



Planting for Wildlife and Clean Water



Angie Hong - Water Resource Educator





Planting for wildlife and clean water:

1. Basics of landscaping for wildlife
2. Birds
3. Pollinators
4. Turtles and frogs
5. Gardening with native plants
6. Woodland, shoreline, prairie and wetland restoration projects
7. Site visits and grants



Angie Hong is the coordinator for Minnesota's East Metro Water Resource Education Program, a local government partnership with 25 members.

In her free time, she enjoys singing, competing in triathlons, and exploring the prairies, woods and waterways of the St. Croix Valley.

She is also mom to an exceedingly active eight-year old boy.

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Read the weekly blog articles! eastmetrowater.org



WASHINGTON
CONSERVATION
DISTRICT



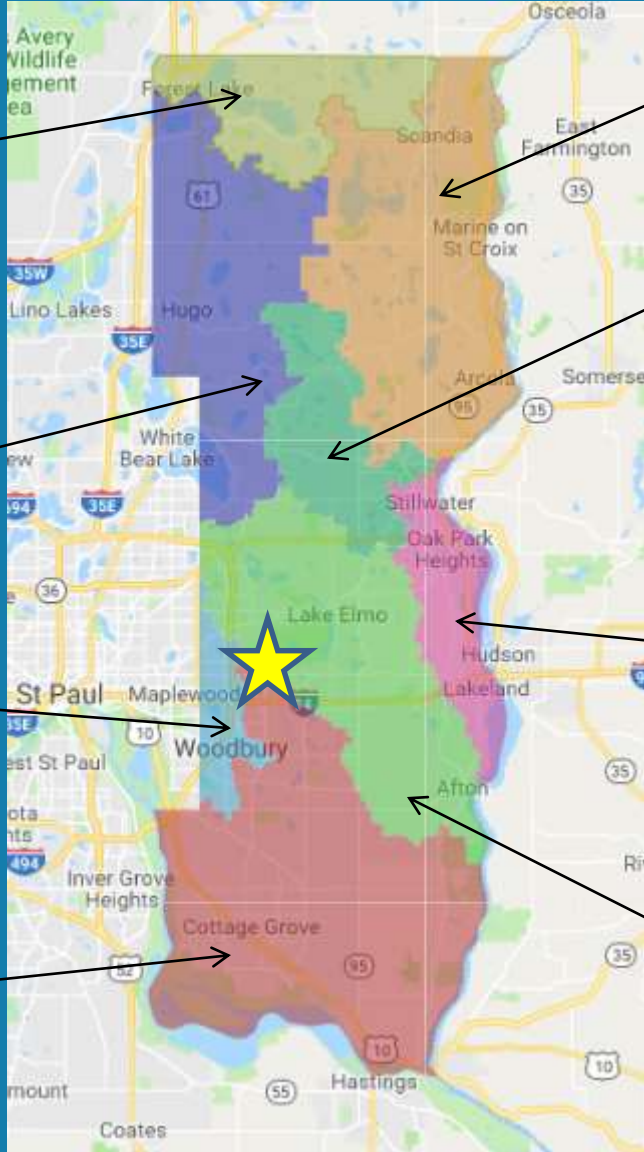
Washington Conservation District

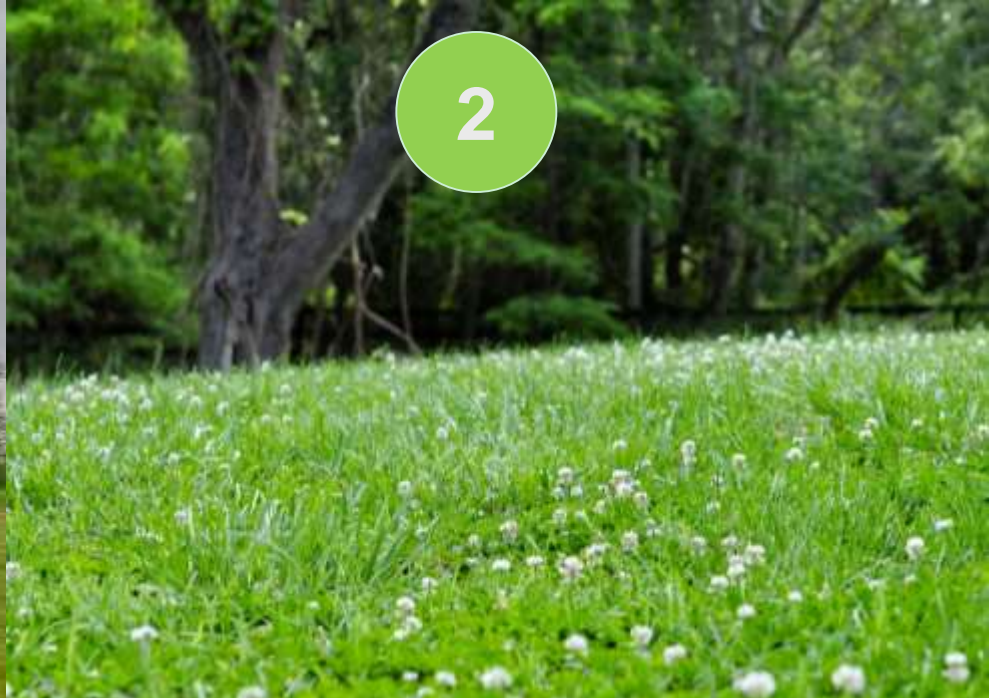
Established in 1942

Mission: To enhance, protect, and preserve the natural resources of Washington County through conservation projects, technical guidance, and educational services to citizens and local government.

Watershed Management Organizations Washington County

Watershed Rules
Projects
Cost-share \$\$





Wildlife needs

- Food
- Water
- Shelter
- Space





Deadfalls/woody debris provide habitat

Value / Function of Natural Shoreland Zone

Shoreland Vegetation
(erosion-control, water quality, wildlife habitat, high plant diversity = high wildlife diversity)

Emergent Vegetation
(water quality, erosion-control & wildlife habitat)

Tree Stumps
(wildlife habitat & water quality)

Drifted-in Logs & Snags
(wildlife habitat, erosion control & water quality)





BIRDS



320 species of birds in the St. Croix Valley
60 are Species of Greatest Conservation Need



Loggerhead shrike



Redheaded woodpecker



Red-shouldered hawk



Wood thrush



Identify Birds by Sound

- <http://www.birdgenie.com/> - record and ID bird sounds in your yard
- <https://www.shopidentiflyer.com/> - listen to 140 birds and frogs



© Carolyn Stampeen



Chickadee



Cardinal





Barred owl





Robin

A vibrant yellow Goldfinch with a black cap and black-and-white wing patterns is perched on a thin, brown pine branch. The bird is facing right, and its beak is slightly open. The background is a soft-focus green, showing the needles and branches of a pine tree. The lighting is natural, highlighting the bird's bright colors.

