The word Menominee is derived from Algonquian word “O-MAEQ-NO-MIN-NI-WUK” meaning, “wild rice people”. They are among the oldest Wisconsin residents, having lived in Wisconsin land for more than 4000 years. At one time, Menominee Tribal land stretched across 9,500,000 acres, from the Great Lakes to the Mississippi River (McDonough 1993).

The Menominee diet depended on hunting, fishing and gathering. This diet consisted of their staple food, wild rice, which was augmented by corn, beans, and squash grown in their small gardens. Some food was dried in the sun to store for winter use. Basic cooking methods commonly included boiling and roasting. Various types of vegetation differed depending on the locale, but food preparation methods remained similar throughout Wisconsin Indians: using pottery jars and holes dug in the ground, food was often steamed, boiled, or roasted. Hot stones or bark were often used as a heating source.

Menominee were clever with their use of the land. Sugar camps began in the spring, when Menominee made syrup and sugar. This was considered a very important activity within the Menominee Tribe (Bieder, 1995). In addition to tending small gardens of corn, beans and squash, they hunted fished and gathered various forest products to make homes, canoes, wigwam mats, baskets, dishes, buckets, snowshoe frames and masks. The tribe imported catlinite for pipe bows from the Dakota Tribe, to the West, and copper from the Algonquians on Lake Superior. Menominee People also exported wood and stone goods to the Winnebago and traded with other Algoquian and Iroquoians further east (Pecore 1993). Inter-tribe trading began before European trade.
Today’s Menominee Reservation was established in 1854 in a treaty with the United States Government. The tribe was left with only 235,000 Acres of the best old stands of hardwoods, Virgin Pine and Hemlock in the Great Lakes area. The forest covers 95% of the reservation. Since this time in history, the backbone to the economy of Menominee Nation has been its forests, and the industry surrounding the sustainable management of that resource. During its establishment, the reservation held an estimated 1.2 billion feet timber predominantly northern hardwood. While more than 2 billion board feet timber has been harvested off the Menominee forest, the number of high quality and large diameter timber has significantly increased. The diversity of tree species is also high compared to the surrounding forest (Sustainable forestry working group 1998).

The United States Government made an effort to convert the Menominee People to an agrarian society, but the tribes-people were interested with logging for their economic base. They were granted permission from Washington to conduct their own commercial lumbering in 1871. In 1886, they opened a new sawmill with the capacity to produce 15,000 board feet of lumber per day. This was done because their operation had increased drastically (McDonough 1993). By 1890, the Menominee provided a hospital, trade school, police and judicial system and shared small per capita payment for their lumbering profits. At the turn of the century, Menominee were recognized as one of the more economically progressive Indian tribes.

According to News from Indian Country, the Menominee Nation and their treaty rights (1995), various treaties had different impacts on Menominee forest. Menominee was one of the many Indian tribes destabilized through U.S federal statute. The tribe lost thousands of acres of land after tax defaults during the Termination Era in 1950s, 60s and 70s. The tribal status was restored through an Act of Congress in 1973. In 1968, the U.S Supreme Court ruled the tribe
termination did not adversely impact the tribe’s hunting and fishing rights. Several treaties were signed between 1831 and 1854, resulting in the loss of land in the northern quarter of Wisconsin. In return, the tribe received cash payments, assistance in setting up a sawmill, as well as maintaining “usufruntary rights”, which allowed the tribe to continue hunting, fishing, and gathering on the ceded land. (Keesing, 1987).

In 1831, the treaty states that the Menominee “shall be at liberty to hunt and fish on the land they have now ceded to United States, until it be surveyed and offered for sale by the president.” The tribal understanding at the time of signing the treaties was an important issue in the Menominee case. In 1832, the Supreme Court ruled, “How the words of the treaty were understood by these unlettered people, rather than their critical meaning should, form the rule of construction”. The court has also said that the ambiguities must be resolved in the favor of Indians. (Pecore, 1993)

