



## FORESTS OF THE FIRST STEWARDS

### Higher Education Discussion Guide

#### Forests of the First Stewards | Episode 2 | Curriculum Outline

##### LEARNING OBJECTIVES:

1. Evaluate the sustainable forestry practices implemented by Menominee Tribal Enterprises.
2. Analyze the lifecycle of forest products from harvesting through manufacturing and final use.
3. Assess the economic, cultural, and ecological tradeoffs involved in forest product industries.

##### LEARNING PROCEDURE:

1. Show students the second episode "Menominee Tribal Enterprises (MTE) and End Use Products"
2. Deliver a lecture that provides more background information.
3. Outline instructions for individual and group activities and due dates.
4. Reflection and Discussion
5. Assessment (Quiz): Can take place during the next class period or submit online.

##### EPISODE OVERVIEW *MENOMINEE TRIBAL ENTERPRISES (MTE) AND END USE PRODUCTS*

Have you ever wondered how the wood products in your everyday life are made? Items like hardwood flooring, furniture, cardboard, and even forest-related products like maple syrup all begin in the forest.





In this episode, we visit Menominee Tribal Enterprises (MTE) to explore how forest products are harvested, processed, and managed through a system of long-term sustainability.

We learn how MTE selects individual trees for harvest using a careful, science-based process that is also grounded in cultural knowledge passed down through generations, including teachings from Chief Oshkosh. These practices are designed not only to produce wood products but also to maintain a healthy, diverse, and continuously regenerating forest.

We also follow the journey of timber from the forest to the processing facility, learning how each step of the process is intentionally designed to balance ecological health, economic stability, and cultural responsibility.

In addition, we visit the Fire and Forest Management Station to explore how the Menominee uses fire as a forest management tool. Students will learn about controlled burns, forest floor management, and how reducing excess fuel helps prevent uncontrolled wildfires. We also examine the cultural significance of fire as a traditional ecological practice used to support forest renewal and biodiversity.

Through these two systems, forest harvesting and fire management, students will see how modern forestry practices and cultural knowledge work together to sustain a healthy forest and community.

## SUMMARY OF ACTIVITIES:

### Reflection and Discussion: 15 to 20 minutes:

- Place students in group of 2 to 4
- Give them 15 minutes to discuss the following topics and have groups present a summary of their discussion/ share their perspectives with the class.
- Potential Topics:
  - The forest as a source of cultural identity
  - Utilization of science and traditional knowledge in sustainable forest management
  - How does the reintroduction of fire impact the Menominee's relationship to their forests?
  - How is Chief Oshkosh's teachings/philosophy reflected in the MTE's Forest management?





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**Science Communication (Group) Activity:** Divide students into groups of 2 to 4. Each group will create a series of science communication resources. Each group will be expected to create at least 4 social media posts that can be shared on social media and LinkedIn. Graphics will be used to communicate the following:

1. Chief Oshkosh teachings and philosophies
2. MTE's forest management practices: Silviculture, Kotar Habitat Typing System, and Annual Allowable Cut
3. Reintroduction of fire as a forest management tool
4. The Menominee's cultural and spiritual relationship to the forest

**Creative Writing (Individual) Activity:** Each student will submit a creative writing assignment. Students can submit either a short story or poem imagining that they are a tree in the Menominee forest. Submissions must include the following:

- Identify tree species
- Tree's cultural significance of
- Ecological significance – how does this tree interact with its environment? What does it provide? Why is it important?
- Examples of products produced from the species.
- Sustainability – How do Menominee management practices impact the tree/species?

## Assessment: Quiz

This quiz will serve as an assessment to measure students' retention of information. This quiz can be administered in class or as an online assignment. Quiz should consist of 5 to 10 questions.

