and it was explained to me that because we were the original owners of this land and we were conquered and so they created the Bureau of Indian Affairs to watch us. We are the only race to have a number which is an enrollment number and that is another reason why because of the BIA and we are conquered people. If someday we fail to have any rolled members then the BIA is going to say the Tribe does not exist. I know there are questions we receive in my department because, I am a tribal researcher and we receive questions from the bureau like do you still speak the original language and practice your traditional ceremonies (dances, songs, and prayers)? Questions like that and I asked the Bureau why are you asking these questions because I thought it was strange to be asking these questions and she told me that these are all elements of what makes a sovereign nation or country and to be a sovereign nation or country you have to speak your own language, your own govt., your own judicial, your own customs and practices, and your own songs. This is what establishes up a sovereign nation from what I was told about the Bureau. The Bureau to me is how you make your sovereignty in your Tribe is how you can make it and it can be weak or strong and it is how you practice your nation customs and practices.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think everything should have a cultural component to it especially natural resources and I know they have been trying to have a wild rice restoration project. I know at times it has not been successful because, I believe that they do not practice the cultural and spiritual component of that process. That is what I think.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think we have to do research extensive research on those lands and have to tell the stories of that land whether they have a Menominee name, or whether on the Wolf River or south of the Reservation, we have burials out there and sacred objects out there that came from the land. We have to do more research on who the people where on that land and I think that is how we are going to strengthen this.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I think it depends on what they are. I think you need to have a balance because you have to take what is good what they brought forward but always have to remember to maintain who you are and the knowledge of our ancestors on how they saw it. Because they may have seen it in the way I am telling you but have said it in a different way and may have the same thought but use different methods. We have to take what is good and maintain our identity in order to make it work. I thought about this week because of the tent caterpillars hanging on the trees that are killing our trees. I was thinking of how we can bring a suit against the government for allowing these invasive species into the Reservation for whatever reason; may it be for an economic or business venture because it is to our disadvantage because it is affecting our waterways and trees. This is what I was thinking because of the decrease in our biodiversity and the invasive species now on the Reservation. We now have educated Indians now who our attorneys and hear us, we can find ways to have the government live up to their trust responsibilities.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I think there needs to be more awareness of cultural aspect because there are so many ordinances now and people get confused about what the law is. It is ordinance to death and then becomes bureaucratic; and if we had more awareness out in the community; I will give you an example. We have been doing the sturgeon feast for fifteen years and there are a lot of Menominee who did not know what a sturgeon was or in their life time never seen a sturgeon run on the Reservation or did not realize the ancestral spawning site is right in Keshena Falls. That was fifteen years ago and they did not even know sturgeon existed in our culture, many people did not and many people did. After the awareness to the sturgeon grew and the cultural awareness, the spirituality of the sturgeon now you hear about the sturgeon in ceremonies, in the schools and you hear the elders talking about it. Like once it was brought back it help the elders remember what their ancestors told them, and if we continue to bring this and promote our knowledge and keep doing this will make us stronger. The wild rice harvest is another thing that has been revived because the families are realizing the importance of the culture and that was a gift to the Menominee people. It is important for this because of the influence of the city with the drugs, gangs, and other things coming from them. You

do not need a gang name when you have a spiritual name and belong to a clan that is your true family. I hope that I answer this question correctly and what you were looking for.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** That is kind of a hard one because I can see this happening with all the maple trees in the woods and other native people conducted and you will never run out as long you have the maple tree and sometimes the Constitutions and government block that because you are disallowed you using the natural resources and we have certain plants you use that for tea but the Constitution blocks that also.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Hunting, fishing, sparing, trapping and I do not mean for sport but for the families and dancing and signing. There are a lot of families that follow the Pow Wow trail because that is their own way of means. I would like to talk about respect because when you go out in the woods and there is trash and garbage and people are out there gathering or fishing and it makes me sad because the woods are so beautiful, and then you see the junk and then you wonder about the animals are they getting hurt because of the pollution. Respect for the land, water, and people are a must because it is our way of life and this is what is going to save us and the Reservation.

**Menominee Interviewee 25:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is something that is passed down from generation to generation.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** It is used in the sustain yield process for forest management is how I think it is used.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The sustained yield and forest management is what I know.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** My father drove a lumber truck and I remember going to a lumber camp but I do not remember anything else.

**Q4.** Was natural resource management practices historically conducted solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not understand the meaning of the question.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not believe I have any area of expertise to comment on this, from what I can see the MTE is doing a good job in my opinion.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not answer.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Through education is the only way and it is up to our children to be educated and know what is going on and not to be controlled by emotions or misinformation. It is only through education and knowledge that will help the Tribe grow.



**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I think it will benefit them when they learn about our management projects on how it helped us and saved our woods; definitely we should be sharing this information with them; look at what is happening in South America, all the third world countries who are ruining their natural resources because they do not have the knowledge we have and we should be sharing it.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I am not an expert on this and do not feel comfortable answering this question because I do not know.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** When you look at the forest, sustained yield management that started back by our ancestors, that is the answer, they are still practicing it today; it started how many generations ago when we first moved to the Reservation.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I believe so and believe it is up to people who are responsible for this to explore those and we cannot remain static. We have to continue to grow and develop one way or other to benefit not only our upcoming generations but for the Tribe as a whole.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I do not know anything related to forestry and do not know how to answer this.

**Q11.** Is there anything else you would like to share with this research?

**Response:** I think our young people need to be more aware of what it means to be a tribal person and be aware of the outside influences that are affecting them today in their tribal being. I find it troubling to see our younger people being affected by gangs and taking away from being a tribal person, I always feel that it comes from your heart and it involves the consideration of someone else, it involves family, and it involves respect and responsibility and that to me is how I feel a tribal person is important to everyone, that is my little speech (chuckles), thank you

**Menominee Interviewee 26:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is to me is more of an oral history and the history of the Tribe that we can put forth today; the practices that we can learn from the oral history and the traditions our ancestors done in the past to preserve and protect our woods. IK is that we can gain from researching our valuable knowledge from the elders and what they can remember of the practices like the chiefs that decided to stay here and making this our home and not cutting down the forests and we should be grateful for them. To me that is IK.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I think we could do more, using more of the knowledge we learned in the past to put into the sustainable practices today. We do cut on a rotating basis and every so many years we go back and thin, so it is being practiced on the even-aged forest and it is getting older and needs to be managed and that is what we get heat for. The clear-cutting, and shelter cutting is getting more aggressive and that is hard to win over the public. It does need to be done, but not at the rate it is going. Instead of one-year cuts we should be doing two- to three-year cuts. We are doing too much clear-cutting at once.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** More recently, the cultural tradition in some of the management like the logging. Some of the management does create cultural opportunities for gathering. Specifically, the way you manage the land is critical. The medicinal plants are there and will always be there because of the rich soil, and with fire we have added the cultural objectives for blueberry and other gatherings for the people to be included for the cultural opportunities. With fire we have more opportunities for cultural members.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the cultural traditions?

**Response:** Did not answer.

**Q4.** Were there any natural resource management practices that were historically conducted solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not know of any.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I am going to talk specifically about fire. Our procedure is that we write a plan and talk about it internally on what is the best option here, like an open area or silviculture cut type of burn and site prepping for seed germination. So if we are going to put fire on the ground we look at the approach and write a burn plan. Once it is done the BIA looks it over and signs the document. This is where they can say yes or no, but they are fixing it up to look better. That is what the BIA does here.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** My opinion of the BIA is that they need an on-site forester here and having representation instead of faxing and mailing it to D.C. The forest programs are not funded as they are needed; not only here, but all over Indian Country. My overall opinion is that if you work with them they will help you out, which is better than the past history when they were here to destroy Indians.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think strengthening would be a good documentation on what we are doing and doing diverse things to help future management and being able to keep our oral traditions alive and bringing back all the knowledge from the elders. Always try something different and if it works so be it, and if not, try different things and keep good documentation so people can see why you went this way. We are very fortunate as directors and tribal members to have what we have and to keep the IK alive to educate the children.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I would be doubtful because most people look at the woods as an economic opportunity. If people are interested in listening to the Menominee and seeing the difficult times we went through; thanks to our elders, we are still here and we are grateful for this. Sharing is what we do but we need people to listen.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** That to me is site specific and one must base your management on the quality of the site and what trees will grow in that area. You will create diversity by doing certain cuts and leaving certain stands and there is diversity because of the prescriptions we do. Some sites are going to be more diverse and eventually the entire forest will come back and complete the final circle.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Not aware because of position at MTE (Menominee Tribal Enterprises).

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Does not know of any.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Obviously considering the unemployment on our Reservation, the saw mill needs to be included more because right now they are sending our trees off for commercial products. We need more opportunities for the tribal people and the tribal council needs to promote these things. There is so much more out there than the timber to be sustainable than just cutting down the trees, like the maple sugar, ricing, and other things because if you are not ready for change it is going to be a rough road. There is more than cutting the woods and we need to take care of it.

## **Menominee Interviewee 27:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** My personal definition of IK is knowledge or wisdom passed down to us from generations of people generally done verbally or through stories that may be written by various anthropologists or historians, but I think it is the knowledge passed down from our ancestors.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** In some aspects it is done very, very well, and in many aspects not so well. In terms of our forest of managing and the use of trees it is done very well in terms of native plants it is not done well, and the reason I say this-- that the trees on our land there are more board feet than before-- so it shows the sustainability of the Tribe. But if you look across the road where they (the Tribe) are clearing space for the new casino, they just went in there and cut and slashed and maybe they harvested the trees and I hope they have, but what about the native plants? Why did not they go in and look for the native plants and collect them and disperse them in areas of the Reservation where they could thrive. These plants are important to use in terms of their medicinal properties and the spiritual aspects they lend to the Menominee Tribe and I know for a fact that they did not do this. So some aspects we do well and others we do very poorly.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I think our Tribe makes a good attempt at looking at cultural practices and fostering them, and I think that they created the language and culture commission illustrates their desires to do that, and I think the Tribe needs to do more, they should. The basic requirement for being able to sit on the commission is to speak the Menominee language; there is more than the language, culture is a whole array of your life, language is one small part of that and by choosing only language as culture, only one part of culture is being considered. I would like to see a broader focus on the language and culture, I do not even like to say language and culture just culture because language is part of that culture and what we are doing is emphasizing one part of it and I can understand why they are focusing on the language because it is on the verge of dying out. It is good that they are emphasizing it but in the process they overlook other aspects of the culture the values of the Tribe of the past and we do not foster many of those values. So again, I commend them on what they have done but I think there is more and should be doing. With the levels of education on the Reservation the Tribe should be tapping into the expertise of the individuals coming back in terms of preserving or fostering and I do like to say 'preserving', I prefer 'promoting' because when you preserve something you put it on a shelf and you think it is just wonderful and by promoting culture you are

using it and using it so the Tribe can tap into the most important resource, which is the human members that make up our Tribe and really look at our culture in a way that it can encompass for our people.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the cultural traditions?

**Response:** The question was confusing so the interviewee did not answer and asked to move on to the next question.

**Q4.** Was there any natural resource management practices historically conducted solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Medicinal plants and various things not for the Tribe, but for fostering social aspects. Think about the wisdom of your ancestors. A lot of people look back at our ancestors and have a tendency to think about how wonderful it would be to live in that time. It is the romanticism where everything was wonderful, which is not true. We are humans and there was conflict and what brought them together as a tribe was the desire, the survival of that tribe and the social aspects were extremely important and bringing people to focus on tribal survival. People look back and say look at all the sturgeon and food, but when that food source was not there you were facing starvation. You faced dying because of the below zero temperatures, that is not romantic. The focus of all IK people, if you look all through history, it is always the social welfare of the Tribe, the social welfare of people, and so the parties and the celebrations of sturgeon were at social gatherings, but at the same time promoting the survival of the Tribe. It was an absolute necessity!!

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know what they do and do not think they should be determining anything. I understand that the BIA has an oversight responsibility. When we drafted our constitution we put no BIA on the Reservation, it was not a boilerplate constitution, and we demanded no BIA on the Reservation. Because we have a trust responsibility in regards to the forest we had to have a forester stationed on the Menominee Reservation and we agreed to that and no BIA office on the Reservation. We are quite competent in managing our own woods and let us determine what is best for us but there should be a consultation process because we do not always know everything and consulting with the BIA can be a good thing.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not answer.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Obviously I think it would be wonderful and when I look across the road and the major, major blunder the Tribe did by not going in there to harvest the plants. The clinic can put more emphasis in helping planting herbal gardens, and creating potions and medicines from the plants because the Menominee were the plant people before assimilation and the knowledge was lost. We should be looking more at the herbal remedies. My mother always had teas whether we had an ice box or refrigerator. I remember my mother during the day would take breaks to drink her various teas and she learned this from her mother who was one of the famous Menominee herbal woman, Natamious.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I have ambivalent feelings about this because in the past anthropologists and archeologists have come and studied us and then sold us our own knowledge back to us. I think and appreciate that our Tribe should be involved more with the college institutional review board so the colleges are not overrun with researchers. There is some sharing of our knowledge, but they do not appreciate the Tribe when anthropologists come in and pick our brains and then come back and sell it to us; this is how I feel about this. We as Indian people have given so much to this country and we have a whole lot more to give, but what we have given in the past many times was from trickery or thievery, through coercion, or at the point of a gun. I think Indian people are willing to share, because of the social aspect we are willing to share that and we also have a right to expect something in return for our giving and sharing, it is only right, it is justice.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Obviously a decrease!! Look at our Reservation, where are the wolves? There is a decrease, so what I see with Western practices and management, let us talk about forestry. Various schools have wonderful reputations for producing foresters, but when they come out of there they have tremendous book knowledge. When they see a tree they do not think of the beauty and all the aspects of that tree and all it does for the environment. What it does for offering individual shade and enjoyment of nature, they see it as board feet and how much money you can get; that is their focus. My dad worked for the Menominee Enterprise for fifty-three years, he has a ninth grade education, he lead marking groups out into the forest to mark trees for harvest and whenever the Bureau sent new foresters, his job was to take the forester in the woods to identify trees. There is a whole lot missing in the Western management and I do not see any changes.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I know the conservation department very well because I had two brothers who both were the directors of conservation and I would talk to them about this, but both have been deceased for some years now and I do not know of anything that is going on. I know that in the past they were involved with stocking the fish and research on fish in the various lakes around here, and I am aware of them hunting and gathering the plants for medicine and trying to preserve that and they were really concerned with the dwindling of the ginseng populations. I know that they wanted MTE to have their foresters have a better understanding and learn how to identify the native plants in the woods as well as the trees and archeological sites. As I said, we are making headway in that area, the college is about teaching loggers how to identify archeological sites and some medicinal plants and what occurred there. We are starting to do this and this is the first time that something like this has been done on the Reservation. We are moving forward well and the fact that it is starting will lead to more activities and enlightenment in the future.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** In terms of economics, in terms of sustainability, in terms of IK, the college is a prime example of this.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think the Tribe, because of the hundred and fifty years of history in sustainable management and its reputation; anything you pick up today is talking about 'green this' and 'green that', whatever. People talk about climate change or global warming and its effects on the plants, water, animals, the soil, and the weather. Because of the Tribe's history and a hundred plus years of sustainable practices and management, it is probably over a hundred years far, far ahead of any organization in this country because it is now the thing to do to be involved in sustainability and our Tribe was doing it before it was the thing to do. The Tribe did it because it is the right thing to do!! And I think our Tribe will be a major leader in all realms of all the aspects of what I just mentioned. That is our goal in the Sustainability Institute and I know of a lot of institutions wondering how we do it and now trying to model themselves after us for sustainability. Right now UW-Oshkosh is starting to do this and NWTC just started to focus on sustainability. They are just starting and our Tribe has been doing this for over a hundred years and the College of Menominee Nation has been doing it for sixteen years. So, there is no doubt that the Tribe can be the leader in this, but they have to listen to the people first.



**Menominee Interviewee 28:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** What you know about your native culture, your people, resources, languages and ways like that.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Ok, well there is in each area some culture twist, for example, in the conservation commission you want an elder in there to shed the light and become more culturally involved in your decisions making. Then the language and culture committee, that is where research goes and we have things like that to interpret the culture in the community. Schools for the youth are doing a great job of the language and when I was growing up we did not have that. In hunting and safety class we teach the youth about the clans system and respect the bear, respect all wildlife and we teach them they are our brothers and not to abuse them but only take what you need to sustain yourself and your family. As far as forest management, I could not tell because I do not know what they are doing. In Natural Resource, Hunter Safety, and other programs we do in the community we try and bring the culture into the management processes.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Interviewee did not answer and asked to move on to next question.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I think they are using these traditions in the forest management prescriptions. This is a tough question Rory, can you repeat the question. Some of the committees like I mentioned, we get the elders in there and everyone else who has some experience in natural resources, but most of them do. I do not know of any right now.

**Q4.** Was natural resource management practices historically conducted solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Where did these questions come from, please repeat the question. I do not know.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I think that, from my experience, it is the head of departments that are deciding these. In conservation, Donny and I do this and the BIA does not influence a lot. They do make the final decision(s) of whether the proposal falls in the guidelines of the federal and state governments. This falls back on the heads of the tribal departments

and they make the common sense decisions and we are all supposed to follow sustainability and the Tribal Council works closely with the BIA and we as a Tribe make the choices because of the Self Determination Act for Native Americans that has made us responsible for the welfare of the Reservation.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I would like to see more interaction; however, in the two years of my being a director we have worked with them and were able to talk to them. My concern is the timber theft because there are no follow ups. They set up training in Fort Snelling, MN in two weeks after this. We need to know if the case went through and what was the outcome. So we need more interactions from the BIA and communication!!

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** It has to be done in the schools and active with the youth, more time in public interactions and get to the communities. It is a networking and the Tribe needs to put more time into that.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** We need to become more involved in the committees that focus on this. The state needs to understand that reservations are counties and need to be included with state decisions because we are still in that county even though we are a Reservation. It is a matter of getting out there and become part of the solutions.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I think it is a decreasing. I have been in natural resource all my life and we need to be more diverse and really think that the forestry takes a harder look at the way we manage our forests. We need to remember the fish and game, wildlife, and plants. There is spraying of chemicals in the clear-cut areas. Killing off a whole area and hoping that you will regenerate pine is the wrong way to go because the ginseng is being killed off and they say it will take another ten years before it comes back. Berries and who knows what native plants are gone because of the spraying, and see the biodiversity disappearing in my opinion.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Ordinance 0522 is protecting the buffer zones, protecting the water, and we are struggling and coming along slowly and there are no teeth in the culture. There is not a lot of this yet, but it is there in some aspects.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Did not know of any.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I am not a big fan of the clear-cutting and the large areas being killed off and would like to see selective tree cutting. Tighter regulations need to be in place like fishing and game hunting because I have a hard time finding fish. We are short of funding and this makes it hard to get the things we want done. We need more fish stocking, staff members, and more regulations because people are taking more than what they need. Our population is going up and that is a strain on the environment. We need to communicate more with our elders and work with the youth so the Ik can be passed down to the next generations.

