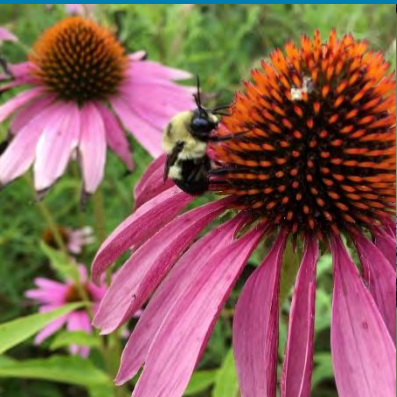




Planting for Wildlife and Clean Water



Angie Hong - Water Resource Educator





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.

angie.hong@mnwcd.org
651-330-8220 x.35 office
952-261-9599 cell (currently)

Read the weekly blog articles! eastmetrowater.org



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. Site visits and grants



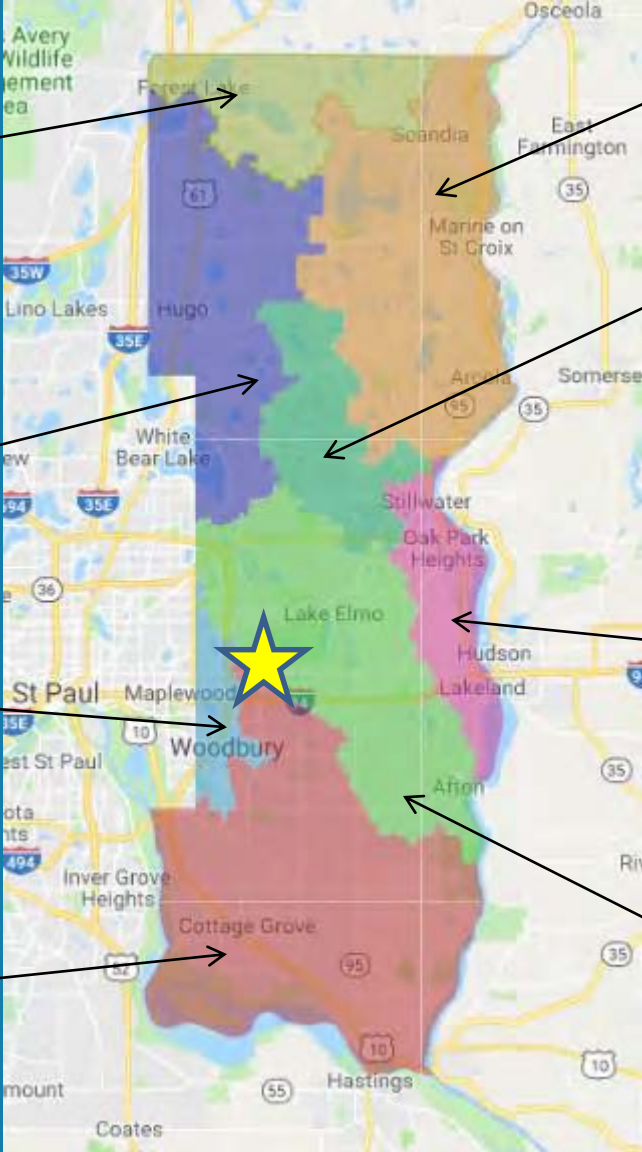
Washington Conservation District

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

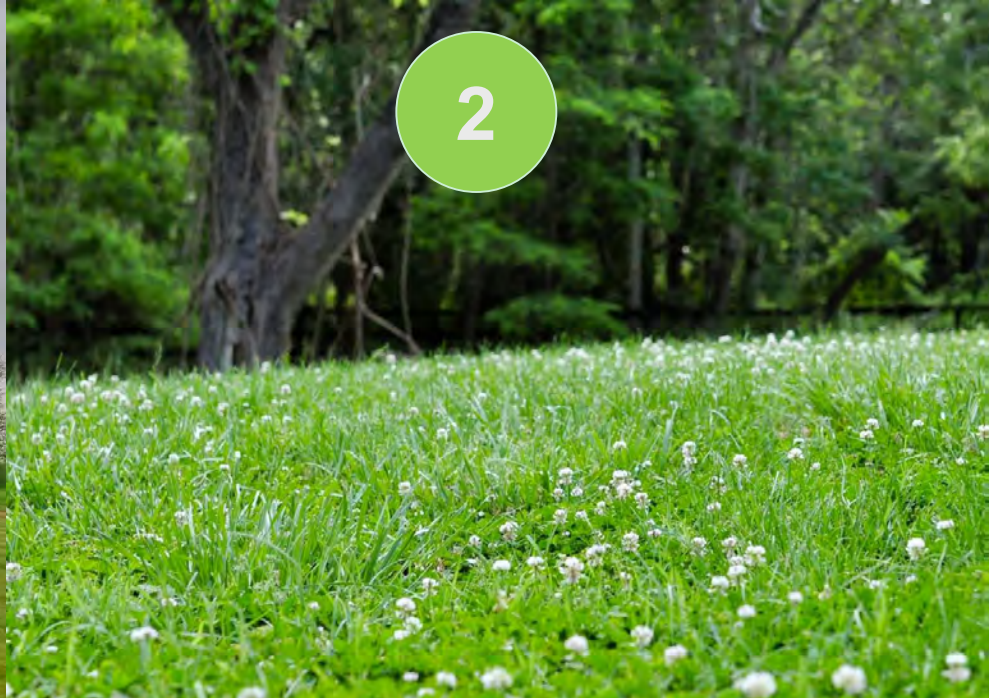
Watershed Rules
Projects
Cost-share \$\$