## Potential Quiz Questions:

- 1) Who was Chief Oshkosh and what are some of his teachings?
- 2) What is the meaning of "Akia"?
- 3) Name at least three tree species found in the Menominee Forest.
- 4) Define even-aged management.
- 5) Define uneven- aged management.
- 6) What is silviculture and what is it used for?
- 7) Define Annual Allowable Cut (AAC) and what is the current AAC for Menominee Tribal Enterprises (MTE)?
- 8) What forest products does MTE use to power their forest products operations, and what are the benefits?
- 9) What is the Kotar Habitat Typing System?
- 10) How has the reintroduction of fire impacted the Menominee's relationship to their forests?

## ADVANCED VOCABULARY:

1. Age distribution – the age range of specimens in a group (Menominee Tribal Enterprises)
2. Akia - means "Menominee Land" (Miller 2021)
3. Annual Allowable Cut (AAC) - the amount of timber permitted to be cut annually from a specific area. ([Forestry Glossary, Government of Canada](#))
4. Clear cut – A practice that involves cutting most of the trees in an area at one time. ([Michigan Forests Forever Teacher's Guide, Michigan State University Extension](#))



5. Forest stand condition – overall health of a forest stand ([Menominee Tribal Enterprises](#))
6. Forest stand structure – horizontal and vertical distribution of layers in a forest. ([University of New Hampshire Extension](#))
7. Forest management plan – a strategy for forest management, tailored to meet specific goals and objectives and developed by forestry professionals. ([Tennessee Dept. Of Agriculture](#))
8. Kotar Habitat Typing System – ecological classification system developed by John Kotar and colleagues at the WI Dept. Of Natural Resources (DNR) to classify forests habitat types. ([Wisconsin Dept. Of Natural Resources](#))
9. Prescribed fire – management practice that mimics fire’s natural role in an ecosystem. ([USDA Forest Service](#))
10. Shade tolerance – amount of light a forest structure needs to thrive ([Menominee Tribal Enterprises](#))
11. Shelterwood harvest – forest management practice that removes mature trees in two or three harvests across a 10-to-15-year period. ([North Carolina Forestry Association](#))
12. Silviculture – the art and science of controlling the establishment, growth, composition, and health of a forest. ([USDA Forest Service](#))
13. Silviculture prescription – a document written or approved by a silviculturist describing management practices needed to implement silvicultural treatment. ([USDA Forest Service](#))
14. Stand – contiguous group of trees uniform in age, composition and structure, growing on a site with uniform quality. ([USDA Forest Service](#))

## BACKGROUND INFORMATION:

### History of Menominee Tribal Enterprises (MTE):

The Menominee Nation has been actively managing their forests for more than 150 years. The Menominee Forest is more than 200,000 acres consisting of thirteen **forest cover types (MTE)**. Menominee forests are home to 30 species of trees; some examples include: White pines (*Pinus strobus*), Hemlock (*Conium maculatum*), Sugar Maple (*Acer sacrum*), Oaks (*Quercus spp.*), Aspens (*Populus spp.*), and Hickories (*Juglandaceae spp.*). Some White pines (*Pinus strobus*) are more than 200 years old. The Menominee forests also support a diverse cast of wildlife such as bears, otters, cormorants, and trout throughout the more than 300 miles of streams in the forests. ([American Forests](#))

### THE LAFOLLETTE ACT (1908):

The Menominee Tribal leaders had managed to protect their forest from harvesting non-tribal members, but this was not without challenges. A bill was introduced by Senator Sawyer and Representative Guenther of Wisconsin that would allow private companies to harvest timber from the Menominee forest. The bill was blocked by Senator LaFollette (Wisconsin). In 1908, the LaFollette Act was passed by Congress, which supported the sustainable management practices that the Menominee championed. The LaFollette Act provided the Menominee with the legal means to resist non-sustainable management practices on their reservation by:

- Assured timber would be cut sustainably
- Established a tribal mill

([Trosper 2007](#))

### MENOMINEE SUSTAINABLE FORESTRY PRACTICES

The Menominee land ethic is deeply intertwined with their cultural and spiritual beliefs. The Menominee view the forest as a living entity and its management, their sacred charge.