## **Menominee Interviewee 29:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK is the knowledge that is handed down from our ancestors over the years and often comes from our stories and songs and something to live by and appreciate. Because so many times today it is being taken away from us (companies that take medicinal plants); because we survived for so many years and we are very strong people and the knowledge we gain is not only from colleges, books, and white society. IK has collectively brought us forth and it is used to sustain ourselves for survival.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I think that IK is what is sustaining us as a community and keeps us going as a tribal group of people. And I think if we live by our IK we would be more successful in mainstream society. The Udall Center in AZ has proven that when IK is being used by the tribes in AZ and their sense of community seems to prosper more because of the IK being used than if you try to run the Reservation like a mainstream business and not incorporate the IK practices.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I think for the Menominees it is most important to maintain their sustainability practices. They understood them a long time ago before it was fashionable to be sustainable and that they understood what Chief Oshkosh proposed about starting at one end of the Reservation and cut in a circle and choose the mature and dead trees, and by the time you got back to that spot the trees would be ready to cut again. I think we have proved this from the forest management and the board feet that we have today compared to the past. There are more board feet today and I think those tribes who are looking at using their resources have to realize, be sustainable because they are not infinite. To clear-cut and strip-mine on reservations is to lose all their resources. It is even hurting our children from becoming sustainable because of the mercury in the water and chemicals get into the water tables, there is nothing to purify the water so the mercury is being dumped into the rivers.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I think here specifically for the Menominee there were a few men that understood the importance of the culture and went to battle to protect the resources and land from being taken any more by the government. The Menominee leaders who are elected into office have lost their culture and have become more like mainstream society, but they are Indians and have lost touch with Mother Earth and only think the amount of dollars and cents and not looking to the next seven generations.

**Q4.** Was natural resource management practices historically conducted solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** If what? I will have to think on this a while, well I think our Sturgeon feast is a social event because it was awaking for the spring time and renew their ties and see their relatives. We need those fish oils to help us for the long summers and get prepared for the next winter and those culture practices set the social settings. I think getting back to the natural resources it was a communication tool with the Creator, to go out by yourself to pick medicines and offer the tobacco and songs for those plant nations and there was an understanding that you respect Mother Nature by offering the tobacco and showing respect for all life and they knew not to take everything from one area because those plants are families so they took from here and there. This was a way for regeneration of the trees and plants in the way the Creator intended for us.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I think because of the lawsuit we won against the BIA, that the BIA allows us to do what we want within reason. The BIA overlooks the projects in a way to protect them from another lawsuit. They do not want to pay millions (chuckles).

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I think the BIA rubberstamps a lot of things and do not look at the welfare of the people. If you look at the blood quantum and enrollments, the BIA is hoping that they will disappear and then be able to have everything the Indians have, land, land, and more land!!! The only thing that keeps a tribe alive is the language, songs, ceremonies, and self government and once these things are not present then the tribe no longer exists as a 'foreign entity' or 'sovereign nation'. This is happening because of the inter-tribal marriages and the blood is dwindling. I think the BIA had this in mind when they set up the enrollment knowing sooner later the blood quantum will no longer be there and the tribes will disappear or be gone. I do not think the BIA is there for the people because if you think about it the BIA was formed in the War Department and their goal(s) and programs were genocide of our people and were to wipe out and assimilate Native Americans. They are still doing this on reservations and taking away sovereignty rights by allowing the State to come in and have jurisdiction. I have warned the tribes about putting all their eggs into one basket like the gaming operations!! Now look what is happening, the tribes are losing money because of the recession we are heading into. At one point, the government is going to stop it because they do not want Indians to become a successful member of society because Indians are only for repressing and keeping in the background. The BIA has allowed the worse environmental actions to take place on reservations; the bombing of nuclear bombs in Utah, allowing toxic waste in Nevada, the Western tribes and the strip-mining. The BIA is allowing this to take place so I do not think the BIA is for the welfare of the Indian People!! I do not have a very high opinion of the BIA and the BIA will continue to take away Indian cultures.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I really think that we need to go back to our indigenous knowledge, the more our community can grow and regain our cultural ways and ties to the lands the more we can become more successful. We have to remember that the Creator gave us everything and it is a gift!! Look at what happened to the Red Cliff when they overfished their lakes and rivers because they forgot. Prayers for me are a big thing and I think that people need to remember our prayers and say our prayers. We need to teach our children at a young age and have them learn the prayers and know what your grateful for and to know the languages when praying. As they grow up they will think twice before littering in the woods or kill all of the deer because of competition or manly pride.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I would think that it would be very important to reach the mainstream and teach them different management practices that will sustain the land and not have dominion over the resources because we are the caretakers of the land!! We can have first degree water here, but what is governing the companies upstream?

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** The ways mainstream society clear-cuts and strip-mines on reservations throughout the United States are creating more problems because the practices allow the runoffs from strip mining to go into the ground and that leaks into the groundwater affecting the people. Tribes have to say no to the companies that are going onto tribal lands with ulterior motives. The clear-cuts decrease the biodiversity for years then it comes back after awhile with more problems of tree diseases, invasive species, and our waters are becoming polluted because of motor boats on Legend Lake and other lakes. The dams on the rivers stop the fish from spawning in their historical waters; look at what the dam has done to the Menominee because Shawano dammed the Wolf River. If you look at the Western management you can see that there is no real protection for the animals, plants, water, and soil because of the attitude to have dominion over everything. Most of the practices are some form of Native American culture and tries to adopt the Indian management, but if you do not respect the land or its resources it is not going to respect you and you can see this on non-tribal lands.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I think here that the burial ordinance, water ordinance, and buffer zone protection is what is in the tribal laws. These laws protect the areas with burials, gathering sights, and villages from being destroyed by forestry, and the water is life, so the water is protected. The forestry department cannot cut within certain distances of

water ways or other cultural sites determined by the Historical Preservation Department and Dave Grington working with the Tribe.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I think we could do a lot to maximize from the trees, but MTE does not because they sell it off the Reservation for scrap and letting them turn it into the maximum profit. We can make picnic tables, tables, or other products. This can give more opportunity for jobs because not everyone can make it in a casino or a desk job.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Use more green energy, solar power for the casino, windmill, and biomass from the woods because not everyone can by natural gas all at once like companies want you to.

## Appendix B: Questionnaire survey results for Bad River Band of Lake Superior Tribe, Ojibwe Reservation interviews

The questionnaire survey was created to look at what indigenous knowledge practices are still being used by Native American tribes in Wisconsin. This research project proposes to inform dominant society of a new pathway toward sustainable resource management by mainstreaming indigenous knowledge used by Native Americans. The lessons learned can be incorporated beneficially for more effective, sustainable natural resource management throughout the world. The purpose of this survey helps address the objectives of this research by:

1. Identifying what Indigenous Knowledge is and how it relates to sustainability of resource management within the tribal community; and
2. Talking to individuals in resource management and elders on how the Indigenous Knowledge is incorporated in tribal management practices. Research biodiversity through interviews to determine if it increases or decreases with Western-European current management practices.

The IRB-approved interview questions and clusters addressed by each question are featured below.

Cluster addressed by Question:	Interview Questions:
Ecological integrity; Economic viability; Social justice; Governmental interactions; Cultural preservation	
Cultural preservation Ecological integrity	1. What is your personal definition of Indigenous Knowledge? How is this knowledge used or interpreted in the sustainability practices of the tribal community?
Ecological integrity Cultural preservation	2. What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?
Social justice Cultural preservation	3. What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?
Cultural preservation Social justice	4. Were any natural resource management practices historically conducted solely or primarily for social or other non-food/shelter/clothing purposes? If so please explain.
Governmental interactions Social justice	5. How does the BIA determine which management practices will be implemented for your tribal community? What is your opinion of the BIA interactions with your tribal nation?



<p>Cultural preservation Ecological integrity Social justice Governmental interactions</p>	<p>6. Describe how you feel about strengthening IK approaches in the future management of your tribal lands. Describe how you feel about mainstreaming IK approaches in the future management of non-tribal local or state lands.</p>
<p>Ecological integrity Social justice</p>	<p>7. After applying Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats?</p>
<p>Cultural preservation Governmental interactions</p>	<p>8. Please explain some of the cultural aspects that are being incorporated into tribal natural resource management. How are they carried out once the prescription has been placed in the Tribal ordinance?</p>
<p>Economic viability Social justice</p>	<p>9. Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?</p>
<p>Economic viability Cultural preservation</p>	<p>10. What sustainable livelihoods do you envision as viable in your tribe?</p>

**Transcriptions of Indigenous Knowledge Responses from Bad River Ojibwe Reservation Interviews**

A total of 9 Bad River Ojibwe interviews were completed for this thesis research. Names of the interviewees are deliberately omitted here.

**Bad River interviewee 1:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** That would be knowledge that you have of your ancestral area. Like I would know about the plants of this area and someone in New Mexico would know of their area, and Australian indigenous people would know how to use the plants and I would know nothing about the plants there. This is what I think about IK and what it would be.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** It is not used as much as it used to be. It is slowly coming back because people are becoming more aware that we are losing all that knowledge as the elders die off. The people who knew the culture, language, and plants are now going home. So we need to look to them as much as we can so we can learn and teach our children.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** In the family unit, we do what our family does, for example, the wild ricing, maple sugar, berry-picking. We picked about every berry on this Reservation. My late husband knew all that and taught my kids and we still do this today. In September, we will be canning deer meat and just getting ready for the winter. My family grew up with that tradition. My dad did wild ricing and maple sugar harvesting; that is where I learned these culture traditions and my husband's family did that also. So you see, there are families up here that do this but not as much it should be and I do not know what the Tribe is doing about this. If they are getting out there and implementing this traditional aspect, I do not think the Tribe is and they should be teaching our children. If they do they need sugar maple camps and all that deals with our culture, it is really sad that the Tribe does not do this because we are one of the biggest reservations in Wisconsin! My cousin does this maple sugar tapping and has his family and kids out there doing this, so there is some traditional activity with families but there needs to be more.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not understand question and asked to move on to next question.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Not that I know of.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The Bureau?? I do not know if the BIA has to do anything out here unless they have to. There is a guy downstairs that works with the forestry. My husband when he was alive would take the jobs and do selective cutting. There was a 40-acre stand of trees by our house that he did selective cutting for people to use for maple sugar. I only saw one or two families use that area and now no one goes to that area.

**Q5a.** What is your opinion of the BIA interactions with your tribal community?

**Response:** I do not think highly of the BIA and do not think they know what they are doing in their own organization. It is only a job for people to get into and that is what I think of the Bureau. I do not think they serve our native nations at all and if anything they hated them for doing what we needed to do.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think we all need to be more involved in getting back to the tribal ends we lost very much soon, but I do not even know how we would do this. We need to get together as a community and see what is being done about that. The paper companies around here suck up the entire trees and we cannot do anything about this. This is where the BIA needs to step in and say 'hey, we need to get the tribal lands back' ...but they do not care!

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands, local, or state lands?

**Response:** That is a toughie because you are not going to get anyone to listen to the whites especially if the Reservation is near a town. You can feel that when you leave the Reservation boundaries and get into town. You get the looks going into a store like 'Oh, another damn Indian'. So, it is going to be tough to get people to listen. It might be sometime in the future, but its way in the future.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** A decrease, definitely a decrease! They brought so many invasive species here. I also like to lightly kid and say they are the invasive species because of all the damage done to the land. All of the species we have lost and are still losing today...everyday they are finding an invasive species that is doing damage to an animal, fish, or bird in your community and it makes you angrier, but what can you do about it?

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I do not know of any of these in the tribal ordinances, but I do see people using tobacco a lot more when taking things from the earth than they used to do. I really like seeing this especially with the younger generation to see them putting down their tobacco, but I do not know if the Tribe is doing this. There is a real fight here because of all the tribes raised with the Catholic religion, so they are fighting the natural religion that was here to begin with. I do not know if you're going to get anyone to put ordinances with culture *yet* [emphasis by interviewee]. It took us a long time to get where we are today and it is going to take just as long to get back to these cultural ways.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** One of the programs I know they have here is the garden program that they brought back. It is nice to see because it is open to the community and this is the only program that I know of that has to deal with Natural Resources.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** That is such a tough one because we have such a small industry around here. We are in an area where it is hard to start a tribal business or any business with natural resources. Even if it does not deal with natural resources, they fight you if you try. There are a lot of people with good ideas and a lot of good environmental ideas. There is no support whatsoever, and I do not see this any time in the future yet.

**Q11.** Is there anything else you would like to add for this research?

**Response:** We need to share ideas with different bands and tribes to see what is going on. I know there are a lot of good things being done, but we need to share what we have with each other.

## **Bad River interviewee 2:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** IK to me is something that the old people have passed on, tradition they call it. The knowledge that the ancestors used to get this far, whenever the migration happened the knowledge they started out with and the knowledge that they picked up on the way to get here. To me is all the stuff about contemporary plants and medicines they picked up.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** It all depends on what area you want to talk about. There is much information out there that should be recorded. Let's say first that I believe the people we talk about- the ancestors- were superior people and had knowledge of writing and such and they had scrolls to go by. I do not know what they contain or what information is on there, maybe something about the foods, the medicines they used, or what is on those scrolls, or their travels. I hear people talk about the scrolls and they clam up and say it is priority knowledge and we are not supposed to talk about it, but who passes it on is my problem with the my knowledge. My thinking is midewin and then there are other classifications of traditional knowledge and no one passes it along. This is my problem with knowledge and the elders did not sit you down and say 'you have to learn this.' No, it was from people talking and picking things up along the way. You do not have this today and it is my problem with knowledge because I had to pick it up along the way. We need to pass it along.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Well, it is something that they just done, like fishing. How they did that...we go back and talk about what they learned and how they learned. They began in the spring of the year with activities that must go on because it was for their survival. Like sugar maple is done in April or by the end of May. Alright, if you look at this thing here it is a calendar and I want to go according to this. It follows the seasons, like the ricing moon which is in August when we go ricing. They did things all year long to live and survive during the winter and those things are like traditions of the old people. My grandma use to talk about the trees and plants in the language but everything was English. This was in 1870 and this happened throughout the next fifty years. My dad told me when he was going to school there were 32 to 40-year olds in fourth grade because the old ones did not want to let go of their traditions. This was the genocide that happened way back then and they still try to do this to us today.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** You are talking about the IK and there is only a period of time do things. Different places have different seasons and the environment tells you when these things are ready to be harvested. The Creator gave us these gifts and how to take care of them during the different times of the year, you have to listen alright. The Reservation became in 1854, which began to regulate the people. When I was a kid we use to go and camp for weeks during harvest times, but today no one does this except the traditional ones. I am getting too old to climb in and out of the boats, so I have been teaching my grandkids these things. Otherwise, before the war I had a boat and we started our days when the sun came out not during Indian time, there is no such thing. I remember dancing on the rice and today there is not enough rice to do this. The Rice Chiefs go down to the beds and look at the rice and make the decisions for the people, but people do not like to listen because they are greedy. You cannot harvest the green rice because you just do not do that, but people still do this and that is why there has been no rice growing because people take more than they are supposed to.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I just explained that everything we did was for survival and everyone helped out because if you did not then you went hungry in the winter months, which were long and hard.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know anything about the BIA.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** You really want the truth? Well, the BIA is no good and has not been for the people since it was created. They lied to us, brought harm, sickness, and took our land because the whites wanted it. Look at what Gaylord Nelson did to us and took the Apostle Islands, which is part of our creation stories and the birthplace to the little people (Spirits). They just took it from us and gave it to the whites who have their fancy houses and are killing the trees.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think it needs to be done and the Tribe needs to listen to the people.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I wish they would teach the people like with ricing; you have to wait until it is ripe rather than harvesting the green rice when it is not good yet.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Did not understand (no response).

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Did not understand (no response).

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** After WWII, the people started selling the green rice as a means to support themselves because the unemployment was so high and people need to eat. So you would have the boys who were 10-12 years old jumping into the boats and heading to the rice beds, and so did everyone else. This still goes on but not as much because the rice is not doing well due to the white man technologies. Last year for the first time in two hundred years they shut down the ricing season and harvesting because in April of last year there was nothing but mud flats in the beds and the water was really low.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Interviewee got really tired and ended the interview when asked this question.

### **Bad River interviewee 3:**

Note: This interviewee is an elder and answered the questions very brief or new questions were asked so the interviewee could understand the research.

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** I learned my knowledge from my elders. I am not educated and everything I learned was from my elders. I feel that I am very cultured from what I have learned, but do not speak my language due to the missionaries.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I usually do not get out and speak. My son asks me things and I have taught my children, but I do not get out and speak because I am not an educated person.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** That I could not honestly tell you.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** There is another question, I could not tell you.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Yes, I have been harvesting wildlife and wild rice for about sixty years now, and will until I am not able to because of health.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not know what the bureau does because I am not involved anymore and do not trust the BIA.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I believe that they are here to keep everyone fighting and bickering and when questions are asked no one knows what is going on. I do not trust the BIA and this is my own personal opinion. They need to move on and leave us Indian people alone.

**Q6.** What were some of the Indigenous Knowledge to sustain the land or take care of it using the traditional knowledge that the people knew?

**Response:** The thing about this is our own people were doing this because at one time in the 1950's the BIA bought several acres of land for paper mills. We finally purchased 23,000 acres back when-I was in office a couple of years ago. Yes, sure we went into



debt, but that is our land we got back. I know the Tribe is trying to preserve what they have here and working on other things to keep us floating above water. It is the people that make the difference and we need to get back to that.

**Q7.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** It is very important for the people to know this knowledge and it needs to be done. I want to see our lands protected better and our water protected or we will not have wild rice anymore. Last year for the first time in my lifetime we did not have a harvest due to the low waters in the beds. This is why we moved here because of the food that grows on the water from our Creation stories.

**Q7a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I do not think we need to be sharing anything or mainstreaming this knowledge, because we need to keep it right here. It is like when the Tribe restocked all the fish in the rivers and then because the Bad River Reservation has an allowable road to the public, the whites came and sucked up all the fish. We do not need to share this knowledge because the whites will destroy it like they destroyed everything else around here.

**Q8.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I see a decrease in our natural habitat and see an increase in the invasive species (examples are gypsy moths and zebra mussels). We did not have these here before and now they are importing invasive species onto the reservations. I do not like the Western technologies because they are no good.

**Q9.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I do not know of this being done.

**Q10.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I could not answer that question. The Tribe is holding everything back and we have an IRMP that I do not trust, but after taking to the spiritual men (medicine men) up here they said it is good thing we are doing this or the BIA would come in and implement this onto the people. That is all I can say on that question.