Goldfinch



Great blue heron



Downy



Hairy



Yellow-bellied



Flicker



Red-headed



Red-bellied



Pileated



Three-toed



Black-backed

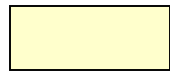
Pre-settlement Native Plant Communities



Big Woods



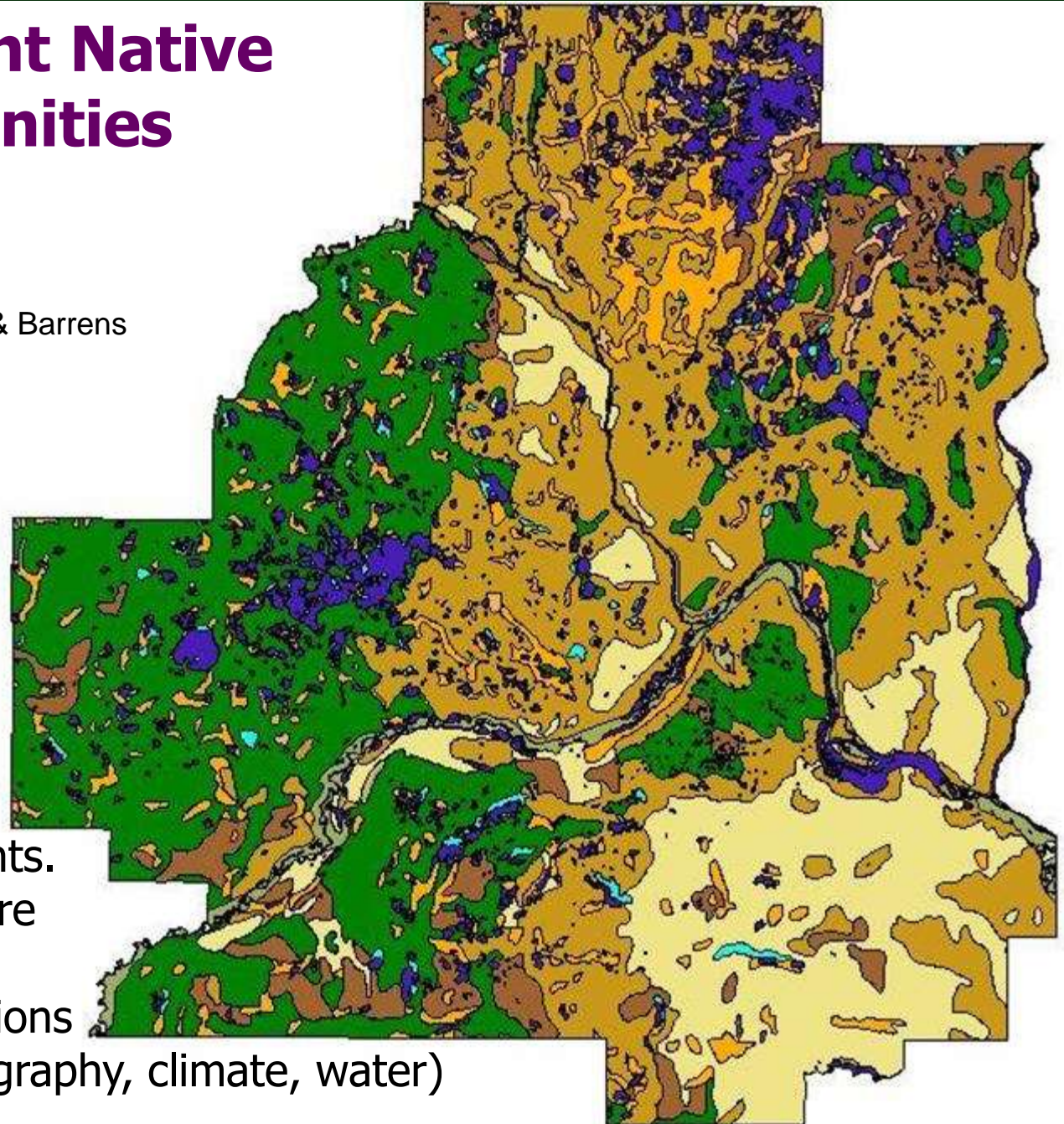
Oak Openings & Barrens



Prairie



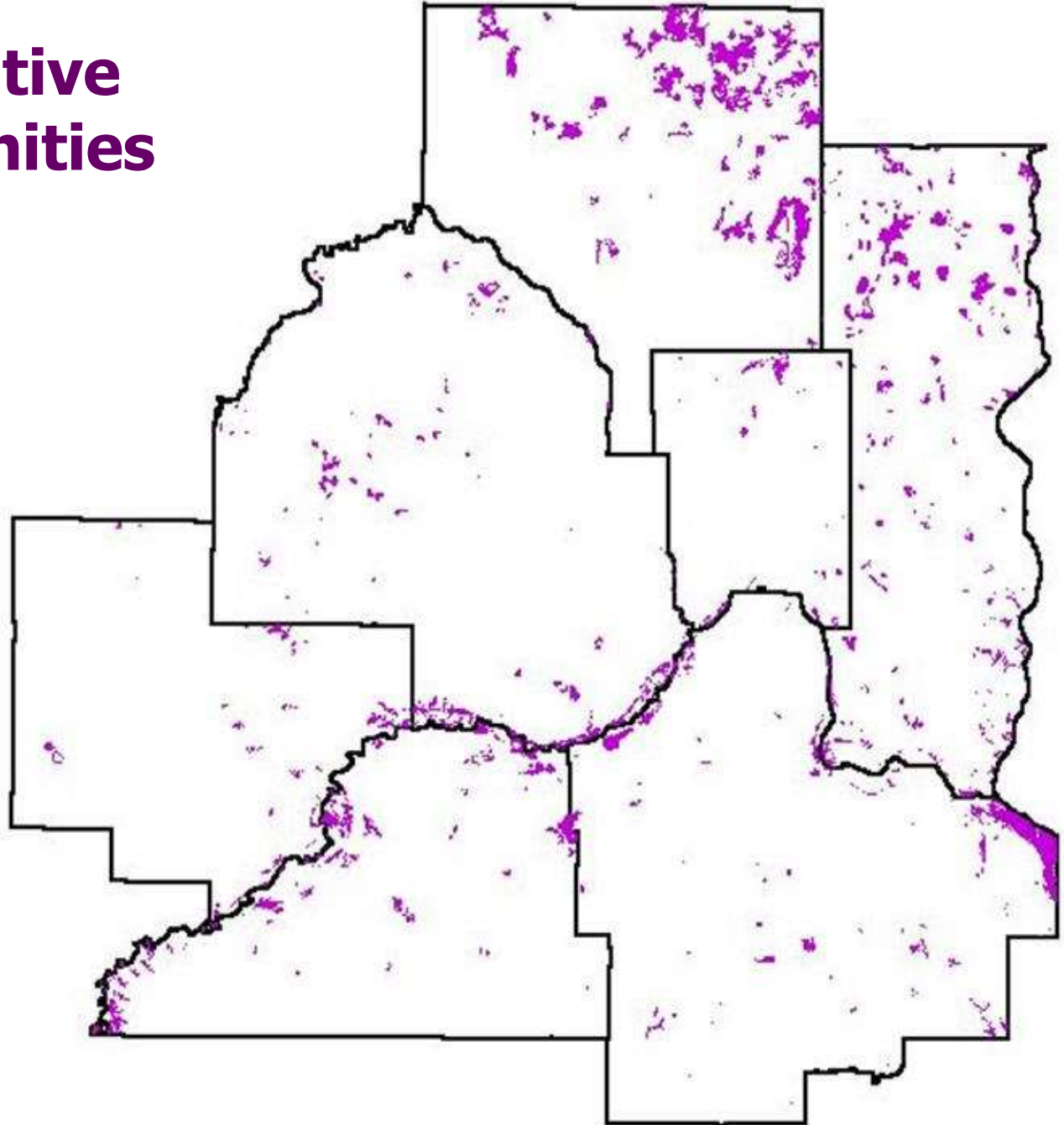
Wet Meadow



In nature, plants commonly grow in association with a particular group of other compatible plants. These communities are found where specific environmental conditions exist (e.g. soils, topography, climate, water)

Remaining Native Plant Communities

Vegetation removal and soil disturbance (and soil compaction) reduces the amount of runoff absorbed, increasing sediment-laden runoff into lakes, streams & wetlands.



