Root River SWCD Conservation Highlights

NOVEMBER 2026

Hello from Root River SWCD! We are excited to provide you with another edition of *"Root River SWCD Conservation Highlights."* It will contain a wealth of conservation information and cost share opportunities.

Feel free to contact us at any time with your conservation resource needs/concerns, (507) 724-5261 extension 3.

INSIDE THIS ISSUE:

Conservation Recognition	2
Soil Loss and Conservation Opportunities	3
Hickory Wilt	4
SE MN Rochester Platue & Blufflands	5–6
Diverse Habitat Structure	7
2027 Tree Order Form	8-9



Look for the MDA certified logo.

Firewood can carry harmful pests that threaten Minnesota's trees. Invasive species like emerald ash borer, spongy moth, and Asian longhorned beetle have destroyed millions of trees across the United States. Even native pests, such as carpenter ants and bark beetles, can hitch a ride on firewood and cause problems for homeowners.

Take these simple steps to protect Minnesota's trees:

- **Buy firewood where you burn it.** Leave firewood at home when traveling to a campsite or cabin. Buying wood locally helps prevent the spread of harmful pests.

- **Choose certified firewood.** Look for the official Minnesota Department of Agriculture (MDA) certification seal, or find a certified firewood producer in Minnesota.

Keep firewood local. Avoid moving hardwood firewood across county or state lines. Moving hardwood firewood out of Minnesota quarantined counties is illegal unless the wood is MDA certified. Violations can result in fines of up to $7,500 per day, per incident.

Visit the MDA's Buying and Moving Firewood in Minnesota webpage for information. (https://www.mda.state.mn.us/plants-insects/firewood-information)

Root River SWCD

Office Location:

805 N. Hwy. 44/76, Suite 1

Caledonia, MN 55921

HOURS

7:00 a.m. - 4:30 p.m.

Monday—Friday

(507) 724-5261 ext. 3

https://builder1.revize.com/revize/houstoncountymn/

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The Morkens began farming 70+ years ago in the Black Hammer/Spring Grove area. Collectively they have four cattle operations and a turkey operation. The Morkens have passed their knowledge on through multiple generations. Some of that knowledge includes, but is not limited to, adjusting operational practices to better suit the land and neighbors' lands.

The Morken Family's implementation of and dedication to conservation serves as symbol of what Root River SWCD stand for. Over the past 20+ years they have worked closely with members of the Root River SWCD to implement conservation practices on their farms, improving soil and water health on their properties and those surrounding them. The conservation practices they have implemented include several grade stabilization structures, filter strips, several push up ponds and they maintain several grassed waterways. They have also implemented best management practices without agency assistance such as roof structure in recent years.

A few members represent their family on the Houston County Cattleman's Association. Through this avenue they participate in advocacy of fellow cattle farmers in the community, by gathering and addressing issues that impact the long-term viability of cattle farming.

Their continued efforts to educate and help those in the community are to be commended. They take pride in the community, land they operate and their animals in turn. Their adaptations and hard work speak to their character and serve as a model to those in the community. They have worked side by side with each other and local/federal agencies to introduce practices to their operation that will share benefit for generations to come.

Congratulations!

Soil Loss and Conservation Opportunities

This summer Houston County experienced two significant rain events. From those events we have seen quite a bit of soil erosion and loss. Over time too much soil loss can reduce agricultural productivity. Some ways to help reduce soil loss are by changing your cropping system. Ideally crops should be planted on the contour, with an alfalfa or hay strip, or grass buffer strip. Having this strip between tilled fields helps to hold the soil in place when heavy rains do occur.

The type of tillage equipment used and how often you disturb the ground can also contribute to soil loss. Planting cover crops after crops are taken off will also keep the soil in place and help provide a steady nitrogen supply.

Grassed waterways are beneficial and help keep your soil in place. Properly placed grassed waterways will convey runoff from a defined watershed.

When topsoil reaches our lakes and streams it causes degradation from the sediment that is placed there. This can harm aquatic life and reduce water quality. Other ways to help keep your soil from eroding are installing grade stabilization structures, diversions, and terraces.