**Q11.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Did not answer.

**Bad River interviewee 4:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** You know, I have never had that term described to me before. So, I do not know what my personal definition is except the knowledge that was handed down from generation to generation. Other than that, I am unclear what IK is. Well, many of our management practices are sort of the traditional way of the past, but most of our management is through science. I do not know if we ever have been enlightened by an elder on what management practices to adopt. Basically our knowledge comes from books and I have never sat down with an elder in terms of types of management practices or resources.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Did not answer.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The maple sugar, wild rice and our fisheries program.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not answer, because interviewee did not know of any.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Everything we did was for survival.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Right now it is what the Tribes decided. When they had one forestry act of the 1990's the language in there indicated that the Tribe is responsible for making their own management practices.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** When I first started working here they dictated what lands needed to be managed and vice versa and the Tribe went along with their decisions. Again, when we started to evolve and question then on what sustained yield and other management has to do with an area. Getting more holistic in our approaches and getting the BIA to listen, subsequently we now have a mutual relationship in working for the same goal of preserving our lands and letting us decide what is best for the Tribe.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** If the management concepts are considered IK, then we would like to see those continue on and utilize them for the future of our people. But you have to understand what IK is. I am indigenous so whatever knowledge I have is IK.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I use to tell my staff, when I was a kid in Oklahoma on the 4<sup>th</sup> of July there were about four tribes and each had their own Pow-wow. I came across a fight with some tourists and an old Indian, and they asked him how come he continued to perform, dance in the Pow-wow? The Indian responded 'You know you whites sometime in the future you are going to realize that you cannot live the way you are and going to have to adopt a holistic approach or viewpoint and there is going to be someone there to teach them how to do that and it will be a native that does this.' So, you see it is a burden for native people to carry this knowledge and try to teach people this holistic view because somewhere out there Native Americans have been in line with the environment and are the caretakers of this land. So it is the responsibility of the Indians to pass this along to the whites.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Well, if you look at the Reservation and how it has been sort of cut off because of the value of the hardwoods, we lost a lot of diversity because of the three phases the pioneer species, intermediate species, and the climax species. We lost a lot of diversity during the past harvesting of the climax species: the white pine and hardwoods. We are left with the pioneer species such as aspen, scrub oak, soft maple, and spruce. We lost those species that were maintained by those other forest types.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** There is none right now and we are starting to look into this area.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Well, there is the big thing of biomass and we are looking into this. Beyond that the only thing the Tribe can utilize is soft woods for the paper mills until we can get more diverse forests. Another reason is that the harvest for timber has such a little window of opportunity because the trees are so water rich. The only time to get into the woods is in the winter time, but then the ground is frozen. Beyond that it is hard to get in because of the wet ground which is such a small window. Ecotourism is falling through because of the economy and gas prices.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I am thinking that is the goal is in terms of my belief that the dominate society is eventually going to collapse and ultimately the Tribe is going to fend for themselves. I believe that based on our resources and Indian thinking we can sustain our lives as long as we have our resources, the fish, wildlife, plants, berries, etc. The rival stories are out there that we can produce everything on the Reservation and we have the social structure that is still alive and we could have our own ecosystem here without the outside world interference. The biggest drawback is the relocation program that took away the people off the Reservation that has succeeded.

**Q11.** Is there anything else you would like to add for this research?

**Response:** One of the things I was telling people about my ancestors is that they only carried four things for survival and took that with them. If we can sustain ourselves the way our ancestors did by only taking what was needed for survival and teach the people this knowledge we can have a sustainable community. I do not know my culture, but I apply what works for me and try it over if it does not work the first time by applying the best available science to the approach. I do not know what other tribes are doing, but it works here and has since I have been in office as director.

## **Bad River interviewee 5:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** My personal definition of IK is relevant to intrinsic heritage knowledge. Now what I mean by that is there are certain things we are born with and the beliefs where the Creator provided us with the knowledge when we are born automatically. It is through our lifetime we come to realization that it is there. So within ourselves we carry that intrinsic knowledge of the land, life itself, each other, and it is inherited from generation to generation.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I think that it is incorporated in our tribal community. To a lot people it is like second nature that you do not pollute, you have the respect for what is gifted to us. It is difficult to do this. An example of this is like to incorporate ecotourism into the community because there has been has a history of isolation from the non-natives about the environment and a lot of people are hesitant to allow non-natives onto the Reservation because of this.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** An example is the fish hatchery. They do not go onto the water unless they do the community water ceremony. The fish hatchery has noticed since they have been doing the water ceremony, they have increased their catch and it has slowly increased. Since then, they began to do this on a regular basis. Now if this is contributable to the ceremony or not, I am not sure, but I do know that they have a deeper understanding and respect for the water beings and the Ojibwa culture. There are a lot of people putting down their tobacco when they go ricing, when they go fishing, hunting, when they go trapping, when they have to do anything with the environment. Even when they go swimming and they first get into the water, they put their tobacco down; when they are gathering anything from the woods, too. The use of tobacco is like second nature to the Ojibwa people. Not all people do this, but there are the people who will incorporate this lifestyle and will put down their tobacco on a regular basis.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I think that from the tribal end is that the tribal consultation has been a big help. The historical department can go in and suggest how to manage the forest. To this date the forest has been managed solely for the purpose of marketing the timber rather than the aesthetic value and not taking into consideration the non-timber economic value of it like the maple sugar harvesting that is slowly being incorporated into the Tribe again. During the prior two years, there has been an acculturation in the community. Well, I should not say two years but the past twenty years. In the past twenty years

people have started to pick up the things that were left behind and learning again in order to use them in daily life. Today we do not have per se spiritual leaders in our community, we have language speakers. We know that in order to be heard we have to speak the language. So it has been recognized that it is the language that is so important to preserve to maintain those traditional values and the belief system, There has been a real active effort in maintaining the language so you have the knowledge, and once you understand the language fluently not only in mind, but in heart, you understand a lot more on how to do things in the environment and in your daily life. So who is responsible for this? There are no certain individuals, but there are a lot of people for the medewiwn in the community are actively seeking the language to bring that knowledge into the everyday working of our lives. There is no standard 'medewiwn' lodge within the community. Several people go to several different lodges and are taught several different ways. I do not think there is one as prominent as the Three Fire's society. The people of the three fires are called on all the time to do certain ceremonies: the water ceremony, funerals, lighting fires through harsh times and good times. The people of the three fires have that knowledge that other members may not have or taught. There has been some misinterpretation on how these should be carried out. It is the acceptance of how someone is going to believe in a certain way. Some people do not change their ways and stay in a certain belief system that will be accepted in other places or with other people. It may not be appropriate as well either.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Everything we did was to survive and the knowledge we acquired along the way is what we incorporated into the management and harvesting practices of the Tribe.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA does not determine which management practice for our tribal community. Our Tribe determines this for ourselves, and the BIA requests for that information. For example, if there is a sacred site out there and we refuse to identify the location, the absolute location of that site that is our choice to do. The BIA is not going to get that information and we are protected under the Historical Preservation Act to do that. We do not have to disclose the exact location of our sacred sites. We can give a generalized location and you cannot clear-cut in this area. So, the BIA has very little influence except for what we want them to do. This is what tribal consultation is about to us. It is not for telling us what to do or vice versa. It is a chance to learn the diversity and incorporate that into the process of what we are doing.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** My opinion is that it has been a long-lasting process for the BIA to perceive themselves as being a help to us when in fact the funds that go to the BIA can come directly to the Tribe... all the funds! Tribes have progressed so far today the "BIA is not NECESSARY" [emphasis added by the interviewee]. I think a lot of organizations are not needed anymore. Tribes, and not only this one, have progressed educationally,

emotionally, spiritually and intellectually. We know how to take care of ourselves. The old guard of the BIA is still persistence in-another form for the President of the U.S., and that is to have someone to blame and not insult the tribes. This is how I feel about this.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I would have to say there are several different things. One is that when any new Congress or administration comes into office, we undertake an educational process with them so that they understand Indian people. We are continually doing this over and over again. I think that one of the main things is the acceptance of us. Dominant society still has not accepted Indian people and we are continually educating them because they have not incorporated that education into a public school system or any system. It is a very minute part of it and now with global warming and climate change, they are now starting to look at Native American practices, saying 'Oh, Jeez, they were right all this time.' Recognizing that our indigenous knowledge are intrinsic values are not detrimental to the survival of humans not the earth, the earth will heal itself and always be here. It is the humans who are here for a moment in time and depending on how we take care of the earth will determine on how long we will be here. Now that realization is emerging. With the misuse of fossil fuels somewhere down the line we are not going to have gas and electricity from fossil fuels. There is a desperate acceleration to find alternative energy to get us from place to place and maintain this way of living, this way of life. But whether is this going to work for us, I do not know. But I do know that everything handed down to us is coming to fruition. If you do not care for the environment, the environment cannot take care of you. If you take more than you need, you will not have anything. You know this is just very, very simple, but maybe too simple to understand. Those intrinsic values are common sense of ways of thinking. Our people were great philosophers and still are great philosophers, but have been distracted with all the things we have to do today, and all the technology that has come to be. Nobody has time to think about how things come to be or how things work, and they need to. I think the non-Indian education system needs to boost up recognizing Native American culture as a valuable resource in the development of the United States itself. They need to change the history books and put in some of the prophecies that have come to be and will come to fruition, and recognize that we have a unique value to the Native American people. We have the ability to find out what is to come and what we have to change. This, of course, is coming and what we have to do to accept this. If there is no change... I am rambling and going into different places than answering the question.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I do not think this possible unless we have the acceptance that I talked about in the previous answer and do not think that we need to give away anymore than we have to. We have given up so much and still to this day I do not think that non-Indians are going to respect the environment if you try and teach them. Maybe in about another 25 to 30 years this might happen, but not until they have accepted us as people and treat us with the respect we have earned over the years. There are too many generations of genocide and assimilation that needs to be corrected in the mindsets of people.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I do not see any change and I am not for an increase. I do not know think we are privileged to a lot of analytical data that is taken, and that may not justify them from doing that. I am not directly involved with this and not have received a whole lot of analytical data on how their practices have benefited this Tribe, or any tribe that I am aware of, but in looking at our history we probably will never see it.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** No response offered.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Yes, there are a lot, like I mentioned earlier, ecotourism. It is not gathering, harvesting, hunting, etc. There is a huge demand for just looking and learning about the history of the area. People are willing to pay up to two hundred and fifty dollars just to take a ride through the Reservation.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think that for my Tribe, I think that there is a level of acceptance and accepting those intrinsic values and beliefs need to be incorporated into the Tribe more. An example of this is when someone passes away or 'called home'. The ceremony lasts four days because there are things people need to do. When they request time off for the funeral, the traditional people are looked at weirdly because it is not accepted or forgotten that it takes four days instead of the non-Indian two-days or even one-day ceremony. Also, there is the misusing of this because non-traditional people will just take off the four days just because it is traditional without knowing the reasons why. The language is the most important value and we cannot lose it again.



## **Bad River interviewee 6:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Well, I think it is the entire world view that native people have with just regard to life and the respect that they have for everything. Native people believe that all things have a spirit and be treated with respect. When things are used such as medicinal plants, they are treated with respect and thanking them for their use by offering tobacco. This is an example of how the indigenous people view the world.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** There are ceremonies around here and I am aware of three: the fire ceremony, the water ceremony which the women perform, and the medewiwn lodge. It is more of a respectful worldview.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I think there is evidence of how hard the tribes have fought against being assimilated into the general society and how hard they fought to reaffirm their rights to do that. They hunt, fish, gather, and do things that are important to them spiritually and physically.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I think that the family unit is the one that makes the decisions for hunting and gathering resources in the traditional ways, but there are families that do not know their culture or traditional ways. The Tribe is the main factor in creating new natural resources using the culture traditions. GLIFWC is the main body that works with the tribes in creating management plans using the traditional ways because most of the hunting is off Reservation and GLIFWC has jurisdiction for this along with the Bureau in some ways.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Everything we did was to survive and sustain ourselves. We gathered at different times for harvest because the work was too much for one clan to do, so it required the whole Tribe to come together. It was a social event because you cannot travel during the winter months, so in the spring there was a family reunion and news about the winter months.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** One of the big ways the Bureau is leaving the management authority up to the Tribe itself, but trying to promote intergraded resource management planning. This is where the various tribal departments are all communicating and have a common vision, goals, and objectives that lead them towards this common vision, so they are not working at cross purposes sometimes and are maintaining the communication that governmental units need to move forward. The Bureau provides funding for these projects and it helps promote the sustainable practices, the management of natural resources, and it goes a long way towards that. The tribes develops the plan, the BIA signs the plan and by doing so agrees to help the tribes manage their resources in that manner. The BIA knows how the tribes want to manage their resources. Since the Self-Determination Act and the Indian Preference Act, this is expanding out to the whole Department of Interior and not just the BIA where it is going to have Indian preferences. It makes the BIA more culturally sensitive and have a better understanding of trust responsibility to the tribes. The BIA has come a long way since I have been with the agency and I have been here a little over six years now and have seen great strides forward.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not comment because of position within the BIA.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** The other groups and agencies that tribes have found as advisers for years and...For instance, the Department of Natural Resources is coming around and seeing where the tribal indigenous knowledge is something to look at in a favorable light. One of the ways that tribes could probably improve IK in general for future generations is that a lot of native people have oral traditions and things were not written down. One of the things lacking nowadays is the native language and it is going away because the elders are dying and I know that there are things being done to preserve this. I just read in the newspaper today that Red Cliff is offering language camps this summer. To get the knowledge to the young ones, not just the language but all the traditional knowledge is important. They should try to teach it to them in the language because the way the Creator created man and sent him down here; he had a task of naming everything and each name a plant has in the native language has a certain meaning. This needs to be taught to the young ones and this would help strengthen the IK.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Did not comment on this part of the question.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** In the way Bad River has set up their management plan they have established conservation zones where nothing takes place. It is left alone in its pristine stage except for traditional harvests like birch bark harvesting in the spring, plant collecting, berry picking, wild ricing, and gathering medicines. The way things are going I feel that there is going to be an increase in the biodiversity of species and their habitats on the reservations because they are islands of biodiversity. The landscapes you get along the boundaries of the reservations are monocultures.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Do not know of the tribal ordinances on the Reservation.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I think the plans for forestry are an opportunity for the Tribe. Forestry is an economic means for the Tribe to get money coming in. There are wind and solar opportunities on the rise for the tribes and the BIA is finding ways to fund these. So, yes, there are current opportunities through natural resource management on tribal lands.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think that the Tribe needs to promote more of the cultural traditions to the people and set up programs with the State to allow language and culture camps on the Reservation. We need to have our leaders push for this because the language is losing ground and we need to preserve this before it is too late and the culture is lost once again.

### **Bad River interviewee 7:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** The key to the indigenous people is that they have learned to live in an area and have adapted to and have a special knowledge of how to live in harmony with the environment. This is my understanding of what indigenous people are: those people who have an intimate knowledge and coexist and have a symbiotic relationship with their surroundings.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I am aware of those tribal members and tribal elders who use traditional techniques to do many things that are so important. To most parts of the world this may seem to be not so important, but to some tribal elders and more traditional types of people who use the products of the Earth and the products given to them in a sustainable manner so not to damage the environment, but to live with it. Like my colleague mentioned the medicinal plants using the products of nature to heal oneself rather than one chemical a company cooked up or like making their dwellings from the resources of the Earth. More of a symbiotic way of living.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** One of the key things is the food that nature gives us, such as the wild rice, fish, and venison along with the plants and medicines. I am amazed to see families teaching the youth to follow the traditional ways of the Ojibwa, then depending on the processed junk of the mainstream society.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I am not aware of any for I am non-tribal.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I do not know of any, but I guess what has been put into the historical books regarding the Ojibwa people of Wisconsin.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** A little background- the BIA over the years, decades, or centuries or however long they have been going- has been an evolving organization and is an arm of the President of the United States actually. So a lot of times what Congress does for Indian people is done through the BIA. The BIA gets a lot of bad rap because of the decisions of Congress. Examples of this are cuts in funding and the Dawes Act (the Allotment Act). The BIA takes it on the chin which comes from Congressional Acts. A lot of the Acts

were to continue on limiting the size of the reservations or the years and limit the tribal lifestyle that they had before the government was ever established. The BIA is starting to evolve into a more tribally sensitive organization through some recent things like the Indian Preference program, which has resulted in 90% of employees are Native American in the Bureau of Indian Affairs. With that there is an increased awareness of tribal culture and sensitivity to the way the tribes feel about the BIA and to try get into a partnership rather than a unpleasant relationship. There are still rules and regulations built in that are maternalistic that should be gone but still are in existence. You were talking about management practices and IRMPs, right? With an IRMP they used to be the forest management plans where the BIA told the Tribe this is how we are going to manage your forests and the Tribe could oppose or work with the Bureau. There was little the Tribe could do to stop the BIA from managing the forest (not the way the tribes wanted to manage them), but lately through the IRMP process you are getting an integrated approach to forest management. So, you are considering the impacts of forest activity on wildlife, water, air, and everything that might be impacted through management practices. You are also establishing the best management practices so you can have a valuable timber harvest.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not comment because of position within the BIA.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think the Tribe does this as an example and sets examples for the State because the reservations are islands of nature in the State. If you drive from reservation to reservation you go through thousands of fields and when you get into the boundary of the Reservation you are hit with trees, wildlife, and other diversity and they stand as an example to themselves. The tribes conduct fish and wildlife management activities and are well-respected throughout all the federal and state disciplines for their ability to manage natural resources by example. The tribes have sort of set that bar that society can aspire to, and I think it is already having an effect. It is already beginning to show that environmental regulations are stricter and harvest amounts are cut back and population studies that tribes have been doing for centuries. Nowadays, they are getting accurate accounts of what is going on and maintaining populations of different species. The tribes have set the bar for this and people are now starting to take notice. There are a lot of education programs going on like GLIFWC to provide public information to indicate that the tribes are following the traditional practices of hunting, fishing, and gathering; how they respect the land; how these resources are so important to the tribal people; and how they protect them. A group like GLIFWC provides that information to the general societies.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Did not comment on this part of the question.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Well, there should have to be an increase and would hope so.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Do not know of the tribal ordinances on the Reservation.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** There are green incentives and funding going into wind energy and solar energy for the tribes. The Menominee Tribe has a wonderful sustainable development program for their forestry program. I think that all the tribes can use the Menominee as a stepping stone in setting the stage for economic growth through forestry practices.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I do not know of any.