"If you have a backyard, this book is for you."

—Richard Louv, author of *Last Child in the Woods*

Bringing Nature Home



UPDATED AND EXPANDED

**How You Can
Sustain Wildlife
with Native Plants**

Douglas W. Tallamy

With a Foreword by Rick Darke

A close-up photograph of several green Hackberry leaves. The leaves are ovate with serrated margins and prominent, pinnate venation. The central vein is clearly visible, branching into smaller veins. The leaves are attached to a green stem. The background is a blurred green, suggesting a natural outdoor setting.

Hackberry



Nannyberry



Pagoda dogwood



Hazelnut



Hawthorn



Wild plum



Redosier dogwood

A close-up photograph of a black cherry branch. The branch is covered with several large, ovate leaves that have a distinct serrated margin and a smooth, glossy surface. The leaves are a vibrant green color. On the right side of the branch, there is a cluster of small, green, unopened buds or flowers. The background is a soft-focus green, suggesting a dense forest or garden setting.

Black cherry



White Pine



Red maple



White oak



POLLINATORS



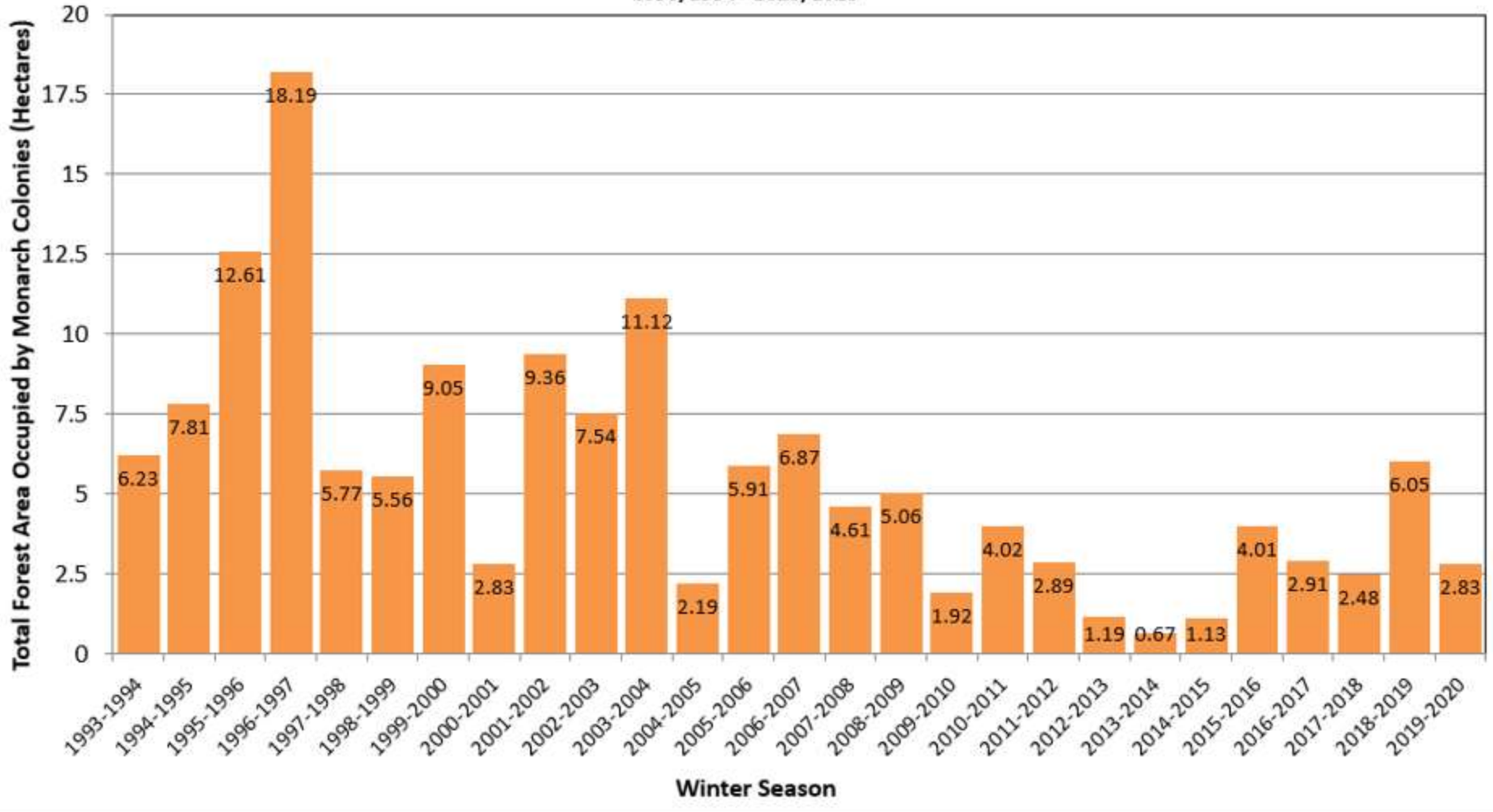
Meadow Blazing Star

Liatris ligulistylis

Dave Crawford

Eastern Monarch Population Numbers Decrease 53% from 2019

Total Area Occupied by Monarch Colonies At Overwintering Sites in Mexico
1993/1994 - 2019/2020





Butterfly Milkweed

Asclepias tuberosa



<https://monarchjointventure.org>

<https://www.fws.gov/savethemonarch>

Our New State Bee

Rusty Patched Bumble Bee
Bombus affinis



Bumble Bees Need:

- Nests in the ground
- Blooming native flowers throughout the growing season. It is active from April to October
- Connected, high quality habitat
- Protection from insecticides and fungicides. Many chemicals that promote a dense lawn have adverse and even unintended effects on wildlife.



Rusty Patch Bumble Bee Species Needs



Nesting Habitat

Abandoned rodent nests or cavities, 1'-4' below the ground in open areas.



Floral Resources

Requires nectar and pollen sources from mid March to mid October.



Overwintering Habitat

Loose soil or leaf litter just below the ground. Near woodland edge.

Spring – Early Summer

Include early-blooming plants and maintain a diversity of flowers in your landscape.

To protect overwintering queens, avoid early raking or mowing; raking is best done in April and May.

Keep large patches of land unmowed and untilled to provide secure nesting sites; healthy ground-nesting mammal populations help create future nesting sites.

Because queens are still foraging and colonies are usually very small, avoid the use of pesticides.

Summer – Fall

Include mid- and late-blooming plants such as goldenrod, milkweed, and aster in your landscape.

Leave leaf litter, downed wood, and uncut bunch grasses to serve as potential overwintering sites.