If you have any erosion or soil loss, please reach out to the Root River SWCD. Technicians can come out and do a site visit to determine the best management practice for your land. If a resource concern is identified during the site visit, Root River SWCD and the Natural Resources Conservation Service (NRCS) have funding to help with any of the projects mentioned above.









Hickory Wilt

Hickory wilt (caused by the fungus *Ceratocystis smalleyi*) is a disease that kills hickory trees, especially bitternut hickory, with other hickories affected to varying degrees. It works together with a native insect, the hickory bark beetle: the beetle attacks weakened trees and its wounds let the fungus in, which then forms many cankers in the bark and clogs the tree's water-carrying tissue, causing the crown to die back quickly.



The clearest signs of hickory wilt are on the trunk and larger branches: numerous small cankers (dead, sunken or diffuse patches of bark), often with reddish dead inner bark beneath them and reddish-brown staining in the wood under the canker. Tiny entry and exit holes made by the hickory bark beetle are commonly found alongside the cankers. As the many cankers and the fungus block water movement, the crown thins and dies back, sometimes over a single season.

The disease is easiest to notice in summer, when a hickory's crown suddenly thins, browns, or dies back while nearby trees stay green. On the bark, look year-round for clusters of small cankers paired with the pinhole-sized beetle holes.

Hickory wilt is a recently recognized disease, reported from bitternut hickory across the north-central and northeastern United States, including Iowa, Indiana, Minnesota, New York, Ohio, and Wisconsin. The origin of the fungus is uncertain. It was only described and linked to this disease in the 2000s. So whether it is native or introduced is not firmly settled.

Hickory wilt spreads as a partnership between the fungus and the native hickory bark beetle. The beetle bores into hickory trees, especially stressed ones, and its tunnels and wounds give the fungus a way into the bark and wood. The fungus then grows and produces spores in the bark and beetle tunnels, and beetles moving from tree to tree help carry it along. People can also move the disease over longer distances by transporting infested hickory wood, logs, and firewood.

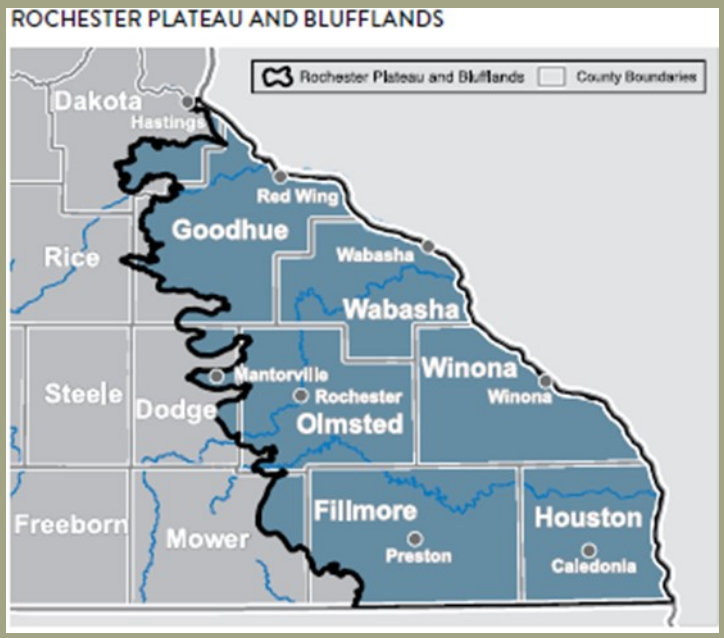
Hickory wilt is not a danger to people or pets. For a homeowner, it can kill a yard or woodlot hickory, often within a season or two once the crown begins to decline, and the dead tree then becomes a removal cost and a potential hazard. There is no known cure once a tree is heavily infected.