<table>
<thead>
<tr>
<th>Date</th>
<th>Name of the Treaty</th>
<th>Description</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 11, 1827</td>
<td>Treaty of Butte des Morts</td>
<td>The Menominee nation ceded on million acres of the land lying between lake Winnebago and Green bay to the U.S. Government</td>
<td>$20,000 ($.02/acre)</td>
</tr>
<tr>
<td>February 8</td>
<td>Stanbough’s</td>
<td>The Menominee ceded an estimated 2.5 million</td>
<td>Flour mill, blacksmith</td>
</tr>
<tr>
<td>Date</td>
<td>Event Description</td>
<td>Ceded Acres</td>
<td>Additional Details</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------------</td>
<td>----------------------</td>
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</tr>
<tr>
<td>1831</td>
<td>Treaty</td>
<td>1831 Treaty acres</td>
<td>to the U.S Government for New York Indians. Lands were east of lake Winnebago, the Fox River and Green bay including adjacent lands, lying between the 1827 and cessions and the wolf River. shop, clothing food</td>
</tr>
<tr>
<td>September 3 1836</td>
<td>Treaty of the Cedars</td>
<td>Approximately 4 Million acres</td>
<td>were ceded to the U.S Government lying along the Wisconsin river and including territories north of the Fox and east of the Wolf river. Menominee lands became part of Wisconsin territory. 457,000 cattle farming equipment, tobacco and food</td>
</tr>
<tr>
<td>October 18 1848</td>
<td>Treaty of lake Powaw-hay-konnay (Poygan)</td>
<td>The Menominee nation ceded all their remaining lands (4.5 million acres) to the U.S government to be included as part of the new State of Wisconsin</td>
<td>600,000 acres of Crow Wing territory in Minnesota and 350,000 acres.</td>
</tr>
<tr>
<td>May 12, 1854</td>
<td>Wolf River Treaty</td>
<td>Established present Menominee Indian reservation which included 12 townships and reversed the terms of the 1848 treaty</td>
<td>Exchanged crow wing and received school sawmill and $242,648</td>
</tr>
<tr>
<td>February 11 1856</td>
<td>Stockbridge Munsee Treaty</td>
<td>Two townships were ceded to the U.S government to be assigned to the Stockbridge Indians.</td>
<td>$27,648</td>
</tr>
</tbody>
</table>

In 1854 treaty, the government held the Menominee forest in trusts and thus controlled the tribe’s lands. Tribal members were not allowed to cut down a single reservation tree without the Indian Agent’s approval. These agents tried to encourage an agricultural society, rather than one dependant on lumber.

In 1954, exactly 100 years after the present reservation was created, the Congress passed the Termination Act, which was effective on April 30, 1961. This act abolished the Menominee
reservation and eliminated the Menominee Indian identity. The act affected the Menominee idea of sustainability. Termination also led to difficulties in operating Menominee Enterprises, Incorporated (MEI) by draining cash from sawmills to pay Wisconsin taxes. Termination was an experiment to force the tribe members to assimilate into the mainstream of American society. The tribe was terminated because they were a self-sufficient people, and progressive in the eyes of the Federal Government. Termination led to the reformation of entire reservation, with tribal land transferred to a private, tribal- owned management trust, Menominee Enterprise, Inc. (McDonough 1993)

On July 9, 1968, Menominee Enterprise, Inc. and N.E Isaccson & Associated headed a joint venture to develop a recreational land, Lakes of The Menominee, to help alleviate excessive tax burdens. This led to formation of a group called DRUMS (Determination of Rights and Unity for Menominee Shareholders) in protest to the sales of the land. This situation caused a Menominee division. Four DRUMS candidates were elected to the voting trust, and MEI Board of Directors, through DRUMS efforts. The new leadership of MEI dissolved their partnership with N.E Isaccson & Associates, and stopped land sales.

On April 20, 1972, Wisconsin senators William Proximire and Gaylord Nelson introduced Senate Bill 3514 in response to Menominee’s ambition to seek reversal of termination. Encouraged by President Richard Nixon, the act was passed on December 22, 1973 with widespread bipartisan support. The Menominee soon elected a nine-member interim tribal governing body, responsible for implementing the Menominee Restoration Act until a permanent tribal legislature was formed on February 9, 1979. This historical act reversed American views
regarding termination, and gave the Menominee status as sovereign Indian Nation to which the federal government is obligated by treaties, agreements and statutes.