*“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.” -Chief Oshkosh*

The above quote comes from Chief Oshkosh, a former chief of the Menominee tribe, and serves as an instruction to utilize sustainable yield for forest management. For the Menominee, sustaining the forest sustains cultural identity and values ([Miller, 2021](#)). Chief Oshkosh’s teachings remain a cornerstone of how the Menominee has and continue to manage **Akia**.

Sustainable management practices that reflect Chief Oshkosh’s teachings are their use of **sustained yield** across a wide range of forest cover types, habitats and age classes ([Menominee Tribal Enterprises](#)). Menominee Tribal Enterprises’ (MTE) management prioritizes forest diversity, optimizing growth and increasing saw log quality of timber. Some of the forest management strategies employed by the MTE are:

- Developing and refining sustained yields silviculture prescriptions to achieve stand objectives.
- Following guidelines of Kotar Habitat Typing system to correlate tree species to site-specific plant association habitat types.
- Managing forest within limits of Annual Allowable Cut (AAC)
- Partnership and cooperation with researchers and other agencies to continue to develop and refine prescriptions to meet management goals.

Menominee Tribal Enterprises views forest management as a combination of art and science. **Silviculture** takes both those things and uses them to lay the foundation of forest management. Silvicultural prescriptions follow guidelines within the **forest management plan**. Silviculture is a technique used to modify forests that stands to meet the prescribed objectives. The goal of silviculture is to mimic the natural conditions of the forests. Factors that the MTE take into consideration when selecting a silvicultural system include **shade tolerance, age distribution, forest stand structure, and forest stand condition**.

Other management practices employed by the MTE are:

- **Even-aged management:** Management that promotes the growth of tree species that are shade intolerant. These species depend on disturbances such as fire or wind. When natural disturbances do not occur, foresters mimic disturbance conditions through various techniques (ex. clear cut, shelterwood harvest, etc.)
- **Uneven-aged management:** Management that promotes the growth of shade-tolerant species via single-tree selection cuts. This relies on current prescription and research on species regeneration.





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## FIRE AS A TOOL OF MANAGEMENT

The Menominee Tribe is taking a step towards reintroducing practices such as **prescribed burning/controlled fire** that were once banned due to colonial policies. Fire has been used to maintain forest ecosystems by providing disturbance that some tree species rely on. Due to years of fire suppression because of colonial policies, it impacted not only the health and resilience of the forests, but also the connection the Menominee had with the land. Using science and TEK, the Menominee are restoring the relationship to nature by bringing back the use of fire. By reintroducing fire as a forest management practice, the Menominee see a regeneration of species that they have traditionally used for food and medicine. ([The Forest is Our Relative: Menominee Stewardship Shows the Power of Indigenous Voices in Forestry](#))

## FROM FOREST TO SOCIETY

The MTE employs strategic harvesting that reflects the natural cycles and processes of the forests. This is an approach based on science utilizing the Kotar Habitat Typing system and Annual Allowable Cut limits (ACC). These standards ensure optimum timber harvest while maximizing diversity of the forest ([Menominee Tribal Enterprises](#)). More than 90% of the Menominee reservation is forested. Some trees are older than 200 years and are more than 200 ft in height. Not all trees are harvested in the Menominee forest. About a quarter of the trees are not harvested; these trees are mostly found in swamp habitats and are homes to sacred cultural sites and wildlife refuges ([Tree Keepers: Where Sustaining the Forest Is a Tribal Tradition](#)). The MTE's timber is LEED-certified resulting in building materials that meets the US Green Building Council's extensive standards. The MTE's management produces lumber that supports residential and commercial projects utilizing environmentally sound construction ([Menominee Tribal Enterprises](#)). The current AAC for the Menominee Forest restricts annual timber harvests to 20million board feet. Once harvested, timber is transformed into a variety of products that are sold globally. Some of the wood products that come from the Menominee forests are lumber and veneer ([Menominee Tribal Enterprises](#)). Menominee Tribal Enterprises also utilizes woody biomass in their biomass fueled-district. This system generates steam and electricity using wood chips for their forest products operations. This new system was implemented at the MTE in 2016 with goal of generate energy independence, reduce carbon footprint and emissions, protecting air quality ([Forest Proud](#))