## **Bad River interviewee 8:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** My personal knowledge is what my father and family have put in my place for me. I was taught to hunt and fish growing up when times were hard. My father was a hard-working person and a strong advocate of tribal rights. In the winter he was trapping to survive for his family. My father taught me to respect everything and my grandmother was a teacher on the Lac Da Flambeau Reservation. She was a language teacher. That went to my father and back to me. I respect everything and everything has a spirit. Today's society is fast paced so there are things that I see and will pass it down to my kids. There are traditional ways and not everybody follows or practices this way of life.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I guess my community is very active and I come from the Lac Du Flambeau Reservation, but I work for GLIFWC. It has about 2,000 who live on the Reservation and are very active in treaty rights. We ice fish, spear through the ice, we gather wild rice, spear in the spring time, net, and are active in hunting and trapping. So, it is very active. There is still a board type of culture and tradition with my people.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** We technically have no laws on the Reservation, but the cultural laws do still apply on the Reservation. For an example, you do not go hunting until you see the fireflies in the late summer months and this practice is still followed today. This was passed down to me by my great grandmother, and I will pass it down to my children. Another example is that you do not hunt ducks in the spring time for it is their time to reproduce. So the IK is still here.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I think it is my age and I am 37 and I see it. I do not see it much in my position as chief warden at GLIFWC. It is a very hard struggle to bring youth to understand culture activities because of the fast paced society we live in with video games and the computers. It is very hard to compete with culture ways because they are not fast paced. It is time-consuming, it is tradition, it is learning, and it takes time to do. So it is very hard to bring the youth up to what I learned because I did not have these distractions growing up.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I think that berry picking was at one time because my grandmother told me that it was a time to be with your family and have good times with everyone. It was a social time, and so were the maple sugar camps, which was another time that the family got together. My grandmother was like the general because she always knew how to do stuff and told us the right way to do it. The social time is always going to be there because everything you did was with family, which makes Indians so unique because the fast-paced society has forgotten this element. This was a time to listen to the stories and how to do things.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA does have some fingers in what we do because they are the almighty powerful government. We strive off them for funding. I look at the government myself, as Native people are still not considered human beings, and we are under the mighty hand of the forest and the animals. I look at the Bureau of Interior as a tool to satisfy Native people in funding them. They do have some helpful tools in our management and assist us in funding to help us with our jobs. We are using that assistance in managing our culture ways for the people and our treaty rights. So they have some benefit, but I do think that the almighty government has yet to recognize Native people to this day. We are still underneath the Bureau of Interior, which use to be the Department of War.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I guess on the field level it is positive. When you get higher up in political red tape, especially in funding, they come first and hand out the rest for the tribes. We have to deal with what we have left and do the best we can for the people.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think the first thing we have to do is bring back the talks from the elders. The people need to hear how hard it was to live during the tyranny where the non-natives came and harvested all the woods and all the timber off the reservations and we had to fend for ourselves. When the logging trucks left, they left a mess is what I call it. People understood after that and the communities got stronger. They relied on each other and realized that natural resources can be destroyed and taken. Soon after that the tribes got together and started doing their own fish hatcheries and their own forestry practices. On my Reservation we have our own strawberry fields and apples and time to help our people to understand the IK from our elders. When the treaties were ratified and the funds were used to establish boundaries of off-reservation land; that is where GLIFWC came from. It has been here for twenty five years now managing the resources for right-to-harvest and year-round hunt.



**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** When it comes to knowledge you have to educate the non-member of the cultural aspects in what we do. An example is that when we harvest birch bark the non-member thinks right away that we are harming or killing the tree when we do this. There is a lot of education behind this, our stories, and brining elders in; we can not leave them behind for they are our blood to the past. They are the forefront in bringing this knowledge to the people. After we are done telling them this, we have to show them that we are not over-harvesting. We have to show them the data and the calculations, the tallies, and the information we provided during spear fishing, for example. We size and weigh the fish during the seasons and the Natives have the tools to show that we are not the rapist of the resources.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I think with today's society and the emphasis on hunting is that we as Native people have come gotten into the same realm of cultural where hunting is a season which it never was for it was a time for gathering and harvesting for families, aunts, and uncles for providing. In today's society people I hear the older ones telling the young that is not a season; it is a way of life for the people. We have fallen into that realm because we have to have our bait piles, and we are only out there to get the biggest bucks. So that is a struggle and we have fallen into that. What we here at GLIFWC are doing in managing this is targeting our youth to understand and bring back that culture aspect. By having youth duck hunts we are putting on to show that that animals are not there just for sport, but to provide families food. So we have an increase and that is a goal for GLIFWC to bring back the culture aspects to the Ojibwa. My guys see this out there for we have two jobs: being the ambassador for the government and upholding the Tribe's culture ways of living and laws of the Creator.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Spring spearing is one of the ordinances put into place to manage the resources and to show the non-natives what there is in the woods and lakes. Another aspect of the ordinance is the spring netting in Molax to show the non-natives and manage the resources so that each tribe has the right to harvest the amount for their people. The deer, bear in the fall is to show the non-natives that we do not harvest everything that we declare for harvest. The ordinances are put into place to keep our members honest because we do have some that do not follow the rules; they have fallen into that realm of a sportsman. We have to do this because they have lost the culture aspect of gathering, hunting, and fishing.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I think that the tribes need to communicate better with another and let each tribe know what they are doing to manage their resources. There are a lot of opportunities, but not through the greed of the fast-paced society because it is not culture or tradition to do so.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think for my Tribe is to comradely because today's society is about the dirty money that non-natives have put on place for us. That is what keeps us going nowadays. We have lost touch with our culture because we do not share with our families. I call it the 'Jekyll and Hyde' during spearing season because they turn into another person because they want to get as much as they can at once but not share. That is the hard aspect of changing with us is that we lost touch in being family as one, not as individuals. I think overall since I have been in this position for the last four years coming from a field warden to management over eleven different tribes, their stories of harvest are important lessons. There are things out there as Native people that we have to share and cannot be greedy because that is not who we were and that is not what we were put here on Earth to do. We need to be unified because if are not the non-natives will pick us apart. That is why it is a personal goal to reach out to the youth and teach them the things that I was taught by my ancestors and to not sit in front of the T.V., computer, and video games.

## **Bad River interviewee 9:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Basically, IK is everything our elders can teach us. The respect showed when you harvest or use something from the environment. Basically, all teachings are IK when you think about it.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I am from Kewanee Bay, and here in GLIFWC we use it for harvest of the wild rice and maple sugar. We also use it for teaching our youth and we use it for information about the plants and different things out in the woods. I did a program a few years back on how to use plants in a non-medicinal way. I met with about 200 elders from eleven different reservations. We talked about the plants you use in a non-medicine way. I remember them saying we do not know of any plants for non-medicinal and I told them that a lot of times I hear when people talk about plants the first thing they talk about is the medicine. I ask them who has a birch bark basket in your home and every one of them raised their hands. I told them that is a plant for non-medicinal purpose. So we started to talk about the plants and how they were used, and we were talking about food, shampoo, etc. We also talked about the impacts to the plants they have seen. One of the questions was do you collect the plants in the same place as you were younger? A lot of times they said no. Then the next question we ask is what do you think happened to the plants? The responses were really interesting for they would tell us that a long time ago when they would spray along the road, they were unable to get some of the plants. Some of the elders told us that when they stopped the controlled burns in areas that the berries were no longer there. There was vast amount of information and we identified over 200 plants and parts that have non-medicinal uses. Another way that we interpret the knowledge is that I just finished a language project in Ojibwa where we found the old names to locations around the Reservation, basically the ceded territories. The ideas behind that were that our people did not give something a name just to give it a name. They did not name something after someone either like the Western society does. They name it because something was there, gotten there, or something specific to that area. So we if we see a lake named (interviewee spoke in Ojibwa) 'Wild Rice Lake', we can go there and see if there is wild rice there and if not, what has happened to it; is it possible to bring it back? There is a place just north of here and the translation is a 'Place Where Canoes Are Made', so if they are making canoes there then there must be birch, jack pine, cedar, and a whole set of different plants. We can go to that area now and see if the plants are still there and if not then we can ask the question what has happened to them? Then the question is whether we can bring them back and this is happening throughout the ceded territories with the language because we can find the resources that were there at one point of time and see what has happened there and why that area was named that. Hopefully, we can protect these resources or do some re-habilitation in that area.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** See previous answer.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** The whole Tribe participated in these decisions, especially with my Tribe, and it still goes by the elders in the community. Now people with degrees are helping make these important decisions as well.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** See response 1a.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I have no idea.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I am a radical and the BIA is good as far as you can throw it.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I really think it is so important, and think the more information from my elders when they were growing up, more information from them being taught from their elders, because when you start to look at these things and then you can ask how did they protect this or manage this specific resource. They must have been doing something right because the resources did not deplete and always were there. It is really important to carry these teachings and gathering the information because strengthening this will also show state and federal agencies that this information that our elders have is more than anecdotal information. They did things for a reason, because it worked, because it was the right way, because things survived, and because they could go back to an area and gather something more then once, and did not have to worry about being over-harvested or did not wantonly destroy. The elders protected things their own way and the teachings that were passed down to them. A good example is wild rice. I am working on a wild rice plan right now. If you look at the tribal regulations vs. the state regulations pertaining to wild rice harvest you will see that the State of Wisconsin does follow the tribal's regulation to even a little bit. When Wisconsin set up their wild rice harvest they set a date for the rice to be harvested in the state. August 15<sup>th</sup> through September 15<sup>th</sup> is when you are able to harvest rice, but what if the rice is not ripe at this time? The method to harvest was open and when they showed that the rice was being hurt, the state decided to follow the tribal's regulations to harvest rice. The state did follow them to a point, an example is that I hear the tribal people asking why does the state allow non-tribals to use

broomsticks, do they not know they are hurting the rice more than good? This really bothers the tribal people. The ricing sticks are made out of cedar for a reason because it does not hurt the rice and you harvest in a certain way. All the traditional teachings are in this, and when we tell federal and state this, they reply why should we change, it is good enough. No, it is not, the harvest is done a certain way and has been done this way for generations. We have to stand tall and show these state and federal agencies that these teachings do in fact work and help them understand this. We have the data to show them, but they have to listen and understand.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** See previous answer.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Decrease! The Western philosophy is that they protect one thing and focus on that one thing, where they do not look what is around them. An example is that there is a mine in the Upper Peninsula and they were going to throw acid on the bottom to leach out the other minerals. They were going to put a fence in a five-mile radius around that mine and they figured that they would protect everything in that area. I brought up the question so you are going to teach the deer to read and not go into that five-mile area? And what happens if that deer eats something in that area that will kill it and it leaves that area and dies and then something eats that and carries it and dies and then a bird comes along and eats that? You just expanded that five-mile area. When you protect wild rice you have to protect everything on that wild rice. You have to protect the insects, birds, fish, muskrats, and everything in that area. You can hear about this from the elders because in certain areas the insects are gone so the birds are gone and the beds of rice are dying in certain areas. So as you can see everything is connected. If you are going to protect something you have to protect all and the European philosophy does not follow this for they only protect one species and forget everything else!

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** In GLIFWC a lot of regulations come from talking to the elders in different communities first. The elders have a strong input into what we do here; everything from methods of harvesting to even the negotiations process with the state. When we are setting up regulations we sit down with elders and ask them; how do you do this and when do you do this? What are the seasons for this? If you look at our regulations you will see the proper way the elders do things and everything our regulations are set up is the way the elders do their harvest and management of resources. The proper way is respecting everything by putting your tobacco down and praying for the gifts that you are harvesting or being in an area. When you harvest something you share it in the community; it is the proper way of doing things. When you harvest something, you only

take what you need and that is also the proper way of doing things. This shows up in all our regulations here at GLIFWC. I am not going to say that everyone follows this way, and the regulations are there to protect and charge those who do not follow the regulations that are set in place.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** It is hard to think about this because the state steps in and stops us from doing certain things.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** The one thing is land management, resource management, and environmental protection area, especially with the encroachment of huge corporations onto Reservation lands. What impact does that have on the land and surrounding lands? In this area we have the right to harvest resources off the Reservation and we are going to need people out there monitoring and protecting these valuable resources. We basically need biologists and people going out there to harvest because soon or later the government is going to come in and say well you do not do that anymore and take that land back from us. So for the livelihoods we need biologists, commercial fisherman, land managers, and people from the community that hunts, fish, and gather along with the trapping; and make this part of their daily routines and diets.

**Q11.** Is there anything else you would like to add for this research?

**Response:** You have a long walk ahead of you because the only way that you are going to make this a reality is having the scientific community saying this IK is the only right way to do this. What we have been doing is having them hear our elders speak and letting them know that we do not look at things from a purely scientific view; and our results are about 50% the same and a lot of time better than the scientific results.

## Appendix C: Questionnaire survey results for Oneida Reservation interviews

The questionnaire survey was created to look at what indigenous knowledge practices are still being used by Native American tribes in Wisconsin. This research project proposes to inform dominant society of a new pathway toward sustainable resource management by mainstreaming indigenous knowledge used by Native Americans. The lessons learned can be incorporated beneficially for more effective, sustainable natural resource management throughout the world. The purpose of this survey helps address the objectives of this research by:

1. Identifying what Indigenous Knowledge is and how it relates to sustainability of resource management within the tribal community; and
2. Talking to individuals in resource management and elders on how the Indigenous Knowledge is incorporated in tribal management practices. Research biodiversity through interviews to determine if it increases or decreases with Western-European current management practices.

The IRB-approved interview questions and clusters addressed by each question are featured below.

Cluster addressed by Question:	Interview Questions:
Ecological integrity; Economic viability; Social justice; Governmental interactions; Cultural preservation	
Cultural preservation Ecological integrity	1. What is your personal definition of Indigenous Knowledge? How is this knowledge used or interpreted in the sustainability practices of the tribal community?
Ecological integrity Cultural preservation	2. What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?
Social justice Cultural preservation	3. What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?
Cultural preservation Social justice	4. Were any natural resource management practices historically conducted solely or primarily for social or other non-food/shelter/clothing purposes? If so please explain.
Governmental interactions Social justice	5. How does the BIA determine which management practices will be implemented for your tribal community? What is your opinion of the BIA interactions with your tribal nation?

<p>Cultural preservation Ecological integrity Social justice Governmental interactions</p>	<p>6. Describe how you feel about strengthening IK approaches in the future management of your tribal lands. Describe how you feel about mainstreaming IK approaches in the future management of non-tribal local or state lands.</p>
<p>Ecological integrity Social justice</p>	<p>7. After applying Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats?</p>
<p>Cultural preservation Governmental interactions</p>	<p>8. Please explain some of the cultural aspects that are being incorporated into tribal natural resource management. How are they carried out once the prescription has been placed in the Tribal ordinance?</p>
<p>Economic viability Social justice</p>	<p>9. Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?</p>
<p>Economic viability Cultural preservation</p>	<p>10. What sustainable livelihoods do you envision as viable in your tribe?</p>

### **Transcriptions of Indigenous Knowledge Responses from Oneida Reservation Interviews**

A total of 13 Oneida interviews were completed for this thesis research. Names of the interviewees are deliberately omitted here.



**Oneida interviewee 1:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** To me, indigenous knowledge is knowledge of the heart. It is the knowledge of your surroundings that have developed over time through your ancestors and through generations now and into the future. You have knowledge of what your surroundings are: the plants, the animals, the rocks, the trees, the basic things that make up life.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** By understanding where a person comes from and understands how he or she lives within the environment, the total environment. They then can better understand how to manage that environment and themselves in order to maintain the integrity of their surroundings and their environment, and live in a sustainable fashion.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The tribal community here has a long house of spirituality where the people get together and practice the cultural aspects of the Tribe. We also have a group that represents that belief, that system, which helps us in making some of our environmental decisions and development of our practices.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the cultural traditions?

**Response:** I think it is actually men and women of various ages. Some of the people here are as young as 21 or 22 years old and as old as 70 or 75, who have an impact, a double impact, in making decisions and in developing practices for managing natural resources.

**Q4.** Were there any natural resource management practices historically conducted for solely or primarily for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I do not know. We have some; I cannot answer that one.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** We in the environmental department work with the BIA in determining, trying to find ways of mitigating environmental damage that could take place with proposed developments. We here on the Reservation are not against development, but we want to develop in a sustainable fashion to maintain the integrity of our surrounding environment. The BIA actually works closely with us as does the Environmental Protection Agency, the Army Corps of Engineers, and others, even some of the State's

departments. We try to maintain the quality of the water, the quality of life, the quality of environment within a developing nation, or a developing society.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** For me as an environmental worker, it is good. I can call the BIA and have them answer questions. They are pretty sticky on making sure we indeed do our environmental assessment and that it is up to a standard that is expectable. We always meet the standards of the BIA prior to meeting the standards of the united Tribe.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I would like to see Indigenous knowledge used more and taken into consideration more. There are some problems with some of the beliefs being all over the map. There are people who are very strongly westernized, there are people who are very strongly Oneida culturally, and there is gulf in between. We need to somehow within the united Tribe strengthen those beliefs and get both of those parties working together so they can go in the same direction. Then I would like to see more cultural aspects included in decision making, but there is still a lot of argument within the Tribe, between members, as to how to integrate those things. I think that through integrated natural resource management we can begin to focus on that. The Tribe is doing that right now through some of its balanced scorecard work.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** My view is that the current system of management does not value all life forms equally, and does not appreciate the importance of all species. That man is at the center of the management and it is at the center of decision making. We need to better understand that all of the creatures that are out there, the entire environment, play a role in maintaining the stability of that, and the sustainability of that environment. Unless we can appreciate and better incorporate those species we are destined to lose species and thus lose our quality of life and the sustainability of our environment.

**Q7.** After applying current Western-European natural resource management prescriptions, do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I perceive a decrease in biodiversity because of the way people value species; many life forms are not considered worthy of protecting. There are large numbers of people, including managers, who have very little use for snakes, bats, amphibians, and/or species of insects. We do not know how valuable these life forms are as necessary components in maintaining ecosystems. If we leave any species out of our protection, we risk having the system collapse or at least reduce in species

diversity and productivity. If we do not begin to appreciate all forms of life, I fear a continued loss of species, ecosystem integrity, and collapses of natural systems.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** One thing we are trying to do is incorporate the names, the Oneida names, for various projects, various names of animals and how we are bringing about protecting and enhancing our environment. We are beginning to incorporate those values into natural resource features.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** We have a cultural group here on the Reservation that looks at language and interprets the language to meet the environmental development. Everything that we do here, or a lot of what we do here, is culturally related. We try to relate culture to the Oneida way with what we are doing. There have been many town meetings and open houses to try and bring the community into the decision making process and to try and integrate with them, so we get feedback, they provide us with knowledge. We have Fall Fest coming up in a couple of weeks that is primarily designed to integrate what we do and the people of the community. We work with the summer youth program to develop some of the culture and explain why we are trying to preserve things here and show them what we do and what our duties are.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Sustainable livelihoods; I think that it is important for the Tribe to continue its language, to continue to develop, to protect, and improve on its language. I think it is important for tribal members to continue to worship in their long house, to do the activities related to religious features. I think it is important to try and maintain those medicinal plants, those culturally important plants and also community types that are important to people. I think it is very important culturally and otherwise to maintain the environment in as unpolluted, and as sustainable fashion as possible. To maintain that cultural background is very important to Oneida people. We want to improve on the quality of the waters, want to reintroduce some trout species that were important to the people. We are attempting to maintain and improve the environment in which people live. I think all those things are important. I think the Oneidas have done a very good job of integrating their cultural people with the people that do have Western knowledge, that do have a little more education. I think that works both ways; there is an herb board, an environmental protection board of Oneida people working here, who we interact with and learn from. I think it is important that interaction takes place. I think many of the people from off Reservation who work here are convinced that the Oneida people have a very good ethic and their way of doing things and their way of protecting the environment in sustaining it is a correct way. That is probably the main reason why at least a half dozen of us are here. It is not because of the money; we are not here because of that, we are not

here because we want to have a feather in our cap so to speak. We are here because we truly believe that what is being done here is important for the environment and for the people.