As colonies are producing new queens at this time of year, avoid using pesticides. If pesticides are necessary, choose products that are less harmful to bumble bees, and do not use them at times when bees are active or when plants are flowering.

Winter

Late fall and winter are the best times for mowing. Cut with the mower deck at the highest safe level to avoid disturbing overwintering queens.

To protect overwintering queens, continue to leave large sections of untilled ground.

Small, controlled burns are okay, but burn less than 1/3 of available land annually, and leave unburned patches as a refuge for animals.

If needed, this is the best time to use a targeted herbicide treatment for invasive species.

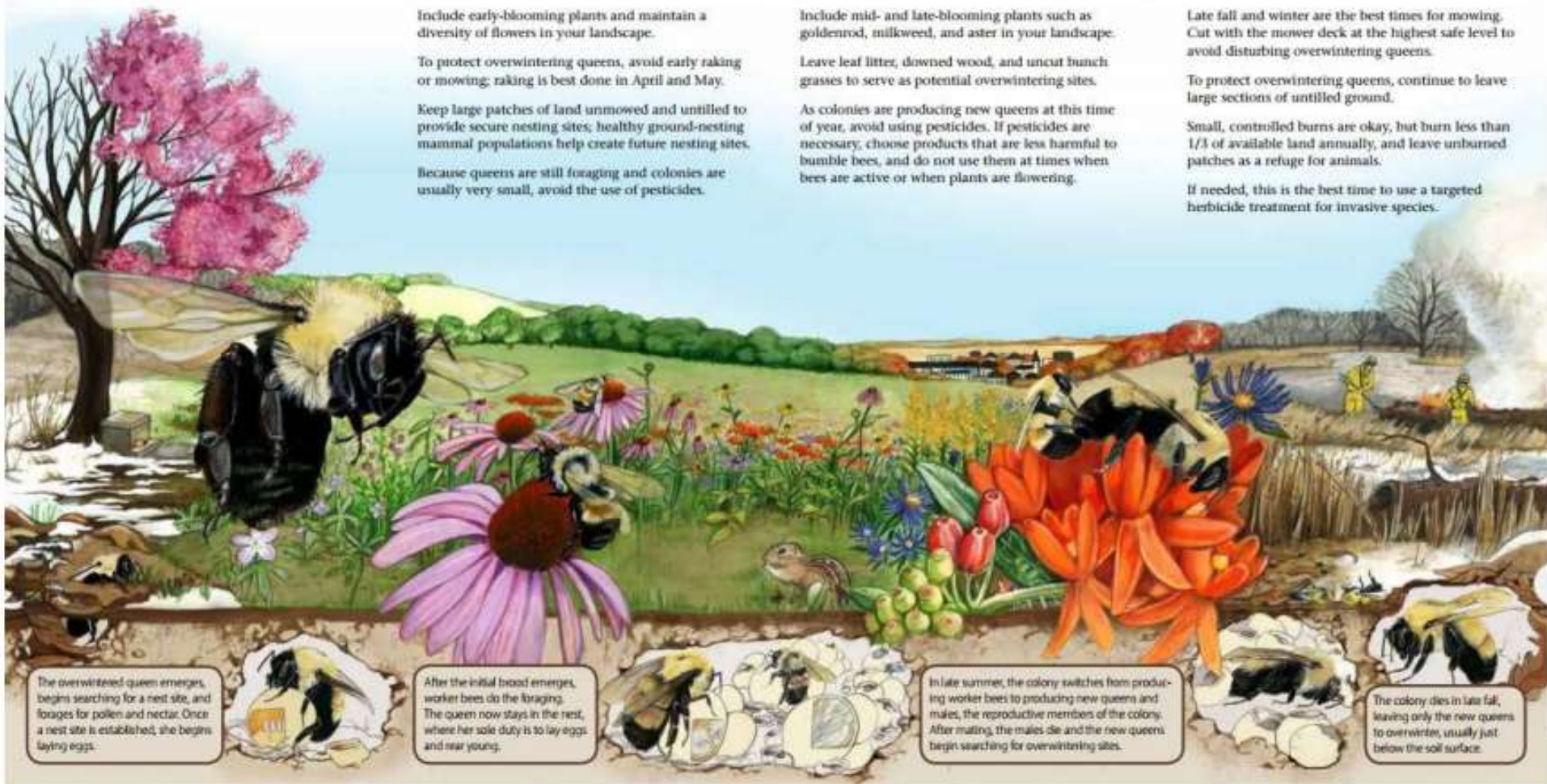


Figure 2: Illustration of the rusty patched bumble bee life cycle by Alix Lucas, courtesy of the Xerces Society, with some general management recommendations for bumble bee conservation by season.

Lawns to Legumes

Species for The Rusty Patched Bumble Bee



Wild Bergamot



Virginia Bluebells



Goldenrod



Blazingstar



Giant Hyssop



Columbine



Asters

A FLOWER PATCH FOR THE RUSTY PATCHED



The Endangered Rusty-patched Bumble Bee was once historically common throughout its large range in Canada (ON & QC) and the USA. In the past three decades it has become rare with only a handful of individuals spotted each year.

This species is one of the first to emerge in the spring and the colony finishes up in the fall.

Here are some native examples you can plant to help support this bee on the brink of extinction throughout its long colony life.

A rusty-patched bumble bee queen lacks the rusty-patch found among the workers and males.



Workers are about half the size of the queen. Note the distinctive rusty-patch in the second stripe.

SPRING



EARLY SUMMER



FALL



LATE SUMMER



More than Bumble Bees

Only 1.4% of the over 3,600 known U.S. bee species are bumble bees.

What are the other 98.6%?