As quoted in *Dreamers Without Power* by George and Loise Spidler (1971), “start with rising sun and work towards 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”. To the Menominee people, living in poverty was better than living in an unappealing landscape denuded of forest. The Menominee people were not against harvesting the mature, sick and fallen trees, but the forests themselves were expected to last forever. The beauty and substance of the forest, with its white pine canopies, and birch, the forested banks of the wild, powerful Wolf River, had to be preserved forever. The Menominee people were the woodland people, and in the end the forest would care for them.

The Menominee Forest is viewed as one of the world’s greatest examples of a sustainable forest. Today the Menominee are a powerful force and example in the struggle for sovereignty by all indigenous nations. Menominee remain the only Native American tribe with certified and sustainably managed forests. It is also the only forest operation that holds a dual environmental certification from both the United States and Canada. Forest Stewardship Council-approved Smart Wood and Scientific Certification system (SCS) have also certified the Menominee forests. Tribal leaders have recognized value of forest as both as source of tradition and means to live in a changing world. This theme remains the basis for “sustained yield management” (Pecore 1992).

The tribes forest management philosophy always contained the three major elements of sustainable system which include

1. The forest must be sustainable for future generations
2. The forest must be cared for properly to provide for the needs of the people.
3. All the pieces of the forest must be kept to maintain the diversity (Sustainable Forestry working Group, 1998).

Sustainability, according to the Menominee people, had no relations with market forces, maximization, capitalist or any other kind of economics. The decision on which trees to cut and which to leave in any one stand are based on a rigorous scientifically based understanding of the forest. The market value of one type of lumber compared to the other played very little role in deciding which trees to cut even though Menominee Tribal Enterprises (MTE) is a business. Yet tribal members agree that the MTE is only partially a business, and has three major responsibilities. The first priority is given to nature of the forest, while the secondary deals with membership warfare, with monetary gains, divided amongst the tribal members are a last priority. (Huff and Pecore 1995).

The Menominee culture has changed over time. According to Thomas Davis, the author of, “Sustaining the Forest, the People and the Spirit”, there are eight aspects that make up the Menominee sustainable development model. These include historic, legal, cultural, spiritual, ethical, political, technological/scientific and economic aspects of Menominee life. These aspects contribute to management principles and practices of Menominee forest environment. He argues that sustainability must look at time trends: the issues of intergenerational equity and preservation are integral to any definition of sustainability. Examples of sustainable communities are rare in the contemporary world, because any sustainability model must be flexible to accommodate changes that affect society for a century or more.

The Menominee People soon adopted relatively self-sufficient reservation life, cutting timber for fuel, homes, fence, posts and rails. Intense pressure from Non-Indians who wanted access to Menominee timber engaged in debates within tribes, and eventually, led to a decision
to foster lumbering efforts. In 1871, the Menominee organized a lumber camp. After 15 years they had a sawmill that could handle 15,000 board feet per day, a shingle mail to finish poorer cuts, a planer and a lathe mill. These provided jobs and lumber for the reservation.

The Menominee sustainable development model is one of the rare success stories among indigenous communities. Though rife with poverty, the Menominee people have managed their natural resources and ecosystems in the ways that have effectively balanced resource use and long-term resource sustainability. For nearly eleven decades the tribe has effectively utilized their major resources that exist within healthy thriving ecosystems. Today, however, the tribe is more economically productive today. The Menominee sustainable model has provided an economic and cultural base that has allowed the Menominee to aggressively search for solutions to some of their complex problems, and signs of hope exist that one day, the reservation will become a fully functioning sustainable developed society.