1



2



4



3



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)

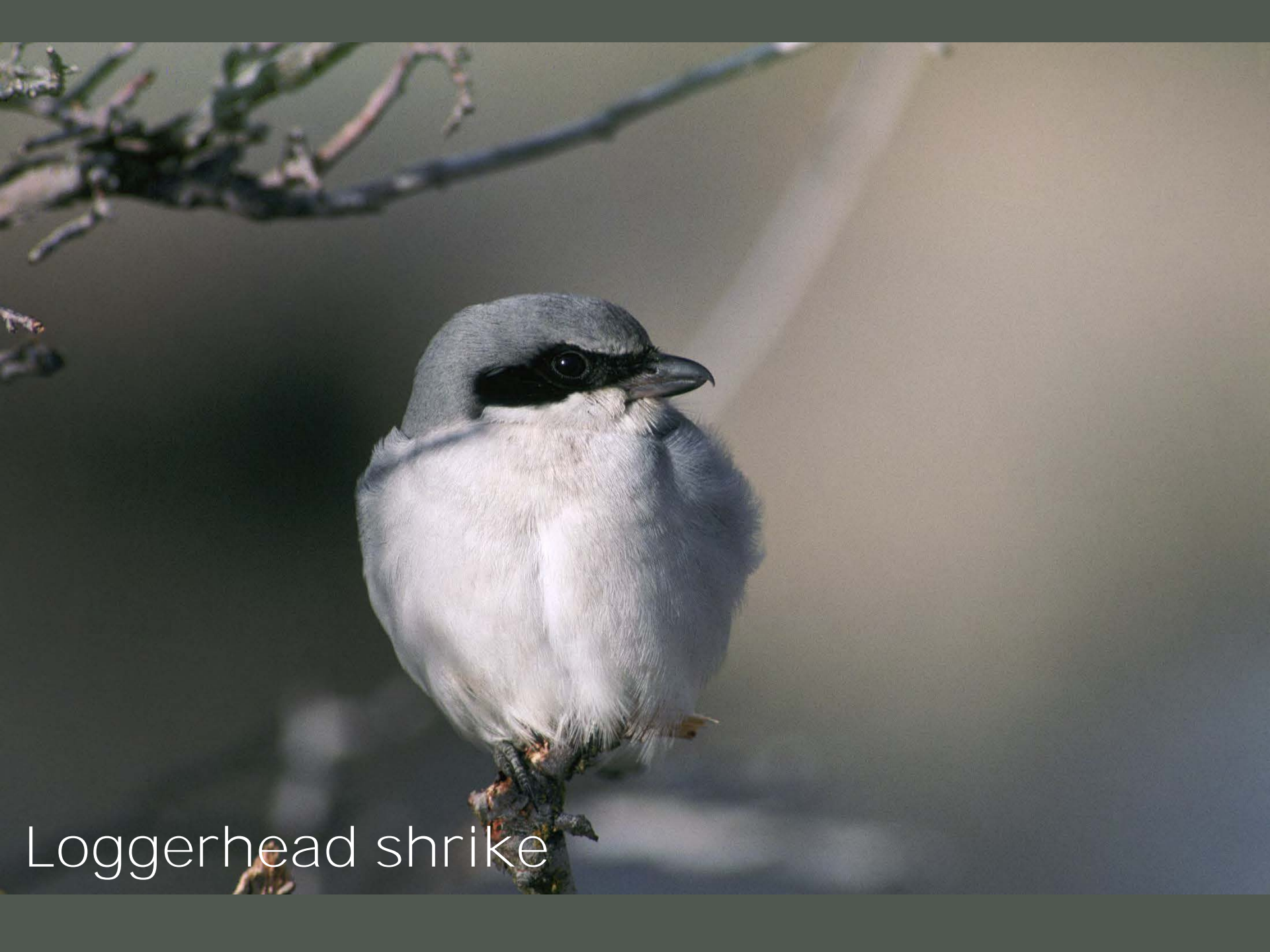




BIRDS



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

"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



Wild plum



Redosier dogwood

A close-up photograph of a black cherry branch. The branch is covered with several large, ovate, bright green leaves that have finely serrated margins. The leaves are arranged alternately along the stem. At the end of the branch, there is a cluster of small, round, green buds, likely representing the developing fruit. The background is a soft-focus green, suggesting a dense forest or garden setting.