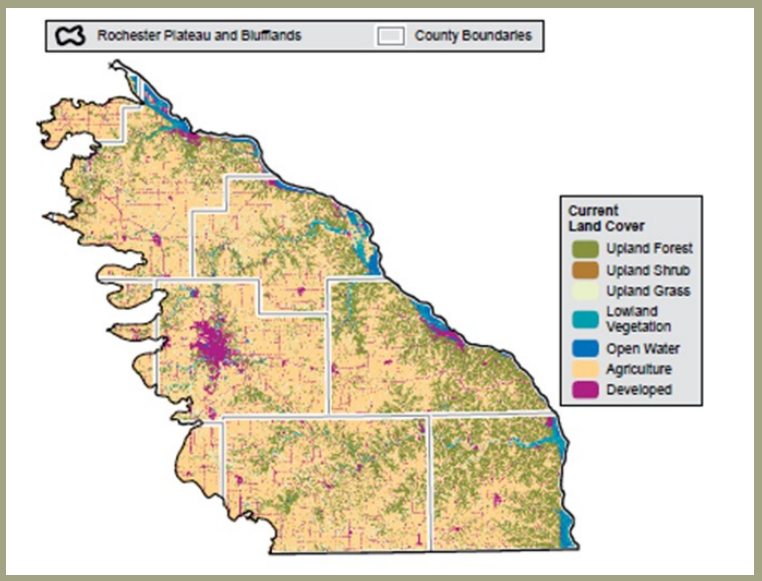
Southeast Minnesota known by ecologists as the Rochester Plateau and Blufflands

This region, also known as the Driftless Area, is quite different from the rest of the state because glaciers missed this area during the last ice age.

These subsections span all or parts of Dakota, Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, Rice, Wabasha, Washington, and Winona counties.

In Houston County 100% of 363,942 acres are located in these subsections and makes up 14% of the subsections.





Historic Land Cover and Current Land Use

The Rochester Plateau and Blufflands consists of rugged bluffs and valleys. Although originally a *plateau* underlain by rather flat sedimentary rock, in the past 10,000 years streams and tributaries have eroded the landscape on their way to the Mississippi River. The remains of the plateau are most evident along the western part of the area and least evident near the Mississippi River. Unique and diverse flora and fauna live in the abundant rock outcroppings. This area of Minnesota is nearly absent of glacial deposits, and has deep, narrow valleys with cool, fast-flowing streams.

Finally, the underlying, porous limestone allows water to percolate swiftly underground creating numerous caves, sinkholes, and underground streams—all features common in *karst* topography.

Before European settlement, slope, aspect, flooding, and influenced vegetation. Most of the area is covered by deposits of soil formed by *loess* or *alluvium*. Prairies occupied the flat, fire-prone remnants of the plateau in the west. Woody vegetation developed on steep slopes in areas cut by rivers and protected from wildfires. Dry prairies formed at the tops of southwest-facing bluffs with oak woodland developing downslope, especially on northward- and eastward-slopes. *Mesic* (mesic means between wet and dry) forests prevailed on north- and east-facing slopes, usually dominated by oak on the upper parts, with basswood and then sugar maple increasing downhill. Wet-mesic forests of basswood, sugar maple, black maple, elm, bur oak, black ash, and walnut were present on level, silty valley bottoms on terrain divided by flowing water. Sandy valley bottoms supported dry prairies, black oak woodlands, and rarely, jack pine savannas and woodlands. The bottomlands of broad valleys such as that of the Mississippi River were covered with floodplain forests of silver maple and river birch. Forests of silver maple, elm, green ash, hackberry, cottonwood, basswood, and swamp white oak thrived on higher river terraces.

Southeast Minnesota receives more inches of precipitation than in other parts of the state. Total annual precipitation ranges from 29 inches in the west to 34 inches in the southeast. Of this, 11 to 16 inches falls during the growing season, which lasts for approximately 136 to 156 days.

