

Arcadia Dunes Forest Management Summary

The vision for forest management on this property is to create an example of ecologically managed forestland that meets the highest standards of sustainability while achieving GTRLC's recreational and financial goals.

Our primary objective is ecological restoration of the forest. The forest management plan follows a philosophy of managing the land to encourage natural processes that have been disrupted by past activities, being respectful of sensitive features of the land, and harvesting only the "byproduct" of a fully functioning forest ecosystem. This philosophy is fundamentally different than the more traditional approach of viewing the forest as a crop that needs tending or even managing with a primary goal of long-term income. In fact, we are often encouraging tree species that have more ecological importance than economic value. We acknowledge the need for forest products, but also have a responsibility to protect and sustain natural areas for the future. This is an opportunity to harvest products in a manner that improves the endemic habitat quality of the forest while providing sustainable timber products – a model that demonstrates balance between resource use and protection.

The area included in this plan covers 2163 acres (all forested areas) of the roughly 3,000 acre Arcadia Dunes Nature Preserve. The forest is comprised of 81% Northern Hardwood Forest (Beech-Maple-Ash), 6% aspen, 6% Northern Hardwood Forest (Oak dominant), and 7% conifer plantations.

The long-term objective for the beech-maple-ash hardwoods is to restore species and age composition similar to the pre-settlement condition. We intend to accomplish this through relatively low volume timber harvests on a fairly long rotation. Initial harvests will focus on removing low quality trees and simulating natural disturbance typical to a northern hardwood forest. Group selection harvests, which mimic the natural gaps created when a tree falls in the woods, will be a primary harvest method. This management will lead to improved conditions for the re-establishment of species that have not flourished under historic management. Similarly, restoration of these forests to a more natural composition will provide a more enriched forest ecosystem to which many plants and animals are best suited.

A few stands that are currently dominated with oak and aspen will be managed for regeneration of oak and aspen forest types. These areas offer a diversity of habitat that is not common in this forest and provide additional educational and recreational opportunities.

The red and white pine plantations will continue to be thinned over time and will eventually be converted to hardwood forest. A few of the nicest red and white pine trees from these plantations will be left for demonstration and education. Many of the 61 acres of over-crowded Christmas tree plantations (primarily blue/black hills spruce, Douglas fir, and Scots pine) are scheduled for removal. In some cases we will do thinning rather

than complete removal in order to provide partial shade that encourages shrubs and trees to replace the plantations.

Our measure of success for this plan is to achieve tangible improvement in the natural, scenic, and economic qualities of the forest. In order to track changes and improve our management in the future, we are establishing long-term plots where we will record information on forest composition, structure, and regeneration.

The forest will grow faster than it is harvested. In time, the trees will become larger and the income per harvested tree will likely increase. Over many decades, we expect the result of our management will be a forest as similar as possible to pre-settlement condition. The impact of timber harvests will decrease over time as fewer trees are harvested to produce a similar amount of forest products. As the forest habitat improves, additional stands may be removed from the harvest cycle. Any such stands would be added to the 300 acres that have already been set aside as High Conservation Value Forest – a designation for areas with no planned commercial harvest activities.