## MULTI-PURPOSE MANAGEMENT: ECONOMIC, CULTURAL, AND ECOLOGICAL TRADEOFFS

*"What's best for the forest, then the people, and lastly profit." -Chief Oshkosh*

The philosophy of Chief Oshkosh can be seen in the way the Menominee view the forest and therefore the priorities of its management. The forest, for the Menominee, is a living entity that is at the center of their cultural identity. The Menominee land ethic consists of three components:

1. The forest must remain sustainable for future generations.
2. The forest must be carefully managed, and the needs of the people are provided for.
3. All pieces of the forest are kept maintaining diversity.

The Menominee understands that strong management that prioritizes the health of the forest and strengthens biodiversity means provision for them and the next generation. When the Menominee employs management practices such as controlled burning/prescribed, it is not for the sake of economic profit alone. The use of fire is as cultural as it is ecological. The reintroduction of fire restored valuable species such as blueberries, birch bark, used for food and medicine. This practice creates the opportunity for younger generations to reconnect through harvest. The Menominee Forest is a symbol of sovereignty for the Menominee Tribe. The MTE employs more than 140 full-



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time staff members, more than 90% of them being tribal members. The MTE supports 8 to 9 logging crews. The MTE serves as a major source of economic development on the Menominee reservation. By following strict AAC allowances and utilizing science and traditional ecological knowledge, the MTE is able to produce high quality timber while maintaining the health and diversity of the forests which in return provides them cultural connection to the Earth, sustains identity and provides food and medicine for the tribe ([The Forest is Our Relative: Menominee Stewardship Shows the Power of Indigenous Voices in Forestry](#)).

## References

For additional information:

- <https://menominee-nsn.gov/CulturePages/BriefHistory>
- <https://www.menominee.edu/sustainable-development-institute>
- <https://www.mtewood.com/>
- [Forestry Glossary, Government of Canada](#)
- [Michigan Forests Forever Teacher's Guide, Michigan State University Extension](#)
- [Menominee Tribal Enterprises](#)
- [University of New Hampshire Extension](#)
- [Tennessee Dept. Of Agriculture](#)
- [Wisconsin Dept. Of Natural Resources](#)
- [USDA Forest Service](#)
- [North Carolina Forestry Association](#)
- [American Forests](#)
- [Trospen 2007](#)
- [Miller, 2021](#)
- [The Forest is Our Relative: Menominee Stewardship Shows the Power of Indigenous Voices in Forestry](#)
- [Tree Keepers: Where Sustaining the Forest Is a Tribal Tradition](#)
- [Forest Proud](#)

## Additional Resources from LEAF: Wisconsin's K-12 Forestry Education Program:



LEAF-Wisconsin's K-12 Forestry Education Program  
College of Natural Resources  
**University of Wisconsin-Stevens Point**

- [Lesson 1: American Indians and the Forest](#)
- [Lesson 7: Sustaining Our Forests](#)
- [Career Profile - McKaylee Duquain](#)
- [Wisconsin Forest Tales](#)
- [K-1st Grade Field Enhancement - Sensing the Forest](#)
- [2nd-3rd Grade Field Enhancement - Observing Forest Interactions](#)
- [4th Grade Field Enhancement - Unlocking a Forest's Past](#)
- [5th-6th Grade Field Enhancement - Studying Forest Layers](#)
- [5th-6th Grade Field Enhancement - Woods Worth](#)
- [5th-6th Grade Field Enhancement - Competition in the Forest](#)