- Social
- Solitary
- Ground-nesting
- Cavity-nesting
- Nest parasites

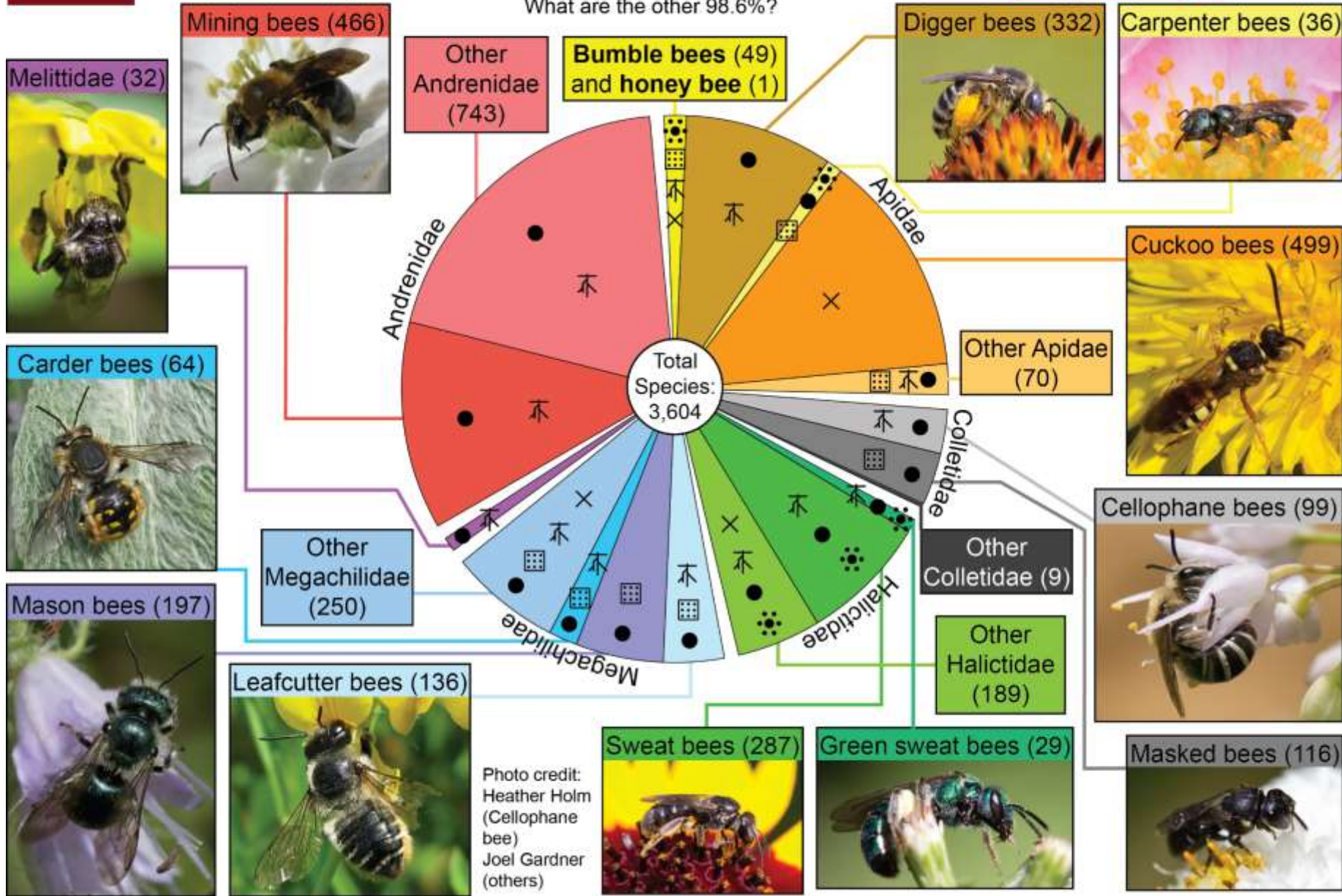


Photo credit:
Heather Holm (Cellophane bee)
Joel Gardner (others)



Bee Lab

www.beelab.umn.edu

Pollinator Friendly Alliance

www.pollinatorfriendly.org

Honey Bee Club of Stillwater

honeybeeclubofstillwater.blogspot.com

honeybeeclubstillwater@gmail.com

Xerces Society

<https://xerces.org/pollinator-conservation>



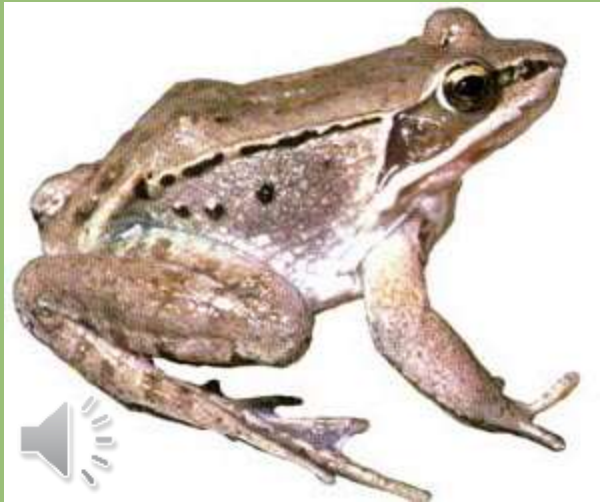
TURTLES & FROGS



NO SCOOTERS • NO IN-LINE SKATES •

BEST AID AVAILABLE + CITY BAMES

Wood frog



Grey tree frog



Western chorus frog



Spring peeper



American toad

Frog friend to-do's



- **Limit use of chemicals**, especially in the spring
- Leave an **unmowed buffer** near soggy woods and seasonal wetlands
- **Good plants for wetlands:** sedges, blue flag iris, swamp milkweed, joe-pye weed, cardinal flower, black-eyed susans, and ferns.
- Leave a few **fallen trees and logs in the water** to provide shelter for the frogs, as well as a place to bask in the sun.



Blandings turtle

Blanding's turtles are a threatened species in Minnesota

Need intact wetlands, lakes, grasslands and sandy, rocky open areas for breeding and nesting and will travel up to a mile from the water's edge to lay their eggs.

Threats

- Loss of upland and wetland habitat due to development and farming
- Many females killed by cars while traveling to lay eggs in the spring

Preferred habitat

- Calm, shallow water bodies with muddy bottoms and lots of lilies and aquatic plants
- Large marshes bordering the Mississippi and St. Croix Rivers
- Small temporary wetlands that dry up in the late summer or fall
- Northern Washington County is one of the few places in the state where Blanding's turtles still roam.