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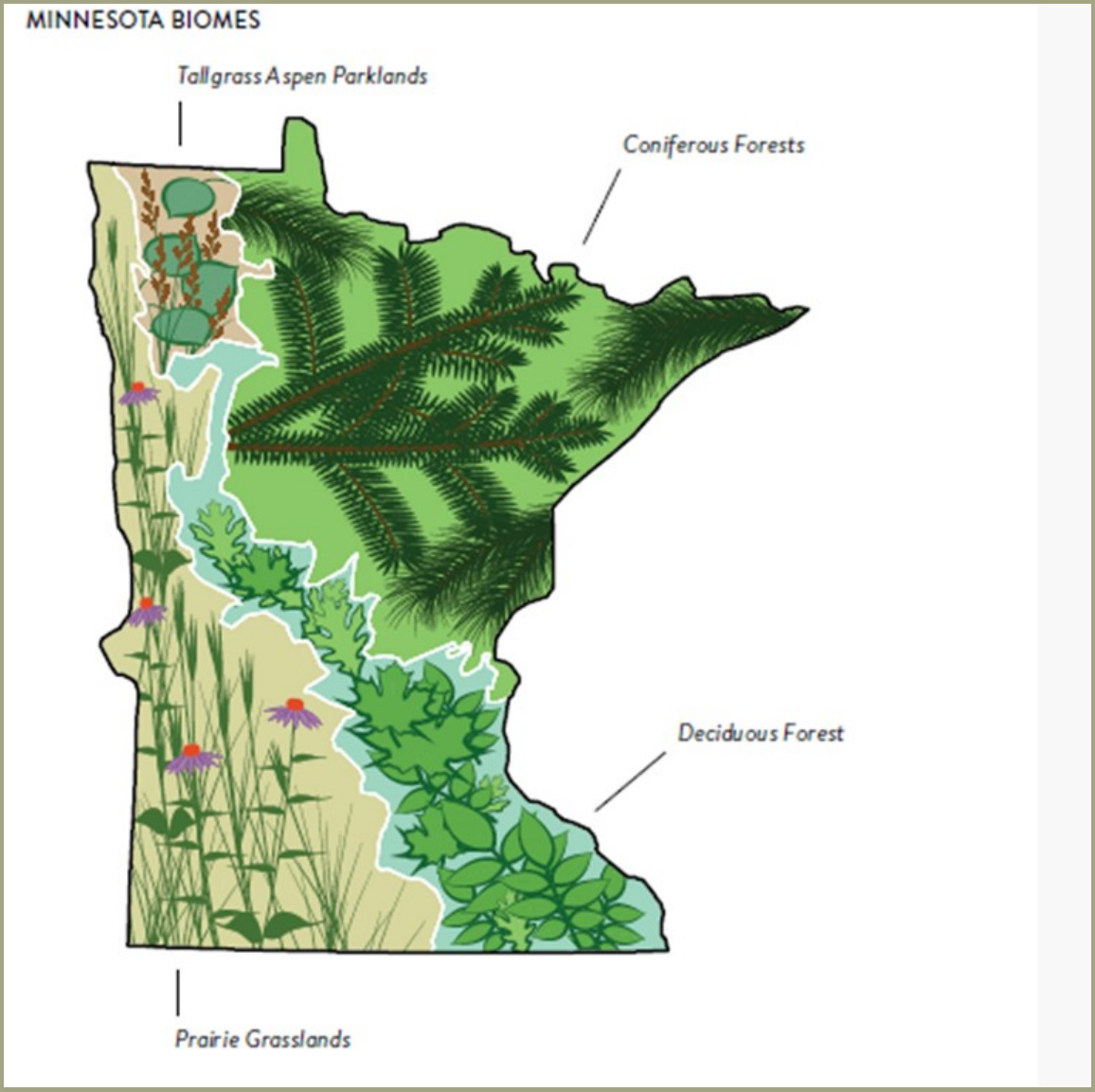
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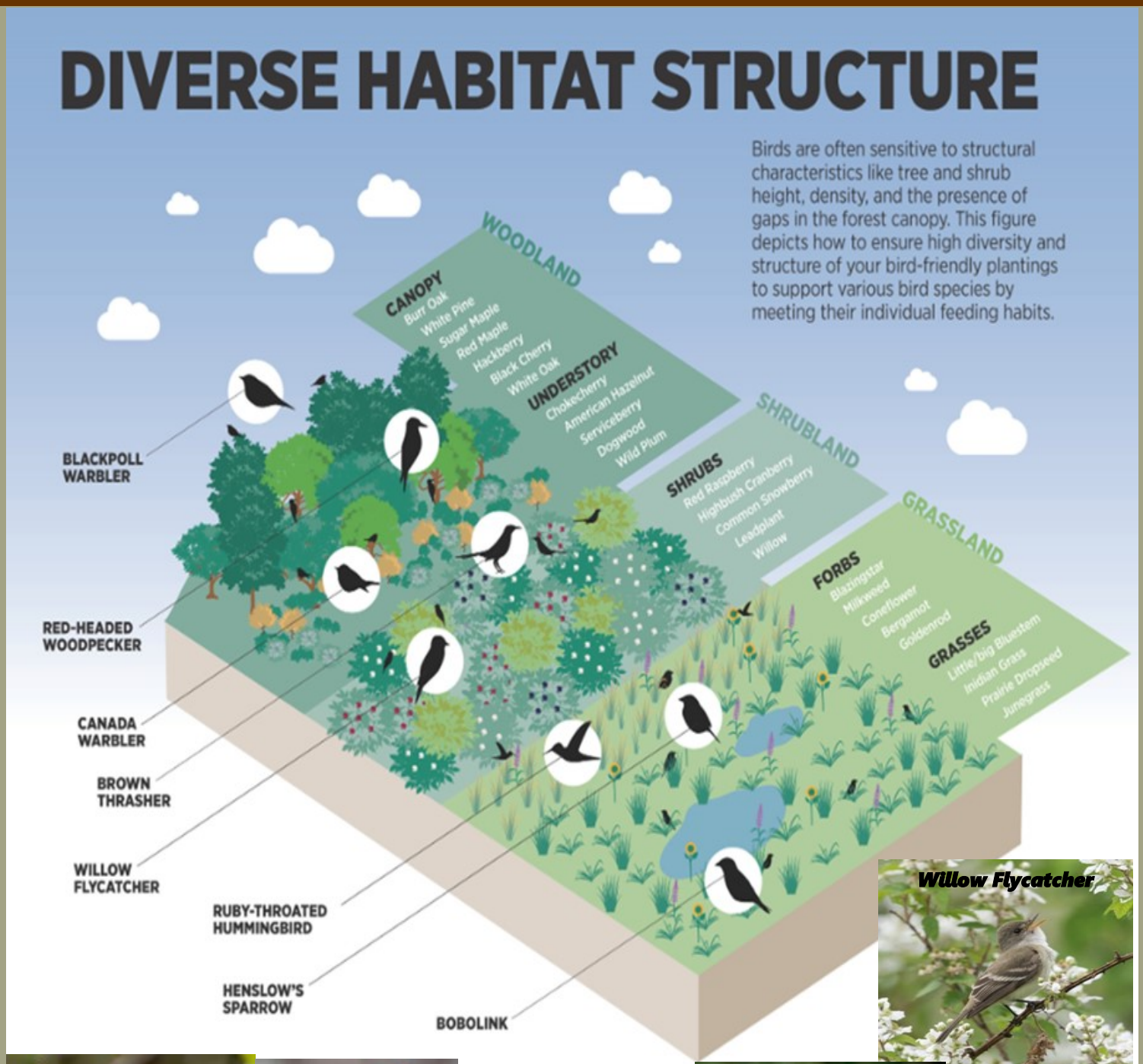
This landscape has changed in recent times. Agriculture is a major land use important to the local economy today. While 55 percent (approximately 1.5 million acres) are used for pasture or growing crops, 22 percent is forested, mostly in small, fragmented patches on steep side slopes of terraces in the Blufflands subsection. The steep slopes and karst topography make this area particularly susceptible to soil erosion and groundwater contamination by nitrates and phosphates resulting from agricultural activities.