## **Oneida interviewee 2:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** To me that would be things that have been passed down orally from generation to generation and it is not necessarily an elder. It can be anybody of any age, even a child can have that knowledge, traditional knowledge. It is there, it is all around us, so we can learn. We can learn from anybody. I think that is a stereotype with indigenous people, that is it is just elders that know stuff, but because of all of the acculturation and assimilation that has gone on in Native American country, especially today; it is a lot of young people and our elders, and a lot of them are just old people. They do not have the cultural background and teachings and things like that. A lot of it is just common sense kind of things and it is intuitive I think in everybody. It is just that we have lost the art of listening to ourselves and to our own intuition.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** There are very few families that understand that; again, because of the acculturation. Our community is probably one of the most acculturated out there in my opinion. The thing about my family, and there are others, too, when we were raised we did all these things to sustain ourselves. We had gardens, we hunted, and we fished. I was just talking to my buddy over there, my great uncle. We use to snare rabbits and go out and gather different fruits when they ripened- wild strawberries, raspberries, and blackberries-it was a family thing when we did that.

The whole family, we went and spent the whole day picking blackberries or spend the whole day fishing or go pick butternuts and hazelnuts. We grew our own chickens and pigs, and when I was really little we had cows. We had a farm around the corner where we got our milk, right from the cow, to make our own butter. So there were those kind traditional ways of sustaining ourselves, which we grew up in. There are ten of us in my family, and I think we are all very conscientious of that yet today. Pretty much all of us have gardens; we all hunt especially all the boys; we all fish and things like that yet. We do all those kinds of things. So that is the kind of background that I come from; we were dirt poor, we had a wood stove when I was little, and it was the only kind of heat we had. In my family and the generation I grew up in, we worked hard. That was instilled in us. Today it is becoming a tribal program to do those kinds of things. People are not in touch with the natural world. You can go down to the cannery and have your corn processed or just buy it right in the jar without having to go grow it, be out there hoeing it, and working that land and things like that. To make the corn soup, to make the corn bread or the mush or the green corn soup, all these traditional dishes, you just go down to the cannery and have it done. It is just like going to grocery store,, get your indigenous foods. So there is a partner that is missing; and to me it is that relationship and that is what is lacking, not only in this country but all over the world. I see that occurring on a lot of reservations, too. I mean there are organizations out there that come in and show how to

do it, how to do these kinds of things as a corporation. There is not a whole lot of that hard-work mentality being taught to the youth, they are detached.

One of the things that we have been doing here in our community for the last 25 years now is that we have revitalized our ceremonies, because when our people came here they were all Christianized. There was a small group they affectionately called the 'pagan party' that came, but any remnants of ceremonial doings on this Reservation pretty much became nonexistent by the fifties, maybe even by the forties. We have that last generation of our Native speakers that are here. They have some memories of that, but they're so removed as well. When you look at the whole picture, there is to me that lack of a relationship with the natural world that is missing. That has to come from within a family, you have to model that, and you have to live that relationship with nature. You cannot take a class to learn that; it has to be a part of you. We talk about food sovereignty; we did all those things when we were kids. We used to get chased around by the game owners because we used to spear and there are a lot of stories about that. Our person doing that here on the Reservation, and that was a necessity. In terms of the general population, my sense is that here in Oneida, it is more money-oriented.

Fast foods, I mean you just look at the health of indigenous country. Everyday there is an Oneida that is diagnosed with diabetes. That just speaks to the overall lifestyle of our people here, in terms of what they are putting into their bodies. It is a lot easier just to go and hit one of the fast food joints and get your fill, rather than going through the whole motions of raising everything and then the time it takes to make the food that our ancestors ate. My granddaughter is 6 years old and we got a pool at our house. When it is getting toward the end of the summer here, my wife says, 'Let's have a pool party.' They just finished up a program, 'trails' they call it, with a lot of youth where my granddaughter met a lot of new kids. 'Invite some of your friends from trails and have them come over with some of your cousins and we'll have a pool party.' So we asked her, 'What you want to eat?' She says, 'corn soup.' Because she has eaten that since she was able to eat and it was just like a 'yes!' She did not want McDonald's or pizza; she wanted corn soup because she was raised on that. All her friends and little cousins all know what that is, too. I got an affirmation from one of the little girls at the party who is 7 years old who ate some kettle corn soup. We were outside on the picnic table, where I opened that up and she takes a whiff and she says, 'hmm, that is going to be some good corn soup!' She took a big whiff. Little Indian baby! We are so caught up in the 'here and now' and the society, our people, they do not understand the relationship that our ancestors had with the natural world, especially the foods. That is what is lacking. There use to be a lot of movement or push from the top all the way down.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Did not know.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not know.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not know.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Did not know.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not ask.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** The thing there is to come back again to that relationship. We are so caught up in it being something we own; there is that mentality. It is not really so much that, from a traditional perspective, we are like caretakers of that, we are to take care of it and reciprocate. There are ceremonies that we do that is vital, because you look at the shape of the environment and how it is today. With all the contamination that we are putting into her, if that continues, there are going to be consequences for that. We are kind of suffering that right now with a lot of the cancer that is going on, it is in the water and it is in the air, it is all around us. That needs to be a global position in terms of reducing all these toxic wastes that are being emitted into the environment. It is just common sense, but the almighty dollar is the one that does all the talking. It is going to take a whole lot there to change that, that whole philosophy, way of life, where the world is today. Just need to keep on persevering, keep on trying to educate society, especially the youth. I think that is where you need to start, to educate them.

To change the behaviors, even just to recycle, 20 years ago nobody did that and now it is common practice. In California they enacted a law for no more plastic bags because it hurts the environment so much. Educating, educating, educating, is the key. I was just at an elders-youth conference two weeks ago up in Lac de Flambeau. They had these traditional people from all over the country; there was even one from South America and a lady from Japan, and they all talked about the environment. They also talked about where she is at, and they have gone to international forums in Europe and presented there. The world powers are the ones balking at changing and they had leading scientists there that are saying by 2020 if things do not change there are going to be dire consequences. They talked about the global warming that is going on and that is fact. You just look at how the weather has been the last few years, lots of snow, lots of rain, lots of tornadoes, lots of hurricanes, and lots of fires. That is our mother right there talking to us. We got to start doing something different here because she is trying to put things back in order, but we continue to not listen. It is just continuously putting that out

there and seeing that our voices are heard, not only locally, nationally, but internationally as well.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Did not know; declined to answer.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** It is causing devastation to the environment. Even just here, in our community here, there are different species that are becoming extinct because of these non-traditional ways of land management. It causes a disruption in the natural way of the environment, when you cause that type of devastation. Everything was here for tens of thousands of years the way it was and it is only been the last 500 years when everything has just gone amuck. It does not take scientists to understand that. I think with the Tribe buying back all this land and setting up different ordinances in terms of the rivers and where you can plant, how close to it, restricting cattle from going into the streams. To me it seems it is starting to clean up some, but I am sure there are places on the Reservation where things have not changed. With the constructions of industry, homes and communities, it has disrupted the whole natural flow or way of the environment. Those practices are not conducive, but I think it is starting to change though.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I am not really involved with environmental program here in terms of the things they are doing culturally and even in terms of policy and procedures. Every tribal entity that I ever had any involvement in has strictly been blueprints of what is out there in dominate society. Our game wardens, and the hunting and fishing regulations that they implemented are just carbon copies of what is out there. I have had some encounters with them, going out there for gathering, hunting and fishing traditionally, but this is contrary to what their rules and regulations are on the Reservation. That is how the educated board members are, there is no cultural sensitivity going on that needs to go on. That has to be a whole lifetime of work to educate them about that, the cultural.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** They got that buffalo herd, does that count? I do not know a whole lot about that, but they have got a big herd of buffalo. I am still waiting for the buffalo hunt. I do not know, I cannot think of anything.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?



**Response:** It has to be a part of your life and not something you hang on the wall. It is kind of like when you go to powwow, got all these different guys and women, men and families... that is their life. They identify themselves as being Indian, they go to powwow. They have that outfit on and they are Indian for that time, but then come night time they are not. They are who they are, how they growing up, that is what they are. It for that period when they are at the powwow and they are dancing or what-not in their costume, there is the stereotypical behavior that they subscribe to. I see that with a lot of those people. I am not saying all of them are that way, but it is been my experience and observation. I use to sing on a big drum, too, for a number of years about 25 years ago.

To me it is like they are proud, but they do not know why because it is not inside of them. They think it is something out there or how they look or talk and it is not something that is inside of you. For people that do not understand that, you cannot help by feeling sorry for them, because they are the ones you see down at the White Eagle or Rainbow or Thunderbird tavern or whatever. It is just a lack of those traditional teachings being a part of their life from the time of conception. There needs to be a movement. I think as a community of people, you are not going to get them all, but you are going to have a core group that want that and to understand that for that to be a part of their life. Then it will be passed on to the next generation: educating, it comes down to educating.

### **Oneida interviewee 3:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Indigenous Knowledge is knowledge that has been passed down from one generation to another from indigenous folks that has been obtained or collected through time. It is thousands of years old; not even a time can be put on but it is how Native people can pass down their culture and beliefs from one generation to the next.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** In our particular group of people that I work with, that is the sustainable community design team and the Trails system, we understand that we have a really close relationship with the Earth and it is in the best interest of our people that we serve to make progress in programs that directly benefit them. In the Trails system we understand that our culture is a culture of walking people, we are not horseback riders. In our current lives we are driving a lot and we are eating a really horrible diet, so in that case we have a lot of obesity and diabetes. The reason that we are not walking is because we have this car culture and there is no place to walk safely. Our sustainable design team realized if we build a safe path system, people will walk again, thus addressing the issues of diabetes and obesity while maintaining our cultural traditions.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** That is really easy because the natural resources we have. We do a natural resources inventory and certain items that are recognized as medicines are always preserved and marked and then they are collected and used. Another program that does really great work like that is the Tsyunhekw<sup>^</sup>, which is an agricultural community and culturally based program of the Oneida, that will find 'bergamot' (called 'number six'). It will be identified where it is in that area and it will be spared any kind of development and set aside as a natural area. Then the medicine will be able to be collected every year for the benefit of the community.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** That question is best answered by the outreach program we have with the community. When a decision is made as to where a trail will be placed and what community will be connected to what community; all of those questions are flushed out to the community through a surveying process where we talk to people one on one. It is multi-generational because there is no age limit to answering questions and people telling us where they want their services to be placed. In other instances, other departments have gone right to the homes of people to ask them questions specific to the programs in the

same way and they will ask every age group. There is not any age discrimination when reflecting data. A lot of times we will have special youth summits, where we just invite the high school kids to the Radisson and we will ask them direct questions about 'how are we doing with this program,' and 'what would you like to see increase,' because they are the generation that drives what we do for the future.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** In the case of harvesting deer, which is a natural resource management, we have always harvested deer on the Reservation. In the 1980s it was decided that there needed to be some management of that resource, because people were taking more than what was allowed for herd management. That is how we got the conservation department. Now we have hunting and fishing rules that we follow to limit the amount of deer each family can harvest- 4 or 5 deer per family- which is plenty of meat. If there were a special need you could go ask for a hunting permit to address the needs of the community.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Our program does not have a direct relationship with the BIA. The conservation program has a direct relationship with Wisconsin Department of Natural Resources and with U.S. Fish and Wildlife Service for the duck stamps that are issued for the harvesting of ducks and geese. That is a limited resource so there has to be limited harvesting I think the closest relationship anyone has with the BIA is our policy analyst, who would be a really good person to answer that question. I do not think they determine which management practices we have, I think what the agreement is, we put together a management plan for our resources and they review it and check to make sure we have the appropriate staff to manage the resources, like air quality and water quality standards. We are given treatment as a State responsibility to take care of managing these resources. It is not a case of where it was in the past, when the BIA agent would tell the Tribe what they can and cannot do with their timber, which is no longer the case.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Currently? I think that the purpose of the BIA has outgrown. It was originally under the (War department?) and now the mismanagement of moneys for resources really is a reflection of the entire BIA program. I just think it is outlived its purpose. A new department should be created where it is more of a relationship between the representatives of the Tribe and the representatives of the United States, but not an agency to go through.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think it is very important for people to know their historical background before they make decisions. In our case, since we are buying back the Reservation... sometimes for the third time. It is really important for people to understand, the whole

BIA, the Indian Reorganization Act, the whole Allotment Act, and the process of putting land into trust to the federal government, as opposed to putting into trust to the community like they do at the White Earth Reservation in Minnesota. It is really important for people to first know their history; how we came to Wisconsin, how much land we had with the treaty between the Menominee and Ho-chunk, how that treaty was reduced down to 6500 acres; the Buffalo creek treaty, how that was lost through the Allotment Act through taxes that were not being paid, and then reacquiring land, and how important it is to keep it preserved, and conservation and not just build every piece of property that we have. If you have an education program, like an Oneida history class or history of the Iroquois, people would be able to make better decisions when the land use unit technical team gets together and talks about land or when the comprehensive plan is presented to the community. In this way they have some history to go on before they make a decision.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I do not think that the non-tribal people have any interest or any motivation to grasp what we are trying to say at this time. I think that things have to get really bad in the environment before non-Indians consider the way Indian people do things. We are not there yet.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I do not think the decrease of biodiversity and habitats was through the adoption of the Western-European natural resource management. In our Reservation, when the land was lost through the allotment process that is when the application of the Western-European natural resource management practice was done by the non-Indian who owned the land. That is when the property was clear-cut and wood was taken to the paper mills. Prior to that we had the BIA Indian agent on the Reservation, and he would not allow clear-cuts; even a tribal member could not go out and clear-cut themselves, because the wood belonged to everyone and not to just one person.

Then we have a situation where the railroad was coming through the Reservation and they needed railroad ties. Tribal members went out and cut trees to make railroad ties to sell to the railroad company, but the BIA agent said you cannot do that, and the wood rotted. So we have a history of not using our resources and not having that authority to use our own natural resources in the Western- European management style. Now that we are reacquiring the property we have some really great management plans for the properties that are fit for farming. For the land that is not fit for farming we are putting it into conservation a resource management practice, which usually means reforesting the property. We are coming back to our historical/cultural ways of taking care of the land, and creating buffers between the farming land and the water to try and restore Duck Creek.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** The environmental resource board that I work for is a 9-member board that is appointed by our government business committee. They are charged with creating hunting and fishing rules every year. We have these rules that have been brought up by the community members, who feel that maybe something has been overlooked or a rule needs to be changed in which case it is our own community creating rules to manage ourselves and our own resources. So that is how we create our laws and this becomes our ordinances. Our own values we have as people, our cultural values; not everyone is a traditional person (there are Christian people too), and we still have a close relationship with the Earth. Everyone is looking out for the best interest of the resources and not for themselves, so we police each other.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** The only economic opportunity that I can point to is if you were an employee of the Tribe and you worked in one of the departments that have direct relationship with the natural resource management office, or environmental health and safety, would be your only opportunity. There are not enough natural resources like fish for a person to go out and open a fishery and start selling fish. That opportunity is not there. We do not have enough trees to have wood cutting to supply firewood to people; we do not have that kind of opportunities. It is hard for anyone who wants to live a sustainable lifestyle to do that on this Reservation because we are so close to Green Bay and we are so urbanized that the land cannot sustain you anymore. It is too developed.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** That would take a lot of land being purchased and restored to forestry for anything like that to happen ever. I do not see it in the future, maybe a 100 years from now, maybe 200 years from now, but not anything soon. We just do not have it anymore. Menominee tease us about tapping our trees for maple syrup... 'all five of them' they say. We are definitely lacking in natural resources.

#### **Oneida interviewee 4:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** My personal definition is based upon our... thanksgiving address, which deals with all of creation and our relationship with all of creation.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** For Oneida we have been trying to infuse the thanksgiving address as the guiding document in the development of our policies and programs. Actually, if you look at each of the elements we have in our creation story, it is fundamentally what our programs are doing is functionally taking on the responsibilities that we have in our culture toward the environment.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** We have been trying to incorporate that into our whole community. We have a seventh generation philosophy... if you look at it, not just visionary looking ahead, but in a sense of myself, my children, grandchildren, great grandchildren... my parents, grandparents, great grandparents, you have the seventh generation structure. We have our own tribal school system. We have many programs dealing with environmental protection, government social services. We try to infuse that knowledge in all levels of our community development. The direct involvement, of course, in a management tool is through larger structures of traditionalism within our community. We do have our government, which is structured around our culture. For example, we have nine traditional chiefs, and we also have nine in our business committee, our Indian reorganization of that government. So, that is an example of where the indigenous knowledge is already infused already into our governmental structure as well as our social structure and service structure.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Did not know.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Much of our ceremonies are around certain spiritual purposes, but they also brought people together so there is a social element to that, of course. Within our ceremonies there are different roles for different medicines, different activities, and ours are structured around a seasonal year. We have different activities throughout the course

of the year. I would say it was more dealing with our social structure and agricultural needs as a community.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I will put it in a general category that I think the federal state and local government have a different relationship with us. As Oneidas we are originally from the north, so we are an immigrant tribe. We have a little different status in that way, as far as a historical understanding of who we are with the federal, state and local authorities. However, policy-wise we have been through process of memoranda of agreement, memoranda of understanding through the years throughout the bit of protocol that I think we function with right now.

Specifically, the BIA has a very limited role in what they used to have. I think the federal government has taken on a larger role through environmental protection agencies; different regulatory agencies as far as resource management in our community. Because we are in two counties we deal with the different county governments and other local units of governments in that capacity. As a federal Indian reservation certainly our policy development goes just way beyond Bureau of Indian Affairs. The Army Corps of Engineers and other agencies have agreements with the tribal government; memoranda of understanding have been the primary vehicle we have had in the past. I think the BIA has a very limited role right now.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Our relationship with the BIA has changed dramatically over the years, as it has with most Indian nations. Ours has been one of emphasizing our sovereignty. Most recently, in the last six to eight contracts we have been taking over some of their supposed trust responsibilities; clarifying them, if not taking them over directly. In the area of finance, for example, we administer a lot of the programs they used to have more control over. Natural resource-wise, we do have our own forester; we have environmentalists, water quality specialists, and air specialists. We have a lot of the resources in our own structure now that the Bureau used to function within a circuit-rider type fashion where they would stop in the Reservation on a trip. Now, by exercising our sovereignty through some economic ventures, we have been able to fund a lot of our own programs and staffs. We are still reminding them of their trust responsibility and treaty right issues, but they have a different relationship with us, with our evolving capacity and organizational structure of staffing and funding.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I think that is one of the key or critical points we are in the discussion right now. We have found in the past that many of the tribal codes and regulations were nothing more than duplications of the state and federal government's laws. We have been at this point for a while, so I think it is starting to become a little more accepted.