2017-06-19 1:26:10 AM M 1/1



NORTH
58°F



2017-06-23 09:27:38 PM 04°F M 3/3



SOUTH



NORTH



NICK SCOBEL 2010



Gardening with native plants



Cardinal Flower

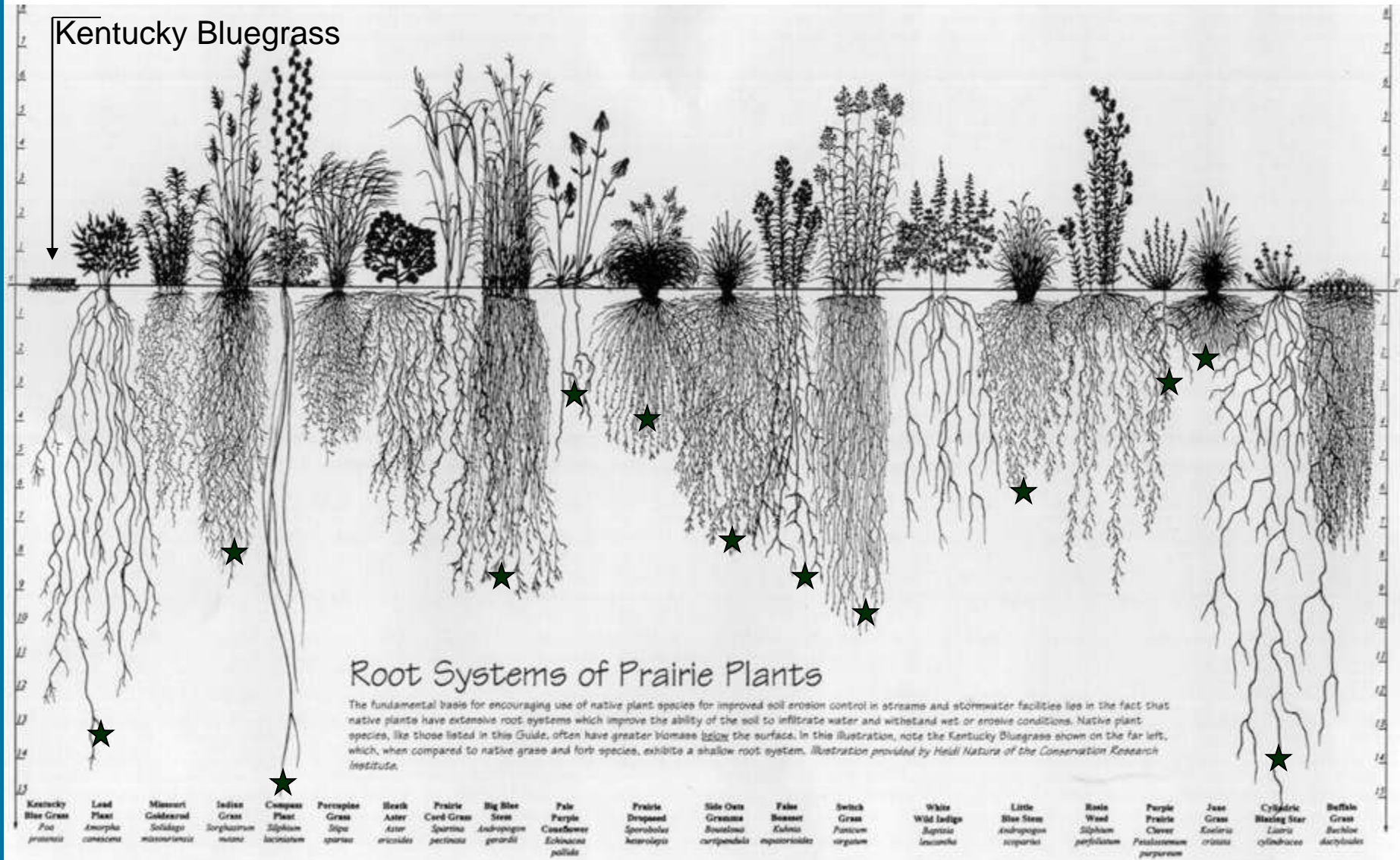
Yellow coneflower

Purple coneflower

Aster species

David Dods, URS

Roots of Native Prairie Plants



Shady to Partial Shade



Wild Geranium

Culver's Root



Columbine



Lady Fern



Fox Sedge

Partial Sun to Partial Shade



Culver's Root



Blue Lobelia



Turtlehead



Sprengel's Sedge



Bottle Gentian

Full Sun



Prairie Dropseed



Coreopsis



Pale Purple Coneflower



Anise Hyssop



Black-eyed Susan



Butterfly Milkweed

Full Sun



Prairie Blazing Star



Azure Aster



'Karl Foerster'
Feather Reed Grass



Meadow Blazing Star



Side Oats Grama



Early Sunflower

Ways Your Blue Thumb Can Help Keep Water Clean:

Design Native Gardens

They are beautiful, cost less and require less maintenance than lawn grass



Create a Rain garden

Filter dirty stormwater from streets and rooftops before it enters our lakes and rivers



Stabilize Shorelines

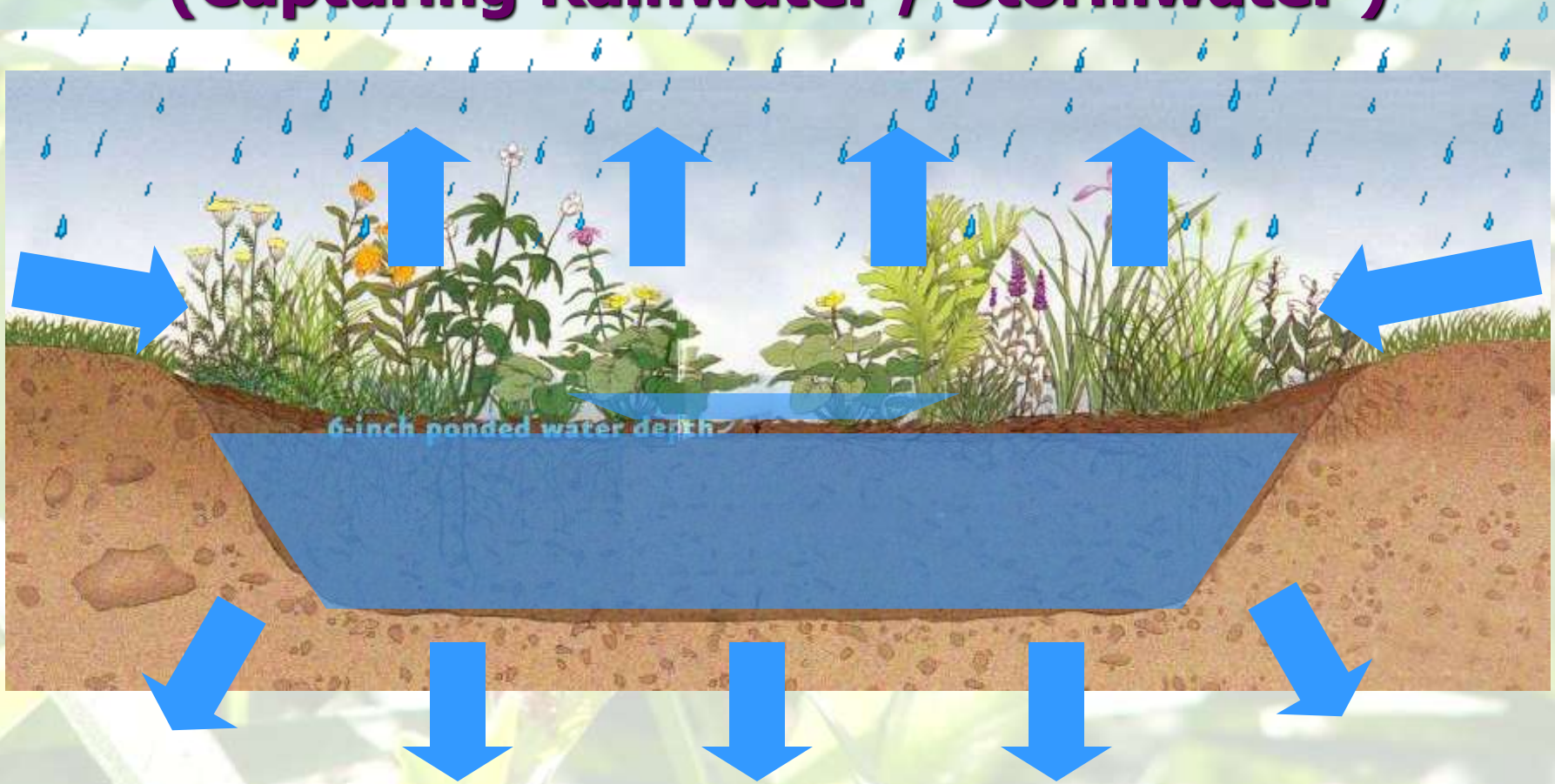
Roots of native plants are extremely long so they anchor the soil and filter out pollutants as well as discourage geese from congregating



PLANTING FOR CLEAN WATER™

Visit blue-thumb.org for how-to's, blueprints, retailers and more

Raingardens (Capturing Rainwater / Stormwater)