With picturesque valleys, mature deciduous forests, numerous coldwater trout streams, trails, parks, and campgrounds, this region attracts numerous anglers and recreationists.

How We Classify Forests Today

Minnesota is located at a great North American transition zone. Here grassland, deciduous (hardwood) forest, and coniferous forest converge and intermingle. As such, tree-covered landscapes can vary greatly. For example, sparsely wooded oak savannas are common in south-central Minnesota. Mixed grass and aspen parklands dominate the northwest. Bluffs blanketed by deciduous trees cover southeast Minnesota. Dense forests filled with pine, spruce, fir, aspen, and birch characterize the northeast. Finally, mixes of these landscapes can be found throughout the central parts of the state.




DIVERSE HABITAT STRUCTURE
Birds are often sensitive to structural characteristics like tree and shrub height, density, and the presence of gaps in the forest canopy. This figure depicts how to ensure high diversity and structure of your bird-friendly plantings to support various bird species by meeting their individual feeding habits.
WOODLAND
CANOPY
Burr Oak
White Pine
Sugar Maple
Red Maple
Hackberry
Black Cherry
White Oak
UNDERSTORY
Chokecherry
American Hazelnut
Serviceberry
Dogwood
Wild Plum
SHRUBLAND
SHRUBS
Red Raspberry
Highbush Cranberry
Common Snowberry
Leadplant
Willow
GRASSLAND
FORBS
Blazingstar
Milkweed
Coneflower
Bergamot
Goldenrod
GRASSES
Little/big Bluestem
Indian Grass
Prairie Dropseed
Junegrass
BLACKPOLL WARBLER
RED-HEADED WOODPECKER
CANADA WARBLER
BROWN THRASHER
WILLOW FLYCATCHER
RUBY-THROATED HUMMINGBIRD
HENSLOW'S SPARROW
BOBOLINK

Willow Flycatcher


Blackpoll Warbler


Red-Headed Woodpecker


Canada Warbler


Brown Thrasher


Ruby-Throated Hummingbird


Henslow's Sparrow


Bobolink

CONIFERS - TRANSPLANTS

Variety	Size	Maturity Size	Description
Pine, Norway (Red Pine)	10" – 20"	75 - 100'	 Needles are 4 – 6" long, flexible, and a dark yellow-green color. Prefers well-drained, moist soils, but will tolerate dry conditions. Prefers full to partial sun. Growth spread ranges from 50-75'. Fast growth rate
Pine, White Eastern	10" – 20"	50 - 75'	Needles are 3-5" long, very soft and flexible, bluish-green in color. Grows well in rich, moist soil, but does best in moist, sandy loams. Full sun to partial shade. Growth spread ranges from 20 - 40'. Medium growth rate (12 – 24" per year). Good lumber tree. Also, good for wildlife habitat. Used in windbreaks, to block farm odor, screens and shade. Soft, picturesque tree.
Spruce, Colorado	7" – 15"	70 - 100'	1" – 1 ½" needle all shades of blue and green with very sharp tips. Prefers well-drained, moist soils but will tolerate dry conditions. Moderately tolerant of shade. Provides a 20-35' growth spread. Medium growth rate.
Spruce, Norway	10" – 14"	40 - 100'	Full sun and drought tolerant 20-50' growth spread. Does well in dry, moist or wet conditions. Fastest growing spruce. Dense draping branches. Needles are ½ to 1" long. Not native.
Spruce, White	7" – 15"	50 - 80'	 Needles are 1/3 – ¾" long. Tolerant of shade. Does best in moist, well-drained, gravelly soils. Drought sensitive. Good wildlife cover and useful windbreak tree. Medium growth rate.
Fir, Balsam	12" – 18"	50 - 75'	Shade tolerant with 20-30' growth spread. Prefers moist, wet regime. Sensitive to drought. Bears small cones. Slow growth rate.

DECIDUOUS TREES

Variety	Size	Maturity Size	Description
Oak, Red	10" - 18"	60 - 80'	Fastest growing Oak. Does best on moist or well-drained sites in full to partial sun. Valuable wood products tree. Acorns provide excellent wildlife food source. Fall color is red to a winter bronze.
Oak, White	10" – 16"	50 - 80'	Does best in slightly moist to well-drained sites and full sun. Acorns provide excellent wildlife food source. Brown, purple autumn foliage. May hold some leaves over winter. Excellent firewood & valuable wood products tree. Slow growth rate.
Walnut, Black	10" – 22"	70 - 100'	A large tree with medium green, compound leaves. Does best on rich, deep, fertile, well-drained soils. Requires full sun. Widely planted and highly regarded for top quality lumber. Excellent food source for wildlife. Yellow fall color. Rapid growth rate.
Maple, Sugar	10" – 18"	50 - 75'	Brilliant orange red fall color. Tolerates shade. Thrives on fertile moist and well drained soils. Collect sap in the spring for your own maple syrup. Valuable for wood products & excellent firewood. Slow growth rate.