The Menominee forest is a major natural resource. Menominee Reservations contain approximately 235,000 acres of land forty-five miles northwest of Green Bay, Wisconsin. Of the 235,000 acres of the reservation land, approximately 220,000 acres are forested. Major tree species include White Pine, Hemlock, Sugar Maple, Red Maple, Red Oak, Basswood, and Yellow Birch. The forest is in the northern hardwoods (Hemlock-White Pine forest) region of the United States. Other major reservation resources include water: an estimated 330 miles of trout streams, forty-four lakes ranging in size from Legend Lake (1,304 acres) to Red Spring Lake (1 acre). The Wolf River and its tributaries, and the south branch of the Oconto River grace the reservation. The 220,000 acres of Menominee forest distinguishes the reservation from the surrounding landscape. The major difference between the Menominee forest and the surrounding landscape is not determined by the natural differences but is due to cutting practices and fire.
Comparing the Nicolet and Menominee forest, Gary Koepper, the Nicolet District Ranger noted that the allowable cut in the district is ten million board feet, with one million feet being saw timber, and the other nine million being pole-sized timber. The Menominee, with twice the land area, has an allowable cut four times greater than the district, and a saw timber cut thirty times greater. The Menominee forest is rich in large trees, rich in species diversity and is denser than the Nicolet forest. It produces more board feet of timber per acre for harvest and commercial species.

The United States Forest Service manages the Nicolet Forest, which was formed in the 1930s. When the two ecosystem of Nicolet and Menominee forest are compared, the Nicolet forest has lower species diversity of trees, resulting in less wildlife diversity. Though the logging practices on both forests are similar today, the management differs; the Menominee base their decisions on their understanding of sound silviculture practices, while the Nicolet is historically based on the economics. The Nicolet forest is faced with the risk of habitat fragmentation; disruption of ecological processes, modification of the micro sites for regeneration and establishment of many species; modification of forest structure and composition; and systematic shift in population ranging from production of exotic species or alleles to the reduction or outright loss of native species or alleles. Some of the causes of fragmentation include; the presence of roads, the construction of dams and housing developments, the growth of trees in the originally open areas, and the dispersion of timber harvest big enough to cause openings through once continuous forests. Populations isolated by habitat loss and fragmentation face further demographic and genetic risks including reduced opportunities for local demographic rescue; decreased population movement along environment gradients and high inbreeding and drift. These problems surrounding Menominee forest put the forest itself at risk: ecological systems do
not exist in isolation from the land connecting with them. Ecosystems on continuous lands affect the bordering ecosystems.

The idea of sustaining the Menominee forest, while providing an economic boost via production, did not occur by accident. It is derived from historical events that left the tribe devastated and demoralized. One of the most important aspects of sustainable development is centered in the significance with which the tribe holds the land. Menominee People placed high value on their sustainable development policies based on land management. Land was considered as a community resource, rather than an economical unit that can be bought and sold in the free market place. Land was passed from one generation to the next, and maintained for future generations. When the treaty period began in 1827, it marked the loss of Menominee territory as well as their way of life. Treaties also threatened the tribes continued existence and impoverished the tribal members who survived.

While the Menominee viewed forest destruction as a disaster, Americans saw the Great Upper Lake Forest destruction as progress and a great explosion of entrepreneurial enterprise. As the forest disappeared, the chance of returning to any native life the Menominee had built for centuries began to disappear. The Menominee were limited to living on the reservation boundaries.

By the late 1800’s, four major symbols were woven into the Menominee way of life: loss of aboriginal land, loss of the forest and loss of independence/ growth of dependence on the American Government. The remaining factor, a culmination of poverty, disease, starvation and other brutal living conditions, had become a norm.

Menominee people considered forest to be a very important asset. The forest was a link to the past, when the Menominee had been proud, independent people with a rich language and
spiritual culture. While the Americans wanted to divide the tribe’s land into family plots, the Menominee preferred communal ownership of land. They wished to carry on this tradition in the same manner of their ancestors: it would benefit the tribe as a whole, not one specific person. Land was meant to serve all tribal members equally; the tribe itself would hold the land for all the people.

The Menominee would treat the forest differently than the Americans who had acquired their lands. The tribe would cut the dead and dying trees from the rising sun towards the setting sun until they reached the end of reservation land, they would start the cycle of harvesting all over again. They believed in the cutting of the forest, without destroying it, thereby preserving it.

The Menominee were allowed to cut their own forest for the first time in 1854, when the Indian Agents were authorized by the higher officials in Washington, D.C to allow a harvest on a year-to-year basis. The congressional act that made harvesting possible also started laying foundation for sustained yield forestry. In 1908, the Lafollette Act allowed the Menominee to harvest their forests annually by using the sustained yield practices that have been part of the tribe’s forestry efforts ever since (Pecore, 1992).