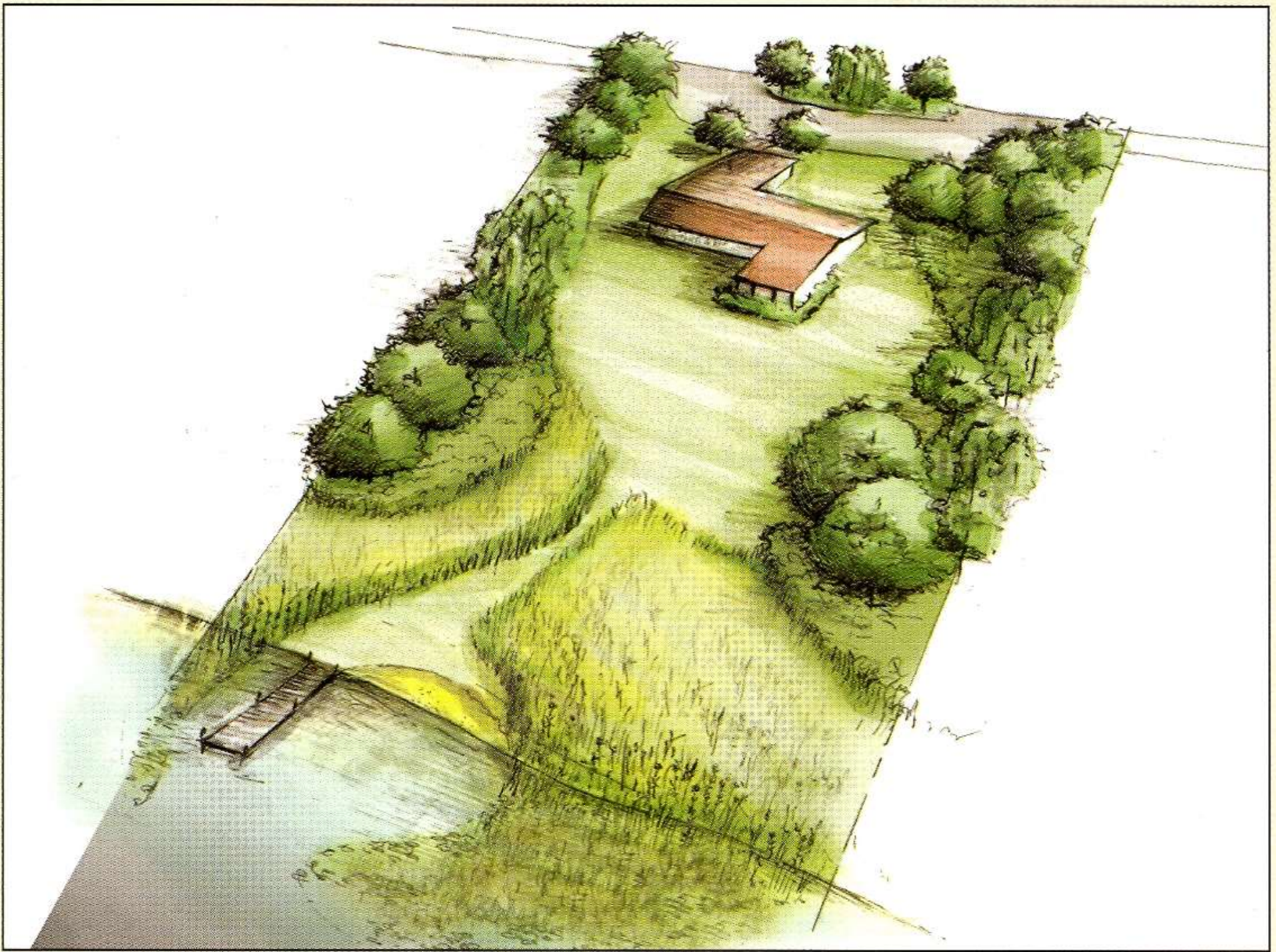


Just like a regular planting, but able to absorb rainwater and breakdown pollutants



Blue Thumb – Planting for Clean Water

Shorelines



Roxanna Esparza



Woodlands



- According to the U.S. Forest Service, more than 50% of our nation's freshwater supply originates in forests.
- Forested watersheds reduce stormwater runoff, stabilize streambanks, shade surface water, cycle nutrients, and filter pollutants.
- Added together the amount of forestland lost in the St. Croix Basin since European settlement comprises 20% of the 7,700 square mile basin



Washington Conservation District Tree Sale

- \$35.00 per bundle of 25 trees
- Bird packets are \$55.00 per bundle of 30 trees
 - 5 each of: Bur Oak, White Oak, Black Cherry, White Pine, Chokecherry, Wild plum

Web resources

www.myminnesotawoods.umn.edu

www.dnr.state.mn.us/forestry

Getting Started

Prairie







Prairie Information

- Minnesota DNR www.dnr.state.mn.us/prairierestoration
 - *Going Native: A Prairie Restoration Handbook for Minnesota Landowners* (downloadable in pdf).
- Schedule a site visit with the WCD
- Local businesses:
 - Prairie Restorations and MN Native Landscapes

Getting Started



Wetlands

Approximately 43% of threatened and endangered plant and animal species in the U.S. live in or depend on wetlands.



Rules of the (wet)Land

NO = 1)Draining 2) Filling 3) Altering

- Protected by the Minnesota Wetland Conservation Act (WCA) 1991
- Not all wetlands hold water throughout the year. Seasonal wetlands are still protected.
- Some cities & watershed districts require un-mowed buffers around wetlands.
- You are required to get a permit for all projects that impact wetlands, including driveways, culverts, new construction and home additions.
- Contact your SWCD for questions related to wetlands.



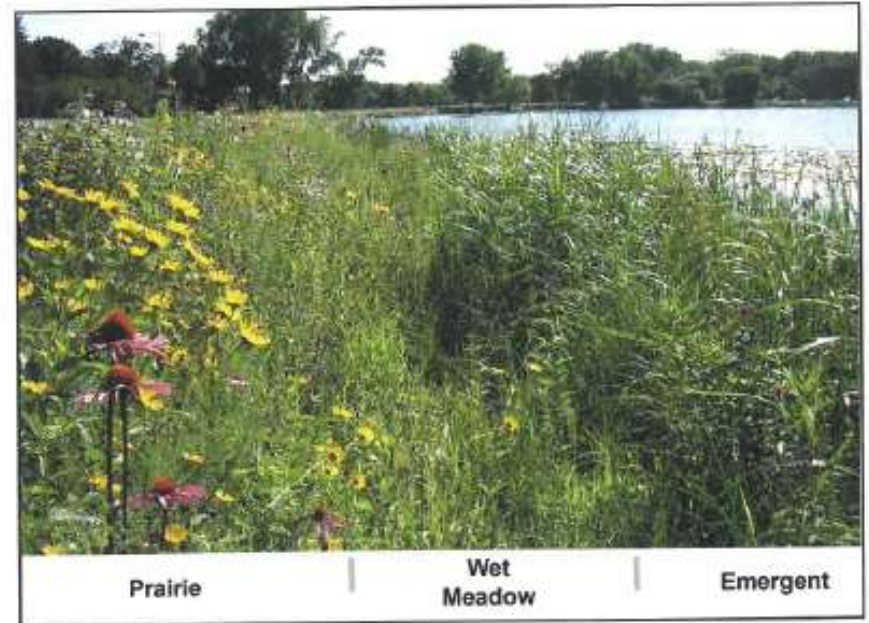
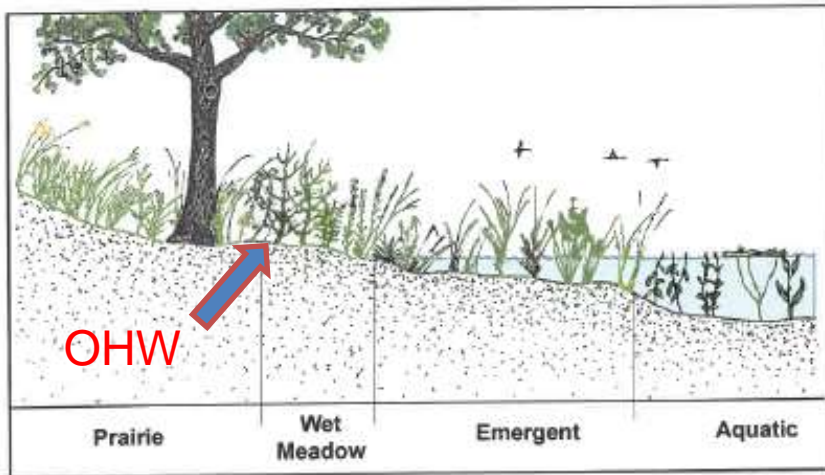