SHRUBS

Variety	Size	Maturity Size	Description
Serviceberry	10" – 16"	**Height:** 6 - 20' **Spread:** 6 - 20'	**Growth Rate:** *medium (12 - 24" per year)* **Sun:** *sun or partial shade* **Soil:** *acidic, moist to well-drained* **Fall Color:** *yellow, orange or red* **Flowering Dates:** *late March - May with white flowers* **Seed/Fruit:** *red-purple berries fruiting June – August* **Uses:** *Planted on rocky, wooded slopes and along streams; good songbird and wildlife food; edible to humans and taste similar to a blueberry. Also known as Juneberry.*
Chokecherry	8" – 18"	**Height:** 10 - 25' **Spread:** 15 - 20'	**Growth Rate:** *fast (24" per year)* **Sun:** *sun or partial shade* **Soil:** *rich, moist to well-drained* **Fall Color:** *yellow* **Flowering Dates:** *early Spring with white flowers* **Seed/Fruit:** *elongated clusters of cherries; dark red, purple or black; will appear mid-late summer* **Uses:** *Similar to black cherry but smaller. Bears red fruit that is good for many birds & mammals. Good wildlife cover. Planted for shade, erosion control, stream bank stabilization, fence rows, watershed protection an on rocky bluffs & roadsides.*
Cranberrybush *Viburnum Trilobum*	12" - 18"	**Height:** 8 –12' **Spread:** 8-10'	**Growth Rate:** *moderate* **Sun:** *sun to partial shade* **Soil:** *clay, loam, sand* **Flowering:** *white/flat clusters in May to mid-June* **Fruits:** *Red berry bunches form by August and can be harvested in autumn* **Fall Color:** *red to purplish leaves similar to a soft maple leaf* **Uses:** *food & cover for birds and pollinators. Used for stream bank stabilization, erosion control on low/moist ground, hedge or a windbreak.* **Planting Tips:** *As a hedge where a medium/tall screen is desired, plant 4 feet apart. Best to plant more than one to avoid poor fruit production.*
Crabapple, Red Splendor	12" – 18"	**Height:** 20 - 25' **Spread:** 20'	**Growth Rate:** *fast* **Sun:** *full sun* **Soil:** *sandy loam to clay loam* **Flowering:** *pink spring flowers* **Fruits:** *red fruit from spring through winter.* **Uses:** *high wildlife rating* **Planting Tip:** *Should have moderate drainage with dry, moist or wet moisture regime.*
Ninebark, Common	10" – 16"	**Height:** 6 – 10' **Spread:** 6 – 12'	**Growth Rate:** *fast (24"+ per year)* **Sun:** *sun to part shade* **Soil:** *moist to moderately dry, alkaline or clay* **Flowering:** *small pink or white five petal flowers appearing in dense flat rounded 1-2" dia. spirea like clusters in late spring* **Fruits:** *drooping clusters of reddish fruit (inflated seed capsules)* **Leaf Structure:** *shallow lobed leaves up to 3" long* **Fall Color:** *yellow* **Uses:** *valuable nectar source for pollinators Noted for its exfoliating bark which peels in strips to reveal layers of reddish to light brown inner bark providing winter interest.*
Dogwood, Red Osier	10" –24"	**Height:** 4 – 5' **Spread:** 6 - 12'	**Growth Rate:** *fast* **Sun:** *full sun* **Soil:** *tolerates almost any location, growing in moist soils* **Flowering:** *red stems with white flowers* **Fruits:** *white berries.* **Uses:** *effective bank cover holds soil well. Excellent wildlife food source and cover. Red twigs create winter color.*
Plum, Wild	10" - 24"	**Height:** 10 - 15' **Spread:** 10 - 15'	**Growth Rate:** *fast (24" or more per year)* **Sun:** *full sun to slight shade* **Soil:** *rich, moist to well-drained, acid* **Tolerate:** *walnut toxicity, occasional drought, dry, alkaline, and clay soils (Intolerant to soil salt & salt spray)* **Fall Color:** *reddish to yellow* **Flowering Dates:** *March-May; white flowers* **Seed Dispersal Dates:** *June-October; purple, edible fruit* **Uses:** *Edible fruit that is good for jams and jellies. Good wildlife food and cover, especially good nesting habitat for rarer songbirds. Provides food for bees and many butterfly species.*
Lilac, Common Purple	12" – 18"	**Height:** 8 – 15' **Spread:** 5 – 12'	**Growth Rate:** *medium* **Sun:** *full sun* **Soil:** *well-drained* **Flowering Dates:** *late April – early May; deep purple to wine red, sweetly fragrant, single flowers with white edges arranged in dense, pyramidal, terminal clusters (panicles)* **Uses:** *Excellent fresh cut flower; perfect for border, screens or windbreaks. Good for wildlife cover.*