The Menominee developed sustainability ideas out of necessity: loss of land, forestry and degradation gave them little choice. In early 1800’s, the Menominee were in control of immense territory that provided them with food, clothing, shelter and independent way of life. Various treaties changed this drastically, forcing the tribe to become dependent on American government. Some of the historically driven characteristics vital to the Menominee practice of sustainable development include:

- Sustainability was developed as a survival strategy
The idea of continual forest sustenance was circumstantial: Menominee knew they had to find a way to make their living in the immediate future and wanted to plan for a longer time than could be imagined by any living person.

They considered generational time as a very important tool. Sustaining the forests for as many generations over many years was a key issue.

The political actions also played an important role. They believed in protesting, and voiced their concerns, especially after a period of official corruption (specifically?).

The Menominee people discovered that they would be the only determinant of their future. Creating sustainable life lay on their hands. They could not depend on the American way (Davis, 2000).

The Menominee sustained their forest and environment with emotion, as well as with science and technology, with song and powerful historical messages like, “if you do not sustain forest and environment, then you cannot sustain yourself”. Menominee culture creates a powerful sustainable environmental ethic. The Menominee sustainable environmental ethic is due to historical, cultural, ancestral, and religious/spiritual resources. Menominee people believed that their land was their sacred body, the values of the culture are their soul, and the water is their very blood. Therefore, to Menominee the forest and its living creatures are viewed as food for their existence (Pecore and Nesper 1993)

Between 1854 and 1908, a period was characterized by franchised clear cutting of Wisconsin forests. This development was accompanied by non-Indian settlement, and subsequent land and farm expansion between logging seasons. In 1890, due to pressure from the Menominee and the non-Indians raids on the forest, an act was passed, allowing timber sale development, with an annual cut of twenty million board feet allowed. This was later incorporated in the 1908
Lafollette Act. Apparently, no sustained yield calculations were made to establish this cut. The harm these two practices caused are still visible today. This was high-grading silviculture (a deleterious type of cutting), leaving of significant amount of slash (harvest residue) in harvested areas. While clear cutting was encouraged during this period there were many trees left uncut. Slash left behind in areas not clearly cut resulted in fires, which left the forest with some regeneration problems.

Menominee people devised the Menominee Tribal Enterprises (MTE) Forest Management Plan, which encompasses sustainable development policies, guidelines and procedures that have been in use since 1996. This plan calls for an ecologically stable, economically feasible and socially desirable forest. The plan contained three requirements: sustainability for future generations, proper care so as to meet the tribe’s economic and cultural needs and forest diversity. One main goal also included that this management plan would be used to gauge the overall effectiveness of these ecosystem management strategies. This is to be done through maintaining individual seedlings, saplings and saw timber trees, as well as dead material in various stages of decomposition. At the same time, this would allow wildlife, invertebrates and fishery diversity.

This plan was expected to result in adaptability for threats, such as insects, fires, disease and pollution that could negatively impact the forest, as well as managing societal and ecological effects.

This plan also incorporated maintaining the Continuous Forestry Inventory (CFI). CFI data is used to manage the annual allowable cut size, to ensure an appropriate forest size and value. The plan will also establish silviculture practices that will lead to maintenance of forest diversity and health so as to restore the damaged caused by cutting (Davis, 2000).
Currently, Menominee foresters use a different management strategy than the earlier foresters. One of the major attributes of the current policy is the determination by the Menominee people to restore the forest to a pre-logging state. The goal of this is to ensure a high diversity of tree stands, similar to those that existed before logging. The Menominee believe that restoring the forest to an original state will ensure both greater productivity and long-term sustainability. The reservation is home to more than 9,000 distinct tree stands over 220,000 acres of forested land. These stands have very distinctive characteristics from other forests: in terms of biodiversity, the stands are defined by various attributes such as composition, size of the tree, volume and density per acre. The forest occurs on a variety of soils and topographical or geological features, and is interspersed with lakes and streams.

The existence of the forest communities has led to coexistence of forest and animal communities, caused by both physical and biological factors. Management and protection strategies will maintain the biodiversity of the system. The timber stands were developed with a view of maintaining species diversity.

