

Trees and Shrubs of the Prairie and Savanna Regions of Minnesota

By Paul Jackson, Restorationist

The name prairie conjures up images of wide open spaces, with the leaves, stems and seed heads of hundreds of species of native grasses and wildflowers blowing in the breeze for as far as the eye can see. This image of early prairie life is for the most part accurate, especially for those areas in southern and western Minnesota. In addition to the dominant herbaceous growth which prevailed throughout the prairies, there were also scattered trees and shrubs. On the wide open prairie, most of this woody vegetation occurred in floodplain forests associated with the many rivers and streams which drained the region. Woody plants in these areas were able to establish themselves due to the high moisture content of the soils occurring along these seasonally-inundated corridors. Since wildfires were not common in these areas, woody vegetation gained the upper hand.

A second, more prominent type of grassland/woodland interaction occurred in Minnesota at the time of settlement and is still visible today. Running roughly from the southeast to the northwest corners of the state was the tension zone between grassland and forest. This zone has been referred to as the savanna region of the state. Savanna is a plant community type, which by definition is composed of more than one tree per acre but with less than one-half of the total area covered by the tree canopy. Numerous environmental factors are responsible for the development of this zone in Minnesota. Some of these factors include differences in soil types, climatic patterns, topography and, most importantly, fire frequency.

There are several different types of fire maintained savanna which occurred along the tension zone in Minnesota:

1. Deciduous Savanna is made up of three community types: *Mesic Oak Savanna*, *Dry Oak Savanna* and *Aspen Openings*. Historically, these community types were described as oak savanna, oak openings, oak barrens or aspen parklands. Examples of these types of communities can be found along the entire extent of the tension zone, with oak savanna types occurring primarily in southeastern and central portions of the state. Aspen openings were most prevalent in the northwest.

2. Coniferous Savanna has one community type which is associated with a prairie understory. *Jack Pine Barrens* occur primarily in dry, nutrient-poor, sand dune areas of central and northwest Minnesota.

3. Upland Brush-Prairie has only one community type recognized: *Mesic-brush prairie* occurs mainly along the Glacial Lake Agassiz interbeach area of northwestern Minnesota.

*Natural community classification and naming based on *Minnesota's Native Vegetation, A Key to Natural Communities*. Version 1.5. Minnesota DNR Natural Heritage Program. 1993.

The following are lists of the more common tree and shrub species which interacted with the prairie of Minnesota, historically and today.

Flood Plain Forest

- American elm (*Ulmus americana*)
- Slippery elm (*Ulmus rubra*)
- Green ash (*Fraxinus pennsylvanica*)
—var. *subintegerrima*
- Cottonwood (*Populus deltoides*)
- River birch (*Betula nigra*)
- Balsam poplar (*Populus balsamifera*)
- Silver maple (*Acer saccharinum*)
- Box elder (*Acer negundo*)
- Red maple (*Acer rubrum*)
- Basswood (*Tilia americana*)
- Hackberry (*Celtis occidentalis*)
- Swamp white oak (*Quercus bicolor*)
- Northern bur oak (*Quercus macrocarpa*)
—var. *olivaeformis*
- Quaking aspen (*Populus tremuloides*)
- Black willow (*Salix nigra*)
- Speckled alder (*Alnus rugosa*)
—var. *americana*
- Wild grape (*Vitis riparia*)
- Poison ivy (*Rhus radicans*)
- Virginia creeper (*Parthenocissus*

quinquefolia)

Upland Brush-Prairie

Mesic Brush Type

- Young aspen (*Populus sp.*)
- Scrub oak (*Quercus sp.*)
- Slender willow (*Salix petiolaris*)
- Pussy willow (*Salix discolor*)
- Shrubby cinquefoil (*Potentilla fruticosa*)
- Bebb's willow (*Salix bebbiana*)
- Hazelnut (*Corylus americana*)
- Saskatoon (*Amelanchier alnifolia*)
- Chokecherry (*Prunus virginiana*)
- Prairie willow (*Salix bumilis*)
- Leadplant (*Amorpha canescens*)

Coniferous Savanna

Jack Pine Barren Type

- Jack pine (*Pinus banksiana*)
- Pin oak/Bur oak (*Quercus sp.*)
fire stunted grubs
- American hazelnut (*Corylus americana*)
- Juneberries (*Amelanchier sp.*)

- Downy arrowwood
(*Viburnum rafinesquianum*)

Deciduous Savanna

Dry Oak/Mesic Oak Type

- Northern burn oak (*Quercus macrocarpa*) —var. *olivaeformis*
- Northern pin oak (*Quercus ellipsoidalis*)
- Black oak (*Quercus velutina*)
- Black cherry (*Prunus serotina*)
- Red cedar (*Juniperus virginiana*)
- American hazelnut (*Corylus americana*)
- Leadplant (*Amorpha canescens*)
- Prairie willow (*Salix bumilis*)
- Juneberries (*Amelanchier sp.*)
- Sand cherry (*Prunus pumila*)
- Gray-bark dogwood (*Cornus foemina*)
- American plum (*Prunus americana*)
- Chokecherry (*Prunus virginiana*)
- Prairie crab apple (*Pyrus ioensis*)
- New Jersey tea (*Ceanothus americana*)
- Wolf berry (*Symphoricarpos occidentalis*)

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Environmental Guidelines Booklet Available

RGF Environmental Systems, Inc. a member of the RGF Environmental Group, West Palm Beach, Florida is offering a free booklet entitled "Environmental Guidelines for Golf Course Maintenance Facilities". This

booklet is offered as a free public service to give golf superintendents guidelines on reducing the risk of contaminants entering the environment and possible fines resulting from such actions. The subjects include: EPA laws, maintenance shop housekeeping, mix & load operations, storm water run-off, managing hazardous waste on site and pollution solutions. For a free copy, contact RGF Environmental Systems, Inc. 3875 Fiscal Court, West Palm Beach,

Florida 33404, 800-842-7771 or 407-848-1826.

The RGF Environmental Group consists of six companies all dedicated to design, engineering, manufacturing and sales of pollution prevention equipment. Founded in 1985, RGF employs 78 people in its 50,000 square foot facility in West Palm Beach.

Real Salesmen —

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with the Vikings, Twins and Timberwolves.

- Real salesmen have their vehicle radios turned to Rush Limbaugh.

- A real salesman remembers his customers at Christmas. A card or calendar is fine.

- A real salesman actually knows how to operate the equipment he sells, and has actually used the materials he offers.

- A real salesman knows that lecture attendance at educational seminars, symposiums and meetings is time well spent. He knows he might learn something.

- The real salesman isn't a sore loser, and always comes back strong. He doesn't take a lost sale personally, and he doesn't hold a grudge.

- Neither does the real salesman take a sale for granted or assume it's automatic. Real superintendents make business decisions and let the chips fall where they may.

- The real salesman gives his best bid (or lowest price) immediately. NOT after he's learned the competition has beat him.

- "Service" is a word the real salesman understands and actually believes in.

Trees & Shrubs —

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Aspen Opening Type

- Balsam poplar (*Populus balsamifera*)
- Quaking aspen (*Populus tremuloides*)
- Scattered Northern bur oak (*Q. macrocarpa*) —var. *olivaeformis*
- Hazelnut (*Corylus americana*)
- Sage willow (*Salix candida*)
- Pussy willow (*Salix discolor*)
- Shrubby cinquefoil (*Potentilla fruiticosa*)
- Red-osier dogwood (*Cornus stolonifera*)

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