A Vision of the Future

Michigan State University undertakes forest management on its properties for three reasons; (1) to provide an opportunity for researchers to study the effects of various treatments on the forest ecosystem, (2) to demonstrate sound forest management options to the public, and (3) because we believe that a managed forest provides a wider range of benefits to society than an unmanaged forest. All three reasons apply on Neebish Island.

The University has been studying and managing the parts of Dunbar Forest located on the mainland since 1927. In the process, we have expanded our understanding of how these forests respond to natural and human actions. This has advanced the science of forest management. Professional resource managers, students, and the public have had the opportunity to see the results of this work for themselves. All this will continue on Neebish Island.

The forests on the mainland have been improved to provide diverse wildlife habitat, recreational opportunities, and timber products like utility poles, sawtimber, and pulpwood. At the same time University foresters have protected special plant communities, soils, waterways, and First Nations sites while maintaining forest health. We have the same vision for Neebish Island.

An opportunity has recently arisen that will enable us to begin managing the forests on the island. Our foresters have made a survey of the 3,100 acres we own there and have determined how the various areas should be managed to make the best possible use of each. Research projects are being planned to monitor the changes to all parts of the ecosystem.

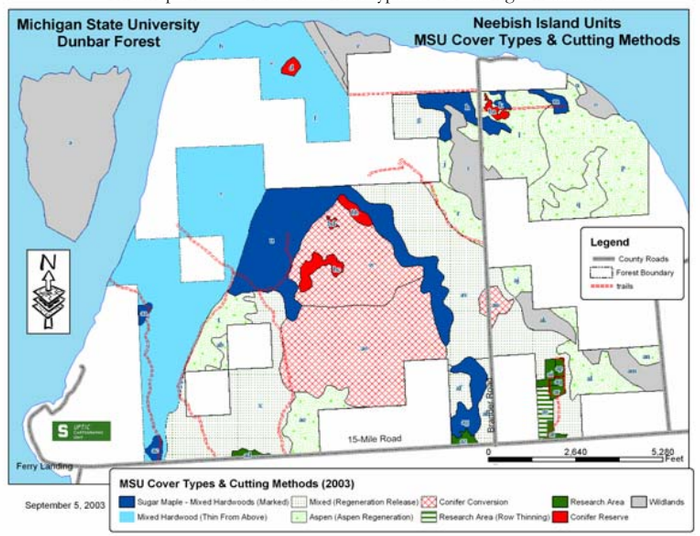
Forest management usually involves cutting trees and our work on Neebish Island will be no exception. The scale of this project will be larger than others we have undertaken in the past but that was the only way to make the work financially feasible.

Forests change and develop slowly, but with patience and persistence we will see increased diversity and productivity soon in the woods of Neebish Island as a result of our actions today.

Advanced, low-impact harvesting equipment will be used.

Results on the Ground

This map shows where the various types of harvesting will be done.



Clockwise from top left: (1) Young pine plantation, (2) 2-year-old aspen regeneration in a clearcut, (3) sugar maple seedlings wait for release, (4) high-value red pine poles in a managed plantation, and (4) the Neebish Islander II – gateway to the island.

FOREST IMPROVEMENTS ON NEEBISH ISLAND

DUNBAR FOREST EXPERIMENT STATION

(forestry research since 1925)

MICHIGAN STATE UNIVERSITY

MICHIGAN AGRICULTURAL EXPERIMENT STATION
Michigan State University

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Neebish Island – Then and Now

Neebish Island lies in the Saint Mary's River about 15 miles south of Sault Saint Marie. It has been shaped and influenced by glaciers and the waters flowing south from Lake Superior. Soils on the island tend to be wet during much of the year and the growing season is short. This keeps the forests growing slowly.

The first surveyors found that most of Neebish Island was covered by aspen-birch forests around 1800. Many of the trees on the island were cut early in the 1900s. Some of the original forest was converted into farmland but most was allowed to re-grow without any management plan. Valuable sawtimber has been cut from some places over the years leaving only the less desirable timber behind. No logging has been done on most of the island recently because the trees were not valuable enough to offset the high cost of removing them from the island.

The result has been that the forests of the island have developed without any plan for the last 80 to 100 years. Forest types have not changed appreciably from pre-industrial times, except that hemlock-white pine stands in the center of the island are no longer intact. The forests are still primarily dominated by aspen and birch and contain a mixture of maples, firs, oaks, and a few other species. However, today's forests are aging, poorly stocked, growing slowly, and gradually changing as the over-mature aspen and birch give way to other hardwood species and balsam fir. Without active management many of the remaining forests will gradually convert to low productivity stands of red maple and balsam fir.

Hardwood regeneration is suppressed by over-mature aspen and birch. Young seedlings will be released and allowed to develop into a new forest.

Forest Management Objectives

In order to retain the best of the past and enhance productivity in the future the following objectives have been established for the University's forests on Neebish Island:

- Where remnants of pre-industrial conifer forests remain, they will be preserved and provisions made to maintain their vigor.
- Portions of the island that will support a mixed hardwood forest will be thinned in such a way as to release either existing pole-size trees or the seedlings and saplings of these species.
- Portions of the island that are capable of supporting vigorous stands of aspen and white birch will be harvested to encourage the regeneration of these species.
- Portions of the island that had supported white pine and hemlock in pre-industrial times but have changed since then to mixed hardwood stands will be clearcut, prepared, and replanted with red pine. Red pine has been shown to be highly productive and much less susceptible to disease and insect problems than white pine on nearby parts of Dunbar Forest.
- Certain species will be preserved for their wildlife food value and to serve as a source of seed for the regenerating stands. These species include northern-white cedar, yellow birch, American beech, eastern hemlock, white pine, red oak, and white oaks.

An old-growth conifer grove on Neebish Island. These will be maintained and improved.

Harvesting Prescriptions

Foresters use tree harvesting as a tool either to reduce crowding and increase growth of remaining trees or to make space for new seedlings to become established and replace older, mature trees. In the first case, we call the operations "thinnings." In the second case, we call the operations "regeneration cuts." We will be using both types of harvesting on different parts of the 3,100 acres we own on Neebish Island.

❶ When existing hardwood forests are well stocked with healthy trees we will thin them to improve the quality and growth of the residual trees. About 900 acres will be treated in this way.

❷ When existing forests are poorly stocked but have hardwood seedlings and saplings present, we will remove the large trees to release the young regeneration to form a new mixed species community. About 575 acres will be harvested in this way.

❸ Some forests on the island have historically been most productive when growing aspen and white birch. These areas are now over-mature and will be regenerated to aspen by a process called "clearcutting." By removing shade and letting the sun warm the ground, the aspen roots in the soil will sprout to form a new forest. About 620 acres will be treated like this.

❹ Some areas of the island were originally conifer forests but changed due to past harvesting. Some of these areas will be cleared of hardwoods and replanted to pine. About 480 acres will be treated like this.

❺ Finally, there are some parts of the island that we will not treat at all. These include wildlands, wetlands, conifer preserves, small openings, and research plantations. There are about 525 acres of these types of areas.