Can I get rid of the weeds and replace it with more attractive vegetation?

- First clarify if it is in fact a weed! Some native plants appear messy or uncontrolled, but provide wonderful habitat and water quality benefits.
- Replacing aggressive invasive species like reed canary grass or purple loosestrife with a diverse mix of grasses, sedges, and wildflowers can drastically improve wildlife habitat.
- Always check with your community (watershed, HOA, or city) to see what regulations they have regarding clearing vegetation around wetlands.

Plant Zones

Plant Zones



OHW = Ordinary High Water Level,
Permit needed planting below

Wetland Grasses & Rushes



Sedges



Wetland Forbs



Blue Flag Iris



Jack-in-the-Pulpit



Jewelweed



Marsh Milkweed



Blue Vervain



Bottle Gentian

Wetland Shrubs



Speckled Alder



Winterberry



Pussy Willow



Steeplebush



Elderberry



Red Osier Dogwood



Getting started:

1. WCD site visits: www.mnwcd.org/site-visit-signup-form
2. Watershed District cost-share grants
3. Find plants & contractors: www.bluethumb.org

MINNESOTA & WESTERN WISCONSIN NATIVE PLANT NURSERIES



SYMBOLS d: Design Services i: Installation Services m: Maintenance Services

1 Blazing Star Gardens

Phone: 507-402-8337
 Email: blazingstargardens@gmail.com
 Web: www.blazingstargardens.com

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2 Boreal Natives

3943 Munger Shaw Road, Cloquet, MN 55720
 Phone: 218-729-7001
 Email: borealnatives@prairieresto.com
 Web: prairieresto.com/boreal_natives.shtml

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3 Sogn Valley Farm

Phone: 763-614-8853
 Email: dana@sognvalleyfarm.com
 Web: www.sognvalleyfarm.com

Purchase at events & St. Paul Farmers' Market

4 Ecoscapes Sustainable Landscaping

Phone: 612-965-0848
 Email: info@ecoscapes1.com
 Web: www.ecoscapes1.com

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5 Glacial Ridge Growers

Phone: 320-634-0136
 Email: glacridgegrowers@aol.com
 Web: www.glacialridgegrowers.com
 St. Paul Farmers' Market on Saturdays

6 Shoreview Natives

1185 Shoreview Rd, Two Harbors, MN 55616
 Phone: 218-341-5286
 Email: shoreviewnatives@gmail.com
 Web: www.shoreviewnatives.com

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7 Landscape Alternatives

25316 St. Croix Trail, Shafer, MN 55074
 Phone: 651-257-4460
 Email: landscapealt@frontiernet.net
 Web: www.landscapealternatives.com

8 MN Native Landscapes

8740 77th St NE, Otsego, MN 55362
 Phone: 763-295-0010
 Email: bre@mnlcorp.com
 Web: www.mnnativelandscapes.com

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9 Morning Sky Greenery

44804 East Highway 28, Morris, MN 56267
 Phone: 320-795-6234
 Email: info@morningskygreenery.com
 Web: www.morningskygreenery.com

10 Natural Shore Technologies

1480 Cty Rd 90, Maple Plain, MN (new location)
 Phone: 612-703-7581
 Email: Rob.l@naturalshore.com
 Web: www.naturalshore.com

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11 Naturally Wild

Phone: 612-922-9279
 Email: info@naturallywildflowers.com
 Web: www.naturallywildflowers.com

Purchase at website-listed events.

12 Out Back Nursery

15280 110th St S, Hastings, MN 55033
 Phone: 651-438-2771
 Email: sales@outbacknursery.com
 Web: www.outbacknursery.com

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13 BluPrairie Native Plant Nursery

12975 32nd St, Watertown, MN 55388
 Phone: 612-720-7941
 Email: jdanie@bluprairie.com
 Web: www.bluprairie.com

14 Prairie Moon Nursery

32115 Prairie Lane, Winona, MN 55987
 Phone: 866-417-8156
 Email: info@prairiemoon.com
 Web: www.prairiemoon.com

Purchase online

15 Prairie Restorations Inc

31646 128th St NW, Princeton, MN 55371
 21120 Ozark Court North, Scandia, MN 55012
 Phone: 800-837-5986
 Email: info@prairieresto.com
 Web: www.prairieresto.com

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16 Native Sun Seeds and Plants

St. Croix Valley, MN
 Phone: 651-318-8667
 Email: nativesunseedsandplants@gmail.com
 Web: www.nativesunseedsandplants.com

Purchase online or at website-listed events.

17 Shooting Star Native Seeds

20740 Cty Rd 33, Spring Grove, MN 55974
 Phone: 888-983-3670
 Email: info@ssns.com
 Web: www.shootingstarnativeseed.com

18 Sunshine Gardens Nursery and Landscaping

1286 Shadywood Shores Dr NW
 Pine River, MN 56474
 Phone: 218-947-3154
 Email: sgardens@uslink.net
 Web: www.sunshinegardens.tripod.com

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19 Dragonfly Gardens

491 State Highway 46 Amery, WI
 Phone: 715 268-7660
 Email: info@dragonflygardens.net
 Web: www.dragonflygardens.net

20 Lupine Gardens

880 155th St, Amery, WI 54001
 Phone: 715-222-6669
 Email: lupinegardens@yahoo.com
 Web: www.lupinegardens.com

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21 Kinnickinnic Natives

235 State Road 65, River Falls, WI 54022
 Phone: 715 425 7605 or 715 222 6910
 Email: whuhnke@dishup.us
 Web: www.kinninatives.com

22 Leaning Pine Natives

3130 S Camp Amnicon Rd, South Range, WI
 Phone: 715-398-5453
 Email: phlina@gmail.com

Call for appointment.

Dragonfly Gardens – Amery, WI (Open April 24)

dragonflygardens.net

*Now selling Victory Gardens for \$30

Landscape Alternatives – Schafer, MN (Open May 8)

landscapealternatives.com

Kinnickinnic Natives – River Falls, WI (Open May 9)

www.kinninatives.com

Lupine Gardens – Amery, WI (*Open for delivery or by appt. only)

lupinegardens.com

Outback Nursery – Denmark Twp., MN

www.outbacknursery.com

Native Sun, Seeds and Plants – Afton, MN

nativesunseedsandplants.com



Questions?

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