Today’s management is based on the forest habitat classification system. This method assesses the forest site productivity; it also gives guidelines for specific forest covers. This strategy is biased to trees that are currently growing on the site: this classification varies in the fact that under story plants like the grass, bushes and wildflowers are better indicators of the kind of tree that ought to be present. Certain under story types can usually be found living in the presence of certain tree species.

Menominee foresters use a habitat classification system that best determines which species are suited a given habitat. They then develop a silviculture prescription to maintain, or establish, the most productive tree species on each site. When identifying these most suitable tree
species they follow the three major criteria; potentiality of both quality and quantity of saw 
timber, sustainability with regards to the species’ biological/ecological aspects, and species 
relationship.

The above criteria matches Menominee foresters’ concerns, which include; economical 
needs of the Menominee people, healthy forest needs, and ensuring that silviculture practices are 
appropriate, with relationship the current forest layout. Changes could be made, but they must be 
aimed at long-term forest healthy and productivity.

When the decision is made to change the species mix on an individual site, the tree 
species targeted are referred to as, “objective species”. The term “associate species” refers to 
those species that likely exist as a result of the efforts of silvicultural systems designed to 
promote objective species. Individual tree species that tend to associate together are considered a 
“community”. A community of trees combined with an abundance of species is referred as 
“cover type”. Cover types are managed in units referred as “stands” (Davis, 2000).

When a silviculture review is performed, there are three management alternatives that are 
normally considered.

1. To maintain the present cover type through harvesting practices, if the stand primary 
type is currently a favored forest cover

2. If the current stand includes a minor component of one or more featured species, then it 
could become the major component of the stand. Management prescription will be 
tailored to increase the presence of the featured species

3. If no featured forest type or species is present, establish a featured type through 
seedling or planting effort.
Silviculture prescriptions are based on the way various stands of trees best reproduce. These depend on each habitat. These practices include:

1. **Clear cutting:** This involves removing all the trees, large and small, from the stand. This involves cutting all the merchantable timber, and all non-profitable trees. Clear cutting works best for tree species adapted to fire or other disturbances. Shade intolerant trees, needing full sunlight to regenerate, were used, and included Red Pine, Jack Pine and Aspen.

2. **Seed tree:** This method removes a few selected trees. The uncut trees ensure a seed resource for regeneration. The best seed producers, seed trees, are left standing. After a new stand is established, these seed trees may be removed in a second cutting, or left standing. This method is sustainable for trees that are shade intolerant such as White Birch.

3. **Shelter Wood:** This removes sections of the forest stand gradually. Trees allowed to remain cut serve as a shelter, and a seed source for the next generation. Tree species that grow well in shelter wood systems can regenerate in partial shade. This is done in two steps: first, the seed cut is done, and this removes 50-60% of the mature trees to allow penetration of light through the canopy for new seedlings. This cut is followed by over story removal cut. This removes most of the mature trees after establishment for the new seedlings. White Pine is one example of a tree that responds well to this method.

4. **Selection:** Selection is ideal for forest management. Using this method, foresters consider each individual tree for removal. Trees often identified for harvest are those past maturity age, of poor quality, and those that are not likely to survive the next scheduled cutting. Selective cutting is appropriate for trees that can regenerate in full shade, and include: Sugar Maple, Hemlock, Beech, and Basswood. This type of method results in a forest with trees of varying ages.
The Menominee have sustainably managed their forests for one hundred and forty-one years. They have maximized the use of their forests, while increasing its commercial productivity and maintaining its overall health, which is now shown by the abundance of two northern Hardwood- Hemlock- White Pine Forest species, Hemlock and Canadian Yew, (Pecore and Nesper, 1993). Menominee people have resolved through tragedy since 1854, by increasing the value of their resources, while deriving common economic benefits from their produce. This is a rare scenario in today’s Indian communities (Davis, 2000).

References


5. [http://www.sustainabledevelopmentinstitute.org/ForestKeepers/ExecutiveSummaryPage6](http://www.sustainabledevelopmentinstitute.org/ForestKeepers/ExecutiveSummaryPage6)