HOW MANY TREES DO I NEED & HOW FAR APART DO I NEED TO PLANT THEM?

Windbreaks/Shelterbelts - **Shrubs: 6 ft. apart in rows, Trees: 15 ft. apart in rows (Rows should be 15 – 20 ft. apart).** *Wildlife Planting* - **Mixed plantings of shrubs & trees average 10 ft. apart in rows and between rows (about 500 seedlings per acre).**

Root River SWCD
Est. 1939

Root River Soil and Water Conservation District
TREE ORDER – SPRING 2027

Name: _____ _____ Home or Cell Phone

Address: _____

_____ _____ Work Phone

E-Mail: _____

CONIFERS – *TRANSPLANTS* (Tree information can be found on back side.)

Variety	Type	Min. Size	Price of 25	# of Bundles	Extended Price	Total # of Trees (# of bundles x 25)
Pine, Norway	3-0	10" – 12"	$ 45.00			
Pine, White	3-0	10" – 24"	$ 45.00			
Spruce, Norway	2-0	10" – 14"	$ 45.00			
Spruce, Colorado	TR 2-2	7" – 15"	$ 45.00			
Spruce, White	3-0	8" – 16"	$ 45.00			
Fir, Balsam	TR 2-3	12" – 18"	$ 53.00			

DECIDUOUS TREES (Tree information can be found on back side.)

Variety	Type	Min. Size	Price of 25	# of Bundles	Extended Price	Total # of Trees (# of bundles x 25)
Oak, Red (Northern)	Seedling 3-0	10" – 18"	$ 42.50			
Oak, White	Seedling 3-0	10" – 16"	$ 42.50			
Walnut, Black	Seedling 1-0	8" – 18"	$ 42.50			
Maple, Sugar	Seedling 2-0	10" – 18"	$ 45.00			

SMALL TREES & SHRUBS (Tree information can be found on back side.)

Variety	Type	Min. Size	Price of 25	# of Bundles	Extended Price	Total # of Trees (# of bundles x 25)
Serviceberry	Seedling 2-0	10" – 16"	$ 41.00			
Chokecherry	Seedling 2-0	8" – 18"	$ 41.00			
Cranberrybush	Seedling	12" – 18"	$ 43.00			
Crabapple, Red Splendor	Seedling	12" – 18"	$ 43.00			
Ninebark, Common	Seedling 1-0	10" – 16"	$ 41.00			
Dogwood, Red Osier	Seedling 2-0	10" - 24"	$ 41.00			
Plum, Wild	Seedling 2-0	10" – 24"	$ 41.00			
Lilac, Common Purple	Seedling	12" – 18"	$ 43.00			

MISCELLANEOUS

Item	Price	Qty	Extended Price
Flags, Fluorescent Pink Bundle of 100	$ 15.00		

Subtotal _____ _____ Total # of Trees

MN State Sales Tax 6.875% _____

Total _____

- ✓ Trees will be sold on a first come first serve bases.
- ✓ Trees usually arrive late April. We will send out a post card or e-mail notifying you of pick-up dates.
- ✓ Call our office to check on tree availability, (507) 724-5261 ext. 3.
- ✓ Special ordering available upon request.
- ✓ We purchase good stock, but make no survival guarantee.
- ✓ Payment is due in full with order. Make checks payable to: Houston County Treasurer

Mail to: Root River SWCD
805 N. Hwy. 44/76, Suite 1
Caledonia, MN 55921

Phone: (507) 724-5261 Ext. 3

Root River SWCD
805 N. Hwy. 44/76, Suite 1
Caledonia, MN 55921

RETURN SERVICE REQUESTED

2027 Tree Order Form