The cultural compliment to science is where we are at-a real critical point. It is not just the scientific explanation of air quality, for example, that we are working from, we are working from also cultural understanding of what is air. I use that as an example--a quick example--first thing when you are born... take a breath of air. Last thing when you leave, you go about your responsibilities and the last thing on this Earth you do is exhale. Where would that come from? Where does it go? What did you do with it while you had it? Those are the kinds of cultural contexts of what we are in the mind sets right now. I think it brings a lot more understanding of your responsibilities and the privileges you have of being a living human being; a living element of the natural world. We have been bringing that back into our community development, our planning and our policy issues now, so that that becomes a part of our program development. I would also add that because Oneidas are originally from New York State, we also have a context of the Haudenosaunee, so there is a whole larger relationship to our indigenous brothers and sisters within the concept of the Haudenosaunee. We are six nations, so we have another dimension to our being Oneida, which is another part of our rediscovery, from a pretty traumatic and dramatic experience of acculturation and assimilation for a couple hundred years.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** Part of our original instructions is around sharing our indigenous knowledge with our non-indigenous brothers and sisters. That has not always been well received. Part of what our responsibilities are is trying to connect these dots which now I think science is starting to say, 'Hey, the water is connected to the air and the land,' and they are finally getting it, but it maybe too late. I think that is something we all have to face as we face these larger global crises. It used to be an issue of management of resources and distribution of resources. Now we are finding that because of poor decisions or decisions that were very dimensional, it is no longer even an issue of distribution of resources, it is an issue of 'do the resources even exist to be distributed?' Some countries and some cultures use a lot more resources than others, the United States being one of the main ones, but it comes from a Western worldview of where they connect to the natural world. I think our worldview has been much different; has always been much different.

Unfortunately over the years we become more acculturated and assimilated though our policies and rules did not always reflect that. We become just as exploitive of the natural world as anyone else out there today. So we had a contradiction. Now I think the management of natural resources by non-indigenous peoples is becoming under a different scrutiny; one in which they are attempting to rediscover their relationship to that natural world. Our responsibility is to still to help share what our technical aspects of our relationship to the air, water, land; which is reflected in our traditional ceremonies as well as in what we call the opening or thanksgiving address where each day and each night we are supposed to remind ourselves of all of the elements of the world that bring us life. It kind of is a ritual, a ceremony, and much of the Western world has not had or has lost a lot of their ceremonies.



**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I think there is a transition period, where there is a little shock from doing things differently than the way we have been; spraying along the road, chemicals to keep down the insect pests or weeds...the diversity of the natural world. The natural world is adjusting now to the being treated with respect and...having the natural laws, kind of, is accepted. Biodiversity is now not as confusing as it used to be. The impact of non-indigenous species certainly gets us into a discussion of... on this 'turtle island.' I think our natural world is been increased in strength by taking a more traditional organic approach towards the relationship with it as human beings, just as you can see right in our community here. Of course, we are somewhat suburb, so we have a little different story. Still, we have pockets of natural world that are still pretty strong and responding well to the change in practices that we have of restoring nature

Duck Creek has been a big project in the water relationships that we have had here over the last few years; and our overall philosophy and rhetoric and trying to make it reality. I think has helped us to see a lot stronger systems between the plant and animal worlds, and how the relationship is between them. In which, of course, we are only one part of that.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I think our agriculture is a big part of our recovery and rebuilding of our community and our Indian nation in our clans and our structures. Agriculture...organic foods... we have crops of buffalo, traditional diet being brought back into our tribal school, so the kids are getting that. They are out growing gardens and having time as a part of their school year to go back to nature. Some of them take that home so then their home and parents connect to them, so that one of those seven generation--the connection between the parents and the children--grandchildren come out--grandparents' community, so it becomes kind of a communal activity.

We view that formally through the school; then it is coming up as you will be a part of this community effort for Indian and non-Indians to come into our community and help harvest our white corn to bring a valuable crop to us, culturally and economically. Sharing of philosophies also occurs at that time with different people as they come into our community from Green Bay and surrounding areas. Some tribal members come back to participate and they also feel communal like they are a part of that corn that is harvested for the membership. We do have a food pantry, so the food goes to people who are in need and do not have the money to afford it. Others who have corn at home grow it and bring it to our community cannery where it is canned and distributed and brought into their home.

**Q8a.** Are any of these in the tribal ordinances?

**Response:** Agricultural policies in our comprehensive plan; yes, there is...an evolving development of our comprehensive plan to have a policy so that the ordinances can get connected to a policy—it is another part of that dynamic of policy to an ordinance to a law to an actual program operations. Of course, it is agriculture, but it is also resource development so there is connection with that. I think agriculture is one of our best examples. We have an apple orchard, and we give the apples back to the community. Buffalo is another product that we have from our Reservation, and in our community gardens provide nutritious food to the community itself. Some of our traditional medicines are being brought back into use like Indian tobacco, where. It is distributed into the tribal program to members and community who have ceremonies when they need tobacco and have not grown enough or whatever, they can come to the communal well, so to speak, and get some tobacco from there.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Absolutely. Diversification is a big part of our concern as we have gone through the ‘boom and bust’ in timber and fur trade. Gaming is now one of those ‘boom and bust’ areas. We are looking at more of a natural, locally based food distribution system as one part of that. Certainly attempting to demonstrate systems analysis also to the rest of the specialized roles where forestry is separate from wetlands, where they are not as connected. There are opportunities there. Because we are having a suburban environment here, we have opportunities in proximity to an urban environment that more rural reservations do not have. There is a market here of 90,000 people in Green Bay plus, other nearby jurisdictions. We have a very close market. Also, we are rediscovering some other crops. We are looking at hemp production, for example, one time legal, and we can have the power to fix that and a lot of misunderstandings about what hemp is all about. We are looking at that as a real part of our diversification, so it is not just a crop for food production, it is fuel production... biomass. We are also looking at other areas of economic development beyond just the natural world development, but also with home construction, taking care of our community in that way, and dealing with Congress and trading with the Menominee, for example, on timber. While they have a lot of timber, we have a lot of agriculture land. Trade with Congress in the way we used to do before; to revisiting old systems is nothing new or Earth-shattering. It is just going back to the way things used to be an understanding what we need to do now in a modern age through adaptations.

There is some business structure to it. There is a non-profit agenda; there is a profit agenda, and then there is an Indian agenda about maintaining our culture and protecting our sovereignty. I think that is a key part and within that, of course, are the ceremonies and the language becoming a part of that development which all contribute to community development. There is a community development piece, and then there is an economic development piece. I think there is a distinction between the two. Bringing services and goods to our community where it is not just around making money, it is around providing strength and re-strengthening our membership individuals as clans in the community

itself. But certainly, there is also a need for financial gain so it is not costing us. Sometimes that is brought out in...more lucrative ventures such as commercial development of our white corn. Menominee and the Chicano community, for example, use white corn.

There is a commercial development in that respect, but if it is done respectfully, it is not done in an exploitive manner. It is not done with a lot of chemicals on organic products, which is consistent with sustainability principles. We are starting to get a better comprehension of what the possibilities are for international markets as well as regional, state, and local markets. We want to take care of our own community as well, and our neighbors: the Menominee, Stockbridge Indian Nation; nations close to us to also have a trade and commerce with them that is respectful. Hopefully by practicing that, we will also demonstrate to non-Indian people that this is how you should have relationships with the natural world; this is how you should have relationships to the other people, so it is not conflicting all the time.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** All the positions we have now, employment-wise, should be open to a dimension of sustainability. Certainly gas stations we have on the Reservation--we have quite a few gas stations--is something we want to look at alternatives to that to make it more consistent with our culture. The jobs we have mostly assume it is all around natural resource orientation like game wardens, water quality specialists, air quality specialists, agriculture, but I think its way beyond that. Each of the jobs we have needs to develop some level of sustainability, which gets into really understanding what goes into the organic elements of the job. Certainly gaming might be seen as relatively sustainable, while it is a part of our reality right now that we are trying to get our hands around and understand more. Now that it technologies dominates us, as each of these employment opportunities should not dominate us but it is a part of a whole, so there is a relationship between the parts.

We do not always have a lot of training in the sense of Indian preference--Oneida preference of what we do, so Oneidas can have jobs here and be trained to take over the jobs that non-Indian people have, so I can think it generates a certain amount of sustainability. We only have 16,000 members, with 4,000 in our workforce right now. Half of that is in gaming and half is in programs services area, so we do have opportunities there. Approximately half of those employees are Indians. I think it is about security as well. The relationship of security to sustainability needs to be reframed and redesigned and transformed into our terms. It not just about making money, it is about creating systems in your community; part of sustainability is systems. Part of the issue of systems is relationships, and oftentimes where they are in conflict you find drifting and a positive/negative effect. As we are redefining and re-framing and rebuilding our community, we are finding a need to put some attention and really think clearly about what exactly being sustainable is going to be in the next century with a lot of the world events that are going on as much as our own development. We are not Amish Mennonite; we are 'one foot in two worlds.'

## **Oneida interviewee 5:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** I think it is something that is passed on from generation to generation. It is not done through the books or what you might hear in the school system. It is more done from sitting around a campfire or going out hunting or walking or gathering with your family. It is something that is passed on and really captured through that verbal type IK the real basis of the foundation of what the belief system that people have around that. Say how well we take care of lands, and what are roles and responsibilities might be. It is more of the belief systems about what is important and what is not and what our roles and responsibilities, and that gets passed up through the generations; father to fathers, mothers to daughters or vice versa, uncles, aunts, grandfathers.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Some of them, certainly from the tribal standpoint, such as best industry standards and things like that we use getting our job done or how we hire, so there are those responsibilities that we have around the employee base. When we hire people and make decisions, we want to know what is important and what was on the land. It is really we go out to the people and it is not about the grades; it is about their knowledge skills and abilities around what they had through their learning... being on the land itself, developing those instincts and be able to understand what they had experience in those types of systems. We use that a lot in our decision making about where we might want to restore or repair a particular land parcel and it might be from that knowledge base that typically makes sense rather than if I had a degree. Our decision making is based on actually what was there and how it was used in the past.

I think that is the difference. We go out there and we seek that kind of information because it has really big value. We have hired people that have that strong relationship to the land; they seem to have a natural instinct of what needs to be done. We did not want to lose that in the hiring process so we have equivalence. They come with a lot of respect. We know that they have this knowledge based on their own experience living on the land, so it means a lot when we make decisions.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** We have an environmental policy that kind of stems from our cultural practices; it really comes from what we feel our responsibility is for taking care of the land. Hence inviting people back to use the land, so they have a really good understanding of what that might be. From a cultural standpoint, as things get passed on from generation to generation, the uses of it come from cultural practices, too, as indigenous people we have roles and responsibilities.

Also as we harvest our 'number six,' that is not lost to us that is still out there. We have to be very careful when we manage, so we created a book. It is an indigenous plant book (it is not a scientific book journal) of what we used those plants for in the past. We made that book mostly for our field people, so when they are out they can recognize that this plant is important to the Tribe because this is what it meant to them. I wish I could show you a copy of that. We actually want to do a second edition. So when we look at things like that, the level of importance is to provide protection for those areas. If we start finding these areas out in the community, or say if we did native grassland we actually pick the species for that native grassland, not just what was indigenous to that region, but what was culturally important for the Tribe.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** About the best way to do that is that we have a lot of outreach, like we have our fishing event, we have open house, we have the Fall Fest and if we are planning a project we usually try to get their input. So based on the people's knowledge, skills, and abilities, their belief system or whatever, they have influences on how we may restore a particular area or what level of importance is this particular area that requires protection. We also have two community-based environmental resource board and commission that bring that perspective in, when we share products with them or they draw issues or concerns to us as well as another. We have a lake project including a big community outreach program for that. We go to the powwows and set up community meetings. We set up community advisory boards and basically that brings on the indigenous part. Going to the people and saying, 'Okay what would you like to see?' Part of that is we would like to have a sustainable fisheries that people can help with...what type of fish... what is important to you...what would you like to see in that lake and things like that; what are some other recreational activities you would like to see around that lake? From our perspective we look for guidance from the community... are we perfect at it? No, but we are certainly trying to improve in those areas.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I think that one with the lake is a good example. We had PCBs released into the Fox River. What came from that is the advisory that we should not be eating the fish coming on to our Reservation. That is where we worked really hard to get the communities input, and how we may resolve that. We would like a sustainable fishery where we could have confidence and eat fish that are free of PCBs. From a social standpoint, the ability to practice cultural, or have an indigenous diet, it is very important that we have fish in our diet... just from living in balance, a whole list of being well, a sustainable diet – fish is a very important part of our diet. Typically fish is considered more of a transitional diet food, as your moving from the winter... eating the meats, moving into the summer... eating the greens, we transition through the fish and that coincides with the fish runs. We lost that opportunity with the fish runs when we cannot eat those, say the sucker run that happens in the spring and then in the fall same thing... transition from the greens into the heavy meats or the meats in the winter time. Once

again that fish became an important part of our diet. These are some of the things that the community has made known, that they would like to have that sustainable fisheries.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** They do not implement anything except work with us.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** We are a self-governance Tribe; the biggest thing that we work on with the BIA is when we put land into trusts. We do the land contain survey (called 'level ones' now). The BIA can just verify them or they will do that themselves. So they serve as a starting center for us. The other thing that they do is that they actually give us grant money to do good projects, which is good, like our water resource, we able to tap into some water resource funds. So basically, what we do there is provide what our outcome is hoping to be of the project and they will either fund it through their priorities and then we just go on and give them a final report. That is the same with our circle of flight... we just have to submit our project to them, it is up to us what our project might be. They may ask us from time to time for further details or to iron it out a bit more. Other than that they would provide the funding for us to do the project. As things become competitive they are going to pick the best project for the region.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I feel pretty strongly about that is what we need to do. We cannot lose that because it is a generational knowledge that is passed on for generations for 10,000 years. We just do not want to lose that ability; we want to bring that into our decision making. The tough thing is what process do we need to put in place to make sure what we are bringing in is from that knowledge. So that is the biggest thing that we need to do, is to find ways to make sure that gets done and secondly having the ability to say that is definitively coming from indigenous knowledge. That perspective is more from a roles and responsibility perspective.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I guess from my perspective, it is kind of like the mainstream is catching up. The things that I have learned in school in the early 80s, we have always known... this whole sustainable way of care taking the land, it is what the Tribe has believed in for 10,000 years.

Leopold put it in a book saying this is the way we need to go... to me all that was, was indigenous knowledge. I think now the mainstream is... those thoughts are being rejuvenated through the school system, that it does make good science, too. Besides it is Indigenous Knowledge, it makes good science sense to do that and to me that is all it

really is, is having a good understanding of what is existing in nature and working in nature... certainly nature can do a lot of repairs on itself, but we should find ways of helping it out. I think by helping it out there is things that happen on this land, before we had all the influence of people coming from Europe. It is a matter of getting back the nature and taking responsibility and being protective of that. Part of that is certainly Indigenous Knowledge, and I think that pulls in today's science, I really do.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I am a believer in that; you need to make decisions on what is important for the land itself in that particular region. I think sometimes we get in trouble when we start blending some of the decisions and not understanding the characteristics of the land itself. I think a good one is biological controls; I think there are a number of examples when you are dealing with invasive species... you bring in another invasive species to control that and it gets out of whack. When you look at the balance, what that balance should be done from a local area, not from a geographic... what is good for Europe is good for the United States that is just not the case. You have to go specific to what is on the land. To bring back the Indigenous Knowledge, that goes back 10,000 years, the way things were being done here and it is just done through the observations of the people here who live with the land instead of against the land. I think it just suits it very well that we should use the knowledge from the region rather than bring in practices that work in one region and may not work in this region.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** We have an environmental policy that gives us our guidance; our responsibility as a tribal people and one of the things we do, do say within our laws and regulations or even trying to fund the department... it has not been that hard to do I think because of the belief system that the tribal members have. That makes sense... lets fund the environmental health and safety area that has conservation; eagle services has the occupational people has the environmental health people. It just makes sense that we need to care take the land, it makes sense that we need to take care of our waters, it makes sense we need to take care of our air. Certainly it is for us to be well, but also our responsibility around the culture and spiritual aspects of the tribe. How does that get integrated in our daily process? Certainly we try to use best business practices, best scientific practices, but like I said earlier a lot of that is just catching up with the indigenous knowledge. This is how I see it mostly being done.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** In some aspects I think there would be, say if we have 65,000 acres back, or if we had the original treaty which was 8 million acres. I think there would be some opportunities because I like to think when you are arriving on the Reservation that people take notice. You arrive somewhere special. It is not like anything in the surrounding communities. Some things different, there is more responsibility or protection or whatever it might be. Rural and natural, but there is just more wildlife; there is more diversity; there is more life and less institutional things... Menominee is a great example; you know you are in a special place because you can see it from a satellite. Now it would be great if Oneida has that same thing here, but we do not because of the influences of the urban setting. You probably know some of that knowledge of what happened during the logging years and the allotment era. Look around the surrounding areas, where Oneida has been able to restore some of the lands and when we look at our responsibilities of doing that and we start buying land back. Syracuse is a great example of that, just by us owning the land helps improve that water quality based on our belief systems and the ordinances we have in place... it just becomes a lot better. From that perspective I think we are making a difference there is a uniqueness you can tell you are entering a special place. Based on all those things I believe from a cultural rootedness, why we are unique as Oneida people.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** It goes back to that other question, right now we do not have a lot of opportunities. Right now just because we have a small land base even though it is someplace special and you know you could probably get tourism off of that. We just do not have enough land base, so right now everything is in a fragile means. We have enough to do our tribal membership, but do we have more to go beyond that, like say doing hunting tours or selling licenses... there is just not enough resources to go beyond our membership. Are there opportunities for an entrepreneur, for a gaming club or something like that? I still do not believe so; our resources are still too limited. Eagle tours, we have some very unique features here on the Reservation, I just do not think there is enough. By having people come in we would actually disturb the wildlife and we have some unique birds in this area, just based on what we have been able to around bringing back the native grasslands. Yes, and bird watchers would probably pay money to come and see those birds, but once again, it would disrupt that particular micro-ecosystem. So, I just do not think, at this point in time, we have a lot of opportunities around economic—even our forestry. There are just not a lot of opportunities there because we have young tree growth yet. If we look at renewable energy, maybe there might be some opportunity where we could take a chunk of land and put it toward aspen, or the cottonwood—male cottonwoods to do bio-diesel or do other bio-products; there might be some opportunities to do something around that sustainably. The farm is a big one. You think a farm as being utilizing natural resources. Some may not agree with that, but a farm does make a profit so there are some opportunities around that, too. But for those other things that you normally look at the environment or economic opportunity, I think they are limited, other than those pilot areas.



