



Minnesota Department of Natural Resources

Division of Forestry

School Forest Stewardship Plan

Date:2/12/07

Landowners Name: Chaska Elementary School Forest
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Forester: Alan E. Olson
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alan.olson@dnr.state.mn.us

Legal Description:

<u>Subdivision</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>County</u>
W1/2 SW ¼	33	116	23W	Hennepin

Total Acres:102__

LANDOWNER OBJECTIVES:

Establish or enhance original vegetation
Controlling undesirable species of vegetation
Maintain health of the trees

LANDSCAPE REGION; BIG WOODS

Minnesota can be divided into ecological landscape regions (or subsections) as shown on the enclosed map. The boundaries are not as sharp as the lines might imply. However there are basic ecological differences between the units.

The conservation issues of concern are of particular note. It is likely that at least some of your activities will affect these larger scale issues.

The information about “landscape regions” and “interaction with nearby properties” is provided to help you assemble a picture of how your land and your activities fit into the larger landscape.

INTERACTION WITH NEARBY PROPERTIES

This is a very important piece of property. It is in the middle of a heavily developing urban area. There is not many pieces of property left in this portion of Chaska that offers the wildlife habitat that this land does. It is located on land at the top of the bluffland on the north side of the Minnesota River above the city of Chaska. The northern portion of the property is a steep heavily forested ravine that runs east to west. It provides green space, wildlife land and buffer from further development in this area of Chaska.

OVERVIEW OF THE REGIONAL LANDSCAPE

BIG WOODS:

Underlain by limey, brown glacial till (of the Des Moines and Grantsburg lobes), this landscape historically was dominated by maple-basswood-oak-elm forest. Aspen Oak brush, oak barrens and prairie were found at the landscapes edges, and on sandy plains of glacial outwash near streams and rivers. Nearly all of the landscape currently is farmed or developed.

NATURAL COMMUNITIES:

Natural communities are habitats made up of a typical combination of plants and animals, and visibly distinct from other habitats. A natural community represents the potential natural vegetation when managed for its natural state. As an example: for some forests, a natural state is often one of older, larger trees and very light selective cutting. For prairies, a natural state is one of grazing with fire management.

Natural communities on this property:

NORTHERN HARDWOOD FORESTS(Big Woods) are predominantly sugar maple and basswood in well drained sites historically protected from fire. In prairie regions sugar maple disappears. Additional trees are: American elm, slippery elm, red oak, bur oak, white ash, and green ash. Showy wildflowers are seen in dense patches in the spring.

NATURAL HERITAGE INFORMATION

Minnesota Natural Heritage Database is a listing of endangered, threatened or special concern plant or animal species. Blanding's Turtle occurs in the vicinity. We urge you to review The Uncommon Ones found behind the Ecology tab to see if you can identify any other plant or animal species on your property.

Conservation Concerns

The Major conservation concern is water quality in the Minnesota River drainage area. There is a major pollution problem throughout the subsection. It is mainly a result of agricultural activities (fertilizers, pesticides and animal waste). There is a major initiative by state and local government units to clean up the Minnesota River. Another concern is how to control development (agricultural and urban) so wetlands and other natural landscapes are preserved

STEWARDSHIP CONCERNS FOR MANAGEMENT

Of concern is the loss of bio-diversity, or the variety of life forms, as a result of habitat fragmentation. In particular, small woodlot size coupled with large separation between woodlots has reduced habitat for species that depend on the habitat and the environment found inside large contiguous woodlands.

Land clearing, grazing, logging, and wildfire control have severely reduced the extent and commonness of the natural ecosystems in the Big Woods landscape regions. Mixed hardwood Woodlands exist mainly in small blocks isolated from each other throughout the entire Big Woods landscape region.

White tail deer are a problem in the Big Woods landscape regions because of their high numbers and tendency to concentrate in woodlands at certain times of the year. The intense grazing that results reduces the vigor, and even prevents regeneration, of many species of ground layer plants. Deer are also an impediment to reforestation because they damage or eat tree seedlings in plantings.

Oaks unlike more shade tolerant hardwoods, regenerates poorly in woodland environments. If this ecologically and economically important woodland type is to remain as an integral part of the landscape, it may be necessary to undertake specific preferential management practices.

OVERVIEW OF SOILS, LANDFORMS, AND WATERSHEDS:

Highly disturbed urban soils that are generally difficult for good tree growth. There is a lot of soil compaction and impermeable soils that inhibit root growth and encourage water runoff. The drainage is into the Minnesota River. Topography is level in the southern two thirds of the property with steep to very steep terrain in the north.

SOIL TYPES

EsB- Estherville sandy loam 2-6% slope
EsC2- Estherville sand loam 6-12% slope eroded
EsD Estherville sandy loam 12-18% slope
HaB2-Hayden loam 2-6% slope eroded
HaC2-Hayden loam 6-12% slope eroded
HaF- Hayden loam 25-40% slope
LaB- Lester loam 2-6% slope

DESCRIPTIONS AND RECOMMENDATIONS OF MANAGEMENT UNITS:

BIG WOODS consist primarily of sugar maple and basswood. They will be found with a number other species such as aspen, red oak, paper birch, ash, black walnut, butternut and elm. Pure stands are unusual. This stand diversity requires a management system that is very complex. The group is generally shallow-rooted, long-lived (200+years), and very tolerant to shade. Less tolerant trees in a mixed stand will eventually be eliminated by the lack of sunlight. Due to its shade tolerance, the northern hardwoods become the climax species (continually perpetuating itself) on many sites, creating an uneven-aged stand.

The trees will grow best on moist, moderately well drained soils. The quality of the trees varies considerably by location. Commercial yellow birch is limited to the northeastern portion of the state; sugar maple to the east, central and southeast; while basswood is found over the entire state. The northern hardwoods are prolific seeders and will maintain themselves with little soil disturbance. The exception is yellow birch, which requires some form of seedbed disturbance for good regeneration. Several varieties of hardwoods sprout from stumps.

Although pruning will add to the final value of the tree, it is more important to maintain the proper spacing and age distribution (selective harvest method) to produce a stand with clean, straight poles. Removing cull trees will allow more growing space for favored trees. If very high quality trees are desired and pruning is initiated, the trees should be pruned no higher than 17 feet. Thinning basswood to 2-3 sprouts per clump will allow sufficient diameter growth to produce good quality saw timber. Thinning should be done in pole- sized stands less than 45 years old to derive the most benefit from the resulting accelerated growth.

Recommendations:

This forest would benefit from a periodic thinning of some of the more undesirable tree species and invasive shrub species. The trees and shrubs to focus on are the boxelder, Am. elm and any trees that are interfering with the growth of more desirable trees such as oaks maples ashes and basswood. The invasive shrubs are sumac, prickly ash and buckthorn.

There are small areas around the school grounds that could be planted to trees. Also open areas in and on the edges of the forest could be planted.

Trees can be obtained free from the DNR for Arbor Day plantings as long as they are part of an Arbor Day planting that occurs on school grounds. Contact your local DNR forester for assistance with any of these or other projects.

OFFICES for ADDITIONAL ASSISTANCE

CARVER COUNTY

**MN DNR Wildlife office
7151 190th St West
Jordan MN 55352
952.492.5266**

**Soil and Water Conservation District office
219 E. Frontage Rd
Waconia MN 55387
952.442.5101**

**U. S. Fish and Wildlife Service
MN Valley National Wildlife Refuge
3815 East 80th St.
Bloomington MN 55425
952.854.5900**