## **Oneida interviewee 6:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** To me, Indigenous knowledge is people knowing of how to take care of the Earth, appreciate the Earth, and give thanks to it for all that it is given to you. That is the way it is always been for us. We have lost it... because they wanted us to melt into the pot, but... and become like Western cultures. I did for a while, and then I did not appreciate anything; all I wanted was more and more. But when I got to know more of my Native American culture and language, then I realized how close we are with the Earth and how the Earth is taking care of us. We also need to take care of it. Otherwise, we would be here no more.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I am an Oneida language and culture teacher, and it is through this class that we teach the students how to live with the Earth and to give thanks with Earth before they take anything from it. They have to realize when we tap the trees in the spring, that they are going into the home of other animals and they need to be quiet and you need to give thanks to them. Also, they are going to be giving an energy drink--maple syrup, the sap, and we do a tobacco burning before they even enter it, as soon as the thunders come back, that is when you are supposed to start. That is a sign that the Earth is waking up again, and so they give a thanksgiving and we have one of our elders come out. Not elders (we do not have anymore elders), but members of the Tribe who are knowledgeable of the traditional ways. Our young men now come out and they do the opening and the students understand that we practice the opening. In our opening everything is given thanks to everything here on Earth that takes care of you. That is our opening, it is not to just one thing, and it is to everything that takes care of you.

It is focused mainly on the maple tree, which we consider the leader of all the trees, because it what sustains us, it gives us food, gives sugar and the sap itself is a medicine. You just drink the sap and it cleans you out and so everything in the tree is a medicine. We give thanks to the maple tree and all the other trees. Then we ask the tree that if we can tap it before we even go in. We give thanks to the Creator and the Four Messengers. They are more like spirits that watch over us while we are in the woods so that nobody gets hurt and we have good minds when we go in there. Because it is dangerous in the woods--it is not dangerous, but if you are running, you can trip and scratch your face on the thorns in the bushes... or, you can hurt somebody else by not seeing they are behind you--put a branch in your face or... so mostly just work.

In the garden here at the Turtle School, they have the Three Sisters [corn, bean, and squash] as in our creation story. We have a seed dance the kids perform, and we have a tobacco burning to open it up for the garden. Then all the students go outside and they have a special acknowledgement for that same thing--we ask that people do not get hurt

and that everybody is in good mind. Then they focus on the Three Sisters and tell of their story. All the kids in the school do a seed dance all around the garden. This done as part of the opening ceremony of the garden. Each grade is going to plant something else in the garden. It is easier to plant the garden with the students; they are like little ants... I mean, you got twenty... you have those three big rows and it is just like giving them each a hole and they are done in three minutes. If you have twenty students in a class, you got two rows done in less than half an hour. You got the whole garden done. It has to do with the culture, the Three Sisters... they come from our creation story:

There was a sky world, another world. And this woman that lived up in the sky world and this young man were going to have a child, and...she creates tea from this one tree. So he goes and gets it for her from this tree, but it has to be from the roots. He accidentally pulls up the tree and it falls over and it leaves a big hole in the sky world. He tells her and he sees the world through this hole in the sky world and he tells her about it. She is inquisitive, so she comes over by him to see it. She leans over and because she is pregnant, she falls through the hole. As she is falling, she grabs things from the sky world in her hand, and then... down here with just water and the only thing that could survive down here was the water animals and water birds and anything that could live in was water. They would have never seen the sun before and according to... our culture, she is the sister of the sun. When the hole opens up, then the sun...her brother, shines through the hole. They finally see the sun that they have never seen before. They see somebody falling through the hole in the light, and they all look up and they notice that she could not fly. So they--the water birds-- fly up and they catch her. They noticed that she did not have webbed feet, so they figured she did not live in the water. They asked the water animals to come up, and a big sea turtle came up and she said that he could put her on his back; then they put her on his back. When she came--when she landed on the turtle's back, she had all these seeds that she brought from the sky world. She wanted to plant them, but she noticed that the turtle's back was rough and there is nothing on it that--she described to the water animals and water birds that soil was used to plant these seeds. The water birds and water animals said, "We have seen this at the bottom of the ocean." So they had a diving contest between the birds and the water animals. The loon and the penguin, depending where you are--at least the loon and sometimes it is... the beaver-- both came up--almost got down to the bottom of the ocean, but ran out of air. They came up dead. Then the last one to try was 'Onogi', the muskrat. He swims down to the bottom, and just as he loses his breath, he gets some earth from the bottom of the ocean, and brings it up. They take that earth and she spreads it on the turtle's back and it keeps growing and growing, and it covers the turtle's back. She plants her seeds from the sky world and the grasses come up and they cover and carpet the Earth so that the Earth will not fly back into the ocean.

Then, they saw the strawberries came up and the grasses came up... I guess, some others... that is about all I heard that came up. So, she is walking on the Earth and then she feels like she is going to have the child. She has the child, a girl. She raises this girl and then they make all these things on the Earth and then her daughter grows up. One day the grown daughter was walking in the meadow and she meets the west wind. She falls in love with the west wind and then she is going to have children. What she does not realize

is that she is going to have twins. She tells her mother she can hear two voices and the mother says she thinks she is going to have twins. When it comes time for her to have the babies, one baby is anxious and cannot wait and the other baby is patient. The first one that is born is born the correct way that babies are born. The second one cannot wait to get out and pushes his way through his mother's sides, through her chest on the side of her and she bleeds to death and dies. When they were born, the grandmother did not know who did that to her daughter. Because they had these special powers, they say, because the babies grew up right away. When she asked them who did that, there was no reply. Sky woman who came down is now a grandma to the two boys. The one that was born second said that he was the first one that came out, and so he always took the blame. Sky woman told him to go and bury his mother and...so then he takes his mother's body, he digs a hole into the Earth, and he puts his mother into the Earth. That is the time when it is called 'Mother Earth'.

After he buries his mom into the Earth, he noticed things started to come from her grave. She sent up food to help sustain her children here on Earth (they say that her twins came from her chest; actually, from her breast). From her breast came the corn, and in a milky season like right now, if you squeeze the corn that milky substance comes out, which they can still use that as nourishment for babies. If a mom cannot breast feed and cannot afford a lot of formulas they still got corn syrup... ain't anything to do with corn, that milky substance is good for babies, and they still use it. The white corn has a lot of calcium in it, which Native Americans used a long time ago for calcium. So, from her breast came the corn to sustain them. From her stomach came the squashes and if you look at the squash, they are shaped like stomachs. Squash is a good medicine for stomachaches; it settles you. From her fingers grew the green beans that give you a lot of protein and energy to help sustain you here in life. If you look at the green beans, they look like fingers when they are hanging on the vine. From her feet came the potatoes, to sustain you, and roots you on Earth; keeps you here on Earth. From her mind grew the tobacco. Tobacco is used when you need help. Lots of times when you are really sick, it is your mind that makes you sick. If you burn tobacco to help your mind, you can get over a lot of the fears that you have.

This is the story we tell the students before we plant the garden, so they know the meaning of it. When we start to lose our culture, a lot of the elders that have passed away now in their 90s whose parents went to boarding schools; they knew the language, at least some of them. The Oneida language, the word for corn is 'Onas' and 'Na' means mom and 'Na' is also in the word for milk. Actually, 'Onas' did not mean corn; it meant mother's milk, from the creation story. Also, the word for squash, 'ono-unzay', does not say squash, but it says it is from your body, from your stomach. Everything, all those old words from the language actually meant something else. When I was learning the language, I was being taught by people who did not know the culture, but they knew the language. They just told me corn meant corn and I asked, "Does it mean anything else?" and they said "Nope, it just means corn." So, it had no meaning to me. But in the language, it is like poetry. When I hear the language the right way it is like poetry; it is beautiful the way they describe how life really is, and where it starts. When they ousted language and told us, "You can have culture, you do not need language." I do not know...

when I hear that, those words, what they really mean--I mean those ones that went to boarding school... they lost it, then they did not teach it. They still had the culture in them, but they lost the culture of the language. When I was being taught by this guy when I was just learning the language, it is what he said, "It just means corn." The one day he went--we said squash and he said, "I just need a squash." We went to Canada, first we learned the language here, through UWGB, and then they said, "Now you have to go to Canada" where the Oneida's live in Canada, where they still have their culture, and they still (even the young ones) speak their language. So we had to go there, and that is when we learned the culture. We never knew the culture. We were doing the culture language training, but we did not know we were doing the culture. It is weird... '

Most of the people here in Wisconsin were Christianized. I was baptized Episcopalian, I was baptized Methodist, and my dad was Episcopalian Church of England, and my mom was Methodist. So I grew up Christian, and they are very against the long house. They want nothing to do with it. They were afraid, like it was pagan? You could not learn your own culture, because then you would become a pagan. When I was first learning the language, a man came in from Canada and he was doing that opening--I never heard of such a thing before. We asked the elder from here, "What is he saying?" and he said, "Oh, he is just blessing the birds and the bees, like that, you know." It is very disrespectful to do that in the white society. They had no respect for nature, and I grew up not having respect for nature. I knew what it was--I worked with nature when I was growing up...but, at a certain age, it was not there no more. Anyway, after I learned the culture, I learned the true creation story.

I learned them actually from the Mohawks. The Mohawks seem to know more than the Oneidas when it comes to the culture. I said "squash"--he was teaching us the word for squash and he replies, "Actually it means stomach or something to do with your belly button, I do not know why they had that for that." That is what he said, because he did not know his culture, that it was actually meant from the creation story. I was thinking, "Wow, it really did mean that, then." He actually did know what it meant, but he did not know why, because he did not know his culture. The corn needs nitrogen and the beans give nitrogen off, so when planting the Three Sisters, we plant the corn in the middle first, then we plant the beans next to it and they give the corn nitrogen (it needs a lot of nitrogen); then the squash is planted around the edge so when the squash grows out the animals do not go in there because it is really prickly, those leaves and everything, and it helps protect the corn. So, we try to keep that up; it is just hard to do it that way.

Our garden outside is like that right now. We have legends about the Three Sisters, and we have the other legends about the corn... it is growing up and it is looking for to marry; actually, the corn becomes a male in that story...he is crying about who will marry me, who will marry me... and, the squash comes up and says that she could marry him. He replies, "No, I won't marry you, you run off to much in the middle of the night and I'd never see you." So, she rolls off into the night... and then, the bean comes up and he falls in love with the bean. He said he would marry her because she curls her up around him. The kids, especially the girls like that story, the love story between the bean and the corn. Even in death, they are still together in the corn soup and the corn bread.

They are going to 'stohaw' and 'ohla'; it is one of our stories we like to tell when we are harvesting the Three Sisters. After the harvest, we plant all the foods for our big feast, usually in October. The kids learn to cook it. My students, fourth graders, make corn bread 'stohaw'. First they plant it in the spring, and then when they come back to summer school they take care of the garden pulling the weeds and watering, they like that. Then we have a family garden club where the families come in every Thursday. We have a barbeque for them and then they water and pull all the weeds out of the garden. Through the mentorship program of the Tribe, we hire the teenagers who need jobs. We have one mentor with one student who works together in the garden all summer to help weed and water all day. When the kids come back to school in the fall, they do all the harvesting. In the summer time when the green beans get ready, the families will cut and pick beans for the cannery, where they can the green beans and they make pickles there, too. Families pick up the cans from the cannery.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** A lot of the students that come to this school live in cities, and they never get tired of going to the woods. When they do go into the woods, lots of them are afraid of the woods nowadays. Just to get out into the woods and doing something in the woods, and seeing that nature is your friend and you should not be afraid of it. Instead of just seeing it on pictures and a video game, you are actually out there doing something. The boys just love it, and the girls, too. Kids love it out there, getting out in fresh air in the winter. Then they tap the trees and we learn all the Oneida words for tapping trees. They learn a legend the first time they find out about the syrup--or sap—from the maple trees. They go in and first they put down tobacco for the tree that they tap and they do their opening and thanksgiving to the trees, and then they start tapping the trees. We have a man who comes in to help us who is a member of the community. We have a little maple bush back here and a big maple tree over there at the high school and middle school He comes in and then we tap with the students helping him. They gather the sap and he shows them how they haul the wood.

The national Oneida Tribe helps us, too, with what we call conservation. They bring in wood so that we can cook down the sap into maple syrup, so the Tribe always helps us. The students cook; we have it down to a science. It is also good in math. The students also learn about science, for example, photosynthesis, because they wonder where the sugar comes from. It makes more sense when you say 'the leaf' and they cannot believe that a leaf makes sugar and oxygen. They cannot believe--then they see it in the coal--pushes the sugar down the tree into the roots and when it rains, how it comes back up again. That is when they want to put the tap in there, upside down in the hole. I said, "No, the sugar water is coming up from the roots." "From the roots!? Going up the tree?" It is really fun to watch them; they learn all that science and all these other things that they do not get to experience.

Making maple syrup is a lot of fun for us. We cook it down and then we take it to the Oneida community cannery, where they can it up for us. They cook down twice and then a third time; then they get syrup to give to the people, their family. That is how we pay the family for helping us. We have a big maple syrup ceremony in the community that everybody goes to. You bring all your syrup and everybody gets up and has a drink of it and they give thanks to the tree. Then we do two or three dances including the feather dance to give thanks to the people and the Creator and nature. Then we have a big pancake syrup dinner where all the families come in and then the kids eat our pancakes, and maple cakes, and maple cookies, and everything made out of maple...a sugar high for everybody.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** I do not know of that.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Everything we did was a social event because it took the whole community to harvest and gather for food, shelter, and clothing purposes.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Did not answer.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not answer.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** When it comes to conversation Oneida seem to know where it is going and have realized the State should have listened to the Native Americans. I believe that conservation here with the Oneida is becoming more IK because the students are learning to know about everything in nature and taking care of it and living with it. Not wanting so much, leaning to not want so one is Native American. This is what I love about life because when you want so much and do not get it; you become depressed. So just be happy with what you have, be clean, clean minded, and be grateful!

**Interview ended here.**

## **Oneida interviewee 7:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** It is the knowledge that began with our creation story and has existed since the time of our people.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** We have a mission and core values that families are based on “Tsi? Niyukwaliho tt^” which means everything about us is from the creation story to today and a strong economic system. Our task is to get people informed about that knowledge by using it and spread it out more and more into the community of our people. Then our people can automatically think ‘indigenous’. One of the aspects that we are doing here at the historical preservation office or the cultural department is cultural wellness, which is the diet and how to live ‘Oneida’. We use traditional corn soup for a woman’s right of passage and other traditional foods. When you go to a meeting the likelihood that you will see a package of doughnuts is few nowadays. You will see more fruits and vegetables along with the traditional foods of the Oneida. This has been a big change around here in the past few years.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I believe that would be environmental. We have gone so far in natural resources that we are going to build a culture center and want to meet the L.E.E.D. requirement. We might be the first to do this and so we are incorporating those sustainable ideas throughout our nation in all of our projects.

I would say, too, that in our schools there was this wonderful project where they had the kids composting. They had the kids learn about the worms, bugs, and other insects by making charts. The school plants a garden every year and they use worm fertilization and compost from the school cafeteria. The kids take care of it during the year and then people come in during the summer. Then in the fall they have a harvest and invite the community for a feast and they also do this with the maple sugar. Then in the spring time we have pancakes with our own maple sugar. It is a big incentive for the kids to understand sustainability and get them involved in our schools. We incorporate the culture right into the classrooms.

Every spring the environmental service gives away trees, so there are now a lot more trees in our Nation. That office helps in educating them about the importance of trees and oxygen and the environment. You can see this in different areas around the Reservation. The environmental services are doing so many good things for our community.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** See previous answer.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Did not answer.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** I do not think the BIA determines anything anymore for we do that.

**Q5a.** What is your opinion of the BIA interactions with your tribe.

**Response:** I have not had any interactions with the BIA.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** We are doing this. Just this morning we went to the environmental services and they are going to have a fair on September 11<sup>th</sup> where they are going to have a social dancing, traditional dancing, storytelling, and genealogy. For a prize, I am going to donate a beautiful booklet of our Thanksgiving and a CD that goes with it in our language. We made it trip to New York where our ancestors are from and we took about eighty people. To be back in the traditional lands and feeling the land beneath the feet is such a great feeling to experience; it really strengthens someone's identity. For a lot of the people, Wisconsin is their home and this trip really changed peoples' lives. We are continuing the indigenous knowledge throughout our community and we are going to use technology for that is our latest technology here at the historical department.

I sit on a lot of committees and the main concern is that we are not reaching the youth enough. An example is that when an elder walks into a room and all the chairs are gone, you are suppose to jump up and give them your chair because you are younger than them. You do not see this being done by the young folks and that also goes for when we eat, elders eat first. So it is the manner of respect for elders, which is an everyday thing for us, really needs to reach the next generation. The other world has no clue of this for I was doing a presentation and in the middle of my presentation the door opened and an elder came in. I noticed that she had a stick and was partly blind. I am up at the podium and went and greeted her, found her a chair. I had some young folks get her water and anything she needed. I then went back to the podium and finished the presentation. At the end of the presentation, the audience asked me, "What was that?" I replied, "What do you mean?" "In the middle of your talk you go over and take of the old lady." I said, "Well if I did not do that then I was not raised properly." They were just in awe and



probably do not remember a word I said that day, but remember that action because it was so unusual for them to see that. To me it was a normal action that you do.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** There are prophecies from way back that one day our white brothers will come to us and seek our knowledge and we see this happening today. We always knew it would happen, like the scientists at Cornell University are studying our hill planting of the Three Sisters, so it is happening. Let's put it in this way; when the historical Western explorers came to this side of the hemisphere they wrote back that it was about a paradise. If you think about that, our people have been here since the beginning of time (emphasis interviewee) and still was a paradise in contrast with Europe. Europeans already had polluted their water, deforested their land, and had chronic diseases. When they came over here and saw the paradise they thought the land was empty, but there were so many people living here already. We did not just impact the environment or destroy it; we worked with it and studied nature. This new move toward IK-based management is going to spread and there is more and more people wanting to know. Before, you used to be ashamed to be Indian, getting beat for speaking your language; and all of it is turning around now.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** The elders talk about Duck Creek and the fishing that was done prior to agriculture. You can no longer fish in Duck Creek because of all the pesticides that runoff from the agriculture fields. This impacts the families on the Reservation because they no longer can fish and sustain their family. Whatever Western society thinks about science and management, it is not helping the environment with their current resource prescriptions.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Environmental Services is doing great things through tribal ordinances. An example is that the Tribe was going to build homes and we went back of Sommers' place and identified plants and trees that are culturally important to the Oneida. We went to Environmental Services and showed them this and they were able to stop the project. Still to this day they have not touched this area, but sometimes the idea comes back and we say no. It is our tribal ordinances that cultural areas are protected by the Tribe; if there are medicinal plants and trees that are culturally and spiritually important to the Oneida Nation.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Did not answer.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Did not know of any except the farming and cultural awareness being done within the Tribe and community.

**Oneida interviewee 8:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** Did not answer.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Did not answer.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** That would be the farm, the buffalo farm, and conservation. The farm is going through a green experience and what that means is that everything is green technologies. There is information on fertilizing techniques and other agricultural practices. They bring in the community to help harvest the corn and then the corn is taken to the cannery for the community and ceremonies. The other thing these departments do is work with the non-native community and native communities on nutrition, farming, how the farming equipment has evolved over time, seed banks and how to plant seeds during the year. They are protecting the environment, which is their main goal. The farms are getting more and more involved in the natural resources.

Though the historical preservation component is keeping our cultural items protected from the years and years of contamination from institutions and museums, and is educating ourselves about what the contamination does to our items; it is now getting into the institutions and museums so they are being culturally aware and realizing that you do not need pesticides or chemically safe solutions to preserve these items.

I was thinking of the word 'cosmetology' referring to the sugar shack by culturally maintaining our maple syrup, but at the same time our resources and technology are more advanced. This is what came to my mind when thinking of natural resources.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** See previous answer.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** The log home, now the logs home are non-food resources. These homes were going to be demolished and were identified to have logs underneath them for each one had a historical component to them. These homes were built by the Oneidas and lived

there before this generation, so they were taken down and put into storage. Just recently we have had all these homes put back up for historical purposes, and to show the management of the trees. The whole logging home restoration project is huge for the Tribe to show the history of our ancestors. We just had an open house for all the 11 tribes in Wisconsin and federal agencies to share our knowledge and history with them.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** We have assumed government-to-government responsibility now; where we would say here is our natural resource project that we are going to be implementing and the BIA is just there strictly for the review process. They are not the decision makers in our natural resource projects.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** On a positive note, I think it is good to have interactions with them because for such a long time in our history the relationship has been detrimental with all the things that have occurred. Now we have the chance to provide and give them our knowledge of what we do here and bring a sense of awareness and educating them on how to work with indigenous tribes and how the history is different on each reservation. I had to work a lot with the BIA on Section 106 projects and there were a lot of things they did not know or were not aware of. Having them come in by the Tribe and giving them information about the Oneida people was healthy. The BIA was just like 'wow', and had no clue so. I think it is something they should continue to do so they know who they are working with.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Did not answer.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** A lot of non-natives are constantly making requests here to be educated on IK. A matter of fact there are about 900 staff members at St. Mary's Hospital who want an hour and a half- to two-hour presentation on language and culture in September and October. They want to understand because they do not know understand that when a native person is in the hospital about thirty to forty people show up for that individual. They do not know about the extended family or who they should talk to. They are just floored by this but this is our culture and our ways.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** With the recent technologies and science that has developed over the years, I would say that there is an increase in the biodiversity. However, it is not good for the native people because this diet of the Western society is not that of our people. We have huge cases of diabetes and the health is poor. An example of this that next door my neighbor is a farmer and grows corn. In two weeks the corn grew so high that I could not see next door. I went over there and asked him how did he get the corn to grow so quickly and he replied that he uses pesticides to help the corn grow more quickly. So with the technologies, I think that it is going to worse before it gets better.

Look at the Black Ash tree that we use for basket making. It is dying off because of the invasive emerald ash borer insects killing off the ash trees and other trees that we use for ceremonies and cultural events. So there is a decrease in the management of resources.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** I would think that is more environmental services for they have set the water and air qualities through the tribal ordinances. We have set these up by following the Tribe's cultural practices for we live it, breathe it, and follow it religiously. Not only do we implement and have the federal codes that follow our ordinances, we also have it set up for tribal, state, and local jurisdictions to follow these tribal ordinances we set up.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** With the framing and harvesting of the buffalo there are some initiatives for growth, but not so much in an economical way. If it was not for the community and the technologies we would probably have to think of other ways to be economic through natural resources. So indirectly through the farming there are current opportunities through cultural and resource management. As a nation we save money this way.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Did not answer.

**Oneida interviewee 9:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** It is knowledge that I see is passed on from generation to generation and is a big part of that experience is hands-on experiences. Now with all the tools for recording, I also included books, oral traditions, written video, and other tools of recording the IK. It is what the typical culture has been following whether it be through agricultural, ceremonies, through families, or through the community.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** From the standpoint of our program and what we thrive for, it is not only knowing what that knowledge is but you never stop learning regardless of your age. For the Oneida, it is the white corn we have; it is one of our sustainers that goes back to our creation story. It is not only the little thing I grew up knowing about but since working here and there it is hearing more stories about it. Here we make sure that the white corn is available and it is indigenous food for the Oneida and the community that we try and maintain, for us it is learning about the past ways and for myself it is trying to seeing what we can learn and not just repeating something that happened 500 to 5,000 years ago. It is taking what do we have today that we can pick up from the past and apply it today with the technology and mechanics that were not there many years ago. Learning is continuing to learn from the past and make it better as time evolves.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** The responses that I am giving are from the programs here at Tsyunhekw<sup>^</sup> and not so much the Tribe. For Oneida, our Tribe is Woodland Indians and under their programs are hunters and gathers. So there were always agriculture and gardens. Not only did they have farms, but they also hunted. The way I see it is there was always a constant strive for balance because deer were plentiful and we can do this. There was always a concentration of what you need in order to survive and, yes, you want to stock up, but never in the way to eliminate the resource. So it was not to grow as much corn as you can or hunt all the deer you can see. Here we try to grow for the community needs. We base it off the past, did we grow enough this year and, if not, then we have to depend on another supply. What can we do here to make it last longer or preserve it? We do this with our organic gardens and it is not a massive garden but how can we sustain the community's needs. We are not trying just to be the supplier but at the same time huge educators to show the community that there is so much they can do on their own. They can have their own garden and we can help them with that.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** One of the benefits for the Oneida was to establish is a Planning Department and there are several areas that they participate in. There is a striving for balance in the Tribe; we just do not go in and build apartments because we would run out of land and natural areas. There are some things we do and try to strive for in the management of our resources. I think it is having an impact because when planning is looking at an area, our land commission looks at the land before buying it, and if it is agricultural land we are purchasing then that area is only for agricultural purposes only or building only. I see this as a cooperative effort with individuals in the Tribe and non-tribal members have a say in how that land is going to be developed. We have a cultural department that has the ability to have input in what are we looking at and the environmental department does this as well.

As far as the community goes, our general council, which is voted in by our tribal members, have certain interest and guidelines in preserving the environment. We have to understand that sustainability means that agricultural land does not just stay that way and there are other ways to sustain ourselves. So there are several ways our community members can be involved such as meetings, employees having a say and sharing that information with the council, and getting their input towards those areas. For me it is nice to see these plans when they do come about because everyone can have input or say something about that particular project.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I see one of the key aspects is the water available here. The Tribe worked really hard in getting a water treatment plant. It really took decades to establish and it just opened for the first time this year. People recognized that you could not just rely on a pipe connecting to Green Bay and Lake Michigan. To build a treatment plant falls under how important sustainability is to the Oneida and other native tribes here is Wisconsin. Other than that, I would not really know.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** That one I could not tell you for I do not have a clue. Things we do here internally are through the Tribe and they are the ones that would deal with the BIA. More so the land commission and environmental services would know.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Did not ask question for interactions with BIA.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** I mentioned before about the cooperative effort and that is something we have been working on. People long before have been working on this and it is so important to have the opportunity for land available. Options are looked at it is simply not used for land development. If the land can be used as a cash crop, why not go organic for that land for agricultural and leave it at that. Organic is friendly with the environment, it works well with the environment and it establishes the concerns with a cash crop because of the chemicals they use on the land and eventually to the people. I think that using our IK will help us look at it in a different way. Land is not just a money maker, or just for development, or for over production. We have the opportunity and the relationship with the land commission, the planning office, the historical department, the environmental department, and when those opportunities come up we look at this from an indigenous viewpoint first. This what we work hard to do because it was here first and it means a lot for us to continue this tradition.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** One of the areas that have been growing for awhile is 'organic' because about ten to fifteen years ago it was a buzz word or it was a hippie thing to do and you did not here too much about the word or the practice. Now, I see this growing through tribal and non-tribal entities about organic production and management. There are a lot of different entities out there looking in this direction that are non-tribal. Not to say we have the answer, but we have networking and we try to share that knowledge with those individuals. It grows because they do the same thing when we have a concern with our garden we go talk to another organic gardener and they do not have to be tribal for this area most of the organic gardens are non-tribal. They have been growing in the last two decades using this knowledge. So on a local level it is huge, but in the state it is more of a grassroots effort because in Wisconsin there has been green tourism and other green efforts. I see this going national and not one tribe has the answer, but there is so much information out there that can definitely help. I do see it as more of a positive impact through non-tribal entities, but they are getting through hurdles and obstacles that will always be there. I see it going very well, but it is going to take time.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I am not so sure that in your description if there was so much diversification was concentrated on western management or how high the concern was with environmental impact on any species. I think that there is more of direction towards or a base for indigenous knowledge. It is the people here and this is my belief.



**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** See previous answers 1a-4.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Oneida, there are opportunities for individuals who want to work in the indigenous areas, and sustainable areas which includes economical in my own perception a lot of that falls into the organic farming and the natural farming. I think it is there on levels but there needs to be guidance and the resources with the tools for individuals who want to start on their own with the help of the Oneida. I think that they are trying that and doing that, but there is a lot of work ahead.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** One of the areas that we are encouraging is the gardening aspects through sustainability, whether it is through the local market or the local food. Our program is working on food sovereignty, which allows individuals to maintain their own traditional foods and the knowledge to pass it on and make the opportunity to make the choice where it is not totally based on an outside economic viewpoint be it through restaurants or grocery stores. I think that it is there, but again I would say it is at a grassroots level.

**Oneida interviewee 10:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** My Dad always said, “Think in Oneida. Seeing the world from an Oneida prospective, you learn from your surroundings, from your grandparents.” A way of life and it involves everything; it is how you see the world is my personal definition of IK.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I think my influence in the work I do is community involvement. Having conversations with the people is the way we (Oneida) want things done around here. Thinking Oneida is involving everyone in the development plans and be part of the decision. “Meaningful involvement” is the traditional way of living.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** An example is restoring the fisheries, and when we required the land, and we bless the land, this is our responsibility for the fish, we are maintaining everything. Everything we do is fulfilling our responsibilities to the natural world. Language is a major aspect of doing everything it and it is challenging because of the diverse workforce.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Everyone is involved, such as on-going advisors with schools to teach the children from the elders and the experiences of the generations.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I cannot think of any for non-food. Most people hunted, trapped, and gathered plants for survival, I do not know, but I am sure there was, but do not know.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA does not have a direct role, but has a decision in dealing with Trust Lands. Today the tribe decides.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I think that here in Oneida, really we provide them more information for management.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** There is not much more than thinking Oneida in natural resource management. I think that the interactions with the community and the Oneida government are working to be consistent with the Oneida values, it is not always easy to do, and there are folks who are Oneida that will look to the non-Oneida models first.

Our community struggles with identity because the city is next to us and people are starting to treat people differently on how you deal with another. An example is the gangs and violence because of the identity challenges, i.e., "It is not cool to be Indian." We need to change this thinking with our youth.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I am fortunate to be educated and I see the models that build the environmental education and how it is rooted in IK, which we do not get credit for it. To me it is just the language between the two and will always be adaptive management.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** I am a data person here in Oneida. Our goal is to increase the biodiversity. We do that in the conventional science ways, (for example, buffer strips), and provide opportunities to keep the culture traditions alive on the reservation.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Water specifically- we tied back the language. We do this in our Thanksgiving Address, anti-degradation to not let it (water systems on the reservation) get more polluted than it is already. The federal government does the permits. The goal is keep everything in one place; it is a system where we do allow pollution and historically it was not.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** On a small scale basket making, no harvest of timber, no fish, is the only thing I can think of.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** I think we need to find a way to feed ourselves in a healthy way, and some of this is being done in the schools, nutrition diets, and in farming.

**Oneida interviewee 11:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** The people living an area- a group of people that conduct themselves as they see the world using the knowledge of their ancestors.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** In the case of the Oneida, we have values for natural resources and we use those values to use on our natural resources projects.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** I am not sure they are.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Tribal members who have a professional communication. In some cases there is the organization that collects the data and that goes to the community for input on how they want the project to go for the people. In Oneida we include the people and that is “thinking Oneida.”

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I do not know of any; have to remember that the Oneida came from NY and Canada, so here in WI we do not know everything.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** They do not have any input on that.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** I do not have any experience with the BIA to have an opinion.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Well, I think that IK is a group of people who have shared values and use this for the use of the land, but I do not know what IK really is.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I guess in regards to my definition, I do not have a problem. This is a loaded question with stereotype thinking. To think that Indian people have this deep relationship with the environment to me is stereotyping. Looking at the spiritual should not be there, sometimes what we think is good is bad.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** This question is another stereotype with negative effects, a loaded question and makes me feel uncomfortable.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** IK planting, landscaping, traditional language is making the landscapes.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Could not really say.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Agriculture.

**Oneida interviewee 12:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** It has to do with history, belief of who we are as people.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** I am not sure if Oneida are doing this, but we are doing this as a goal for the community.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Specifically, the respect for the environment. Our projects are for the quality of life and we do this in our current and past projects here on the reservation.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** Seems it is like the decision process is the tribal government 21 or older. Look at the beliefs from the family, not as a managed set of rules.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** Historical perspective...slash and burn-move the villages every 20 years because of using all the resources up. Always on the move for survival of the people, never really had one set village many different camps during the year and the crops planted.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** Oneida—not all—IRMP

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** The biggest failure of the BIA is putting the tribal land into trust. Self government is what is needed for the community of Oneida.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Again, belief and faith is not a management tool but a driver. It is a tool to use.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** I do not think it should be for state lands. Do not want to give away the last of what we have, and should not be trade material for the dominant societies.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** Did not reply to this question.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** This is a loaded question with stereotyping and is difficult to answer because of scientific methodology, I say “live and learn from experiences, separate but equal.”

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** Tough one because we cannot move tribes, but other tribes here in Wisconsin focus on strength. The Menominee are well known for their forestry practices and that they are now using their old knowledge of fire and the Oneida here have an organic farm that includes the community for harvesting times, a cannery program, and now we are starting to use alternative energy like solar and looking into wind.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** Because of the limited land we have, we are thinking of new ways for the local economy. Again, what works for us and continuing this process for the next generation(s) of Oneida people.



**Oneida interviewee 13:**

**Q1.** What is your personal definition of Indigenous Knowledge?

**Response:** If how people interpret their relationship with the natural world and how you act with that world would be my personal definition of IK.

**Q1a.** How is this knowledge used or interpreted in the sustainability practices of the tribal community?

**Response:** Here in Oneida we look at this, what do the people want? When we have our community meetings that we are proposing a new project, we incorporate the feelings of the people into the natural resource management practices and issues. An example of this is issuing two archery permits for the young men of our tribe to learn the traditional way of hunting because it is the Oneida thing to do. We want them to get away from the European thinking of hunting for sport and using guns.

**Q2.** What cultural traditions or aspects are incorporated in the natural resource management practices or prescriptions in the tribal community?

**Response:** Feast permits-we allow our memberships to harvest deer for ceremonies or getting both a doe and buck if times are hard.

**Q3.** What members of the family unit or the tribe currently participate in the development of new natural resource management practices using the culture traditions?

**Response:** At community meetings we see a lot of fathers or older gentleman but a few woman and then we the conservation department incorporates their thoughts and opinions which is really hard to do. Some of the projects are too far off the wall to work with, so we mesh it and make it feasible to do. The environmental cycle is a complicated thing for general people to understand and trying to get the scientific language across is difficult to get across to the general public and the non-science departments on the reservation. An example of this would be-when we do succeed in restoring an area then the bears and wolves come into the area then the people want to hunt right away. This makes things difficult for us to manage so this is why we include the community on every project being proposed for environmental reasons.

**Q4.** Was there any natural resource management practices historically conducted for solely or primary for social or non-food/shelter/clothing purposes? If so please explain.

**Response:** I do not know of anything, maybe the Pow Wow gatherings and the different harvest ceremonies we have.

**Q5.** How does the BIA determine which management practices will be implemented for your tribal community?

**Response:** The BIA does not determine anything for the tribe. We use the BIA as a circle of flight (funding resources) for our programs when dealing with the BIA to help us find resources for wetland restoration. The BIA mostly looks over our proposals for projects and signs off on them and then they do a review of the projects and again signs off on them; the technical aspects of it.

**Q5a.** What is your opinion of the BIA interactions with your tribe?

**Response:** Directly regarding the staff they are willing to help us and provide us with assistance.

**Q6.** Describe how you feel about strengthening IK approaches in the future management of your tribal lands?

**Response:** Through the conservation is getting the youth involved more by pulling kids from the technology of hunter safety classes. We are taking the gun out of the picture and teaching the youth on how to use a bow which is the traditional way of hunting and teaching them to respect and make them aware of the natural environments to protect and cherish with the respect to the environment. The gun is a European thing and disrespect to the animal spirits where the bow is natural and comes from the environment where the animals live and there is an offering ceremony once the prey is killed. We do not take more than what we need and we are now teaching this to our youth to continue the traditions of the ancestors.

**Q6a.** Describe how you feel about mainstreaming IK approaches in the future management of non-tribal lands.

**Response:** We have done this and implemented practices that are being used by the state and other management agencies. We have secured hunting sites for ten years by buying local land around the reservation, common sense. Resources to be gathered by people and not harvested to extinction.

**Q7.** After applying current Western-European natural resource management prescriptions; do you perceive an increase/decrease in the biodiversity of species and their habitats? If so please explain.

**Response:** There is a decrease! I feel this due to influences of private companies making decisions through ineffective governments. Basically we are paying too much for deer management because there is so many deer in Wisconsin and this can mean an increase in harvest which equals a healthy revenue if the herd can be sustained or not.

**Q8.** Please explain some of the cultural aspects that are being incorporated into tribal natural resource management? How are they carried out once the prescription has been placed in tribal ordinance?

**Response:** Membership wants to harvest deer by implementing where you can harvest a doe or buck for feast ceremonies, burials, and having it for different seasons throughout the year and having a permit for this. With that we are putting this into the hunting and fishing laws and this is a way to put into tribal ordinances.

**Q9.** Are there any current opportunities or initiatives for economic growth through cultural or natural resource management on your tribal lands?

**Response:** I do not believe so, the tribe has talked about timber revenue but we do not have many woods to begin with.

**Q10.** What sustainable livelihoods do you envision as viable in your tribe?

**Response:** The ability to hunt, fish, and gather the resources that have come to expect, um, it is just giving the opportunity to utilize the lands and carryout the heritage and culture of the Oneida people.