Black cherry



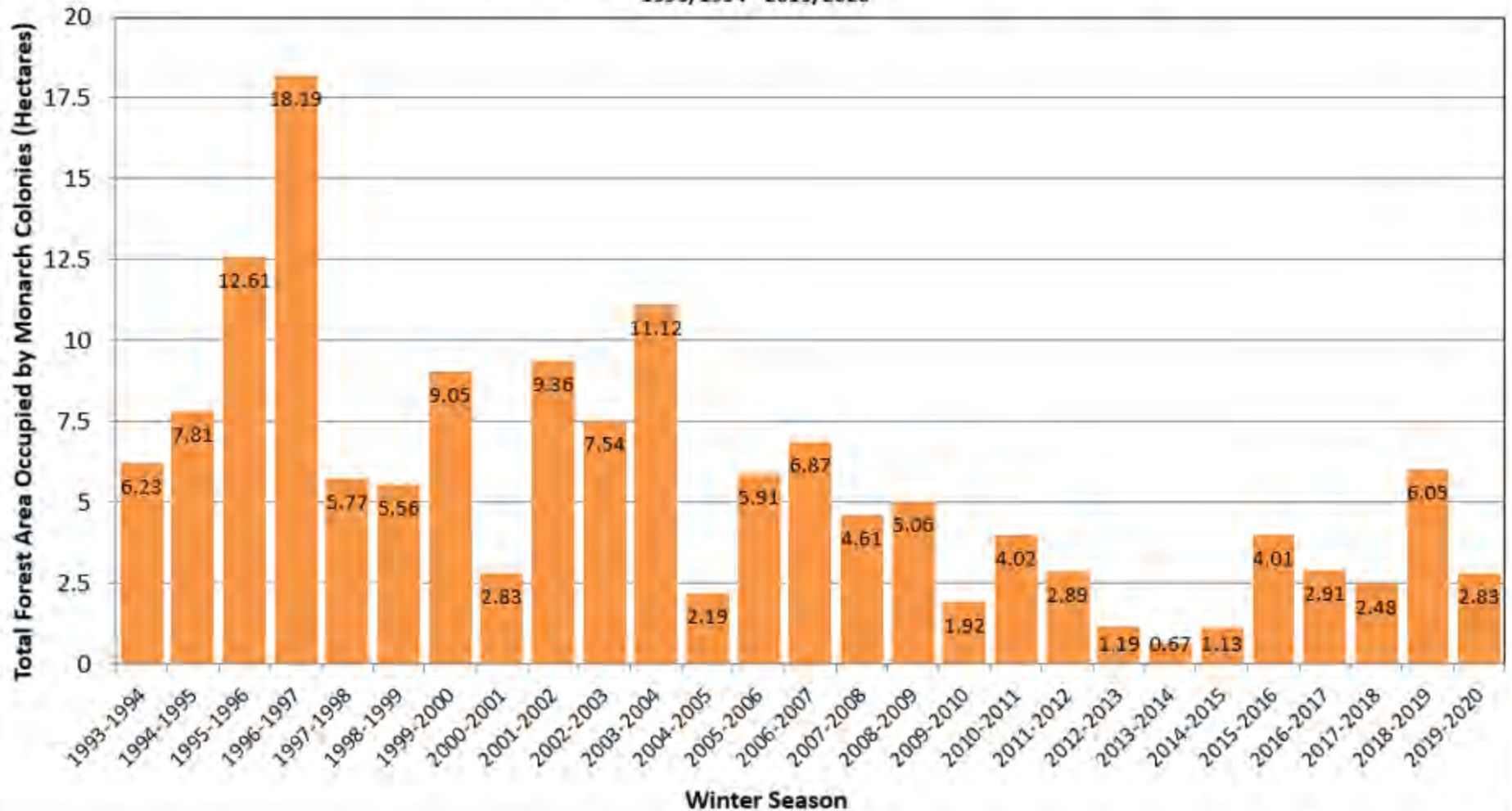
White oak



POLLINATORS

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

A monarch butterfly with its characteristic orange and black wings is perched on a purple Meadow Blazing Star flower. The butterfly's wings are spread, showing the intricate black veins and white spots along the edges. The flower is a tall, slender stem with several clusters of small, purple, tubular flowers. The background is a soft-focus green field with yellow flowers, suggesting a meadow setting.

Meadow Blazing Star
Liatris ligulistylis

Dave Crawford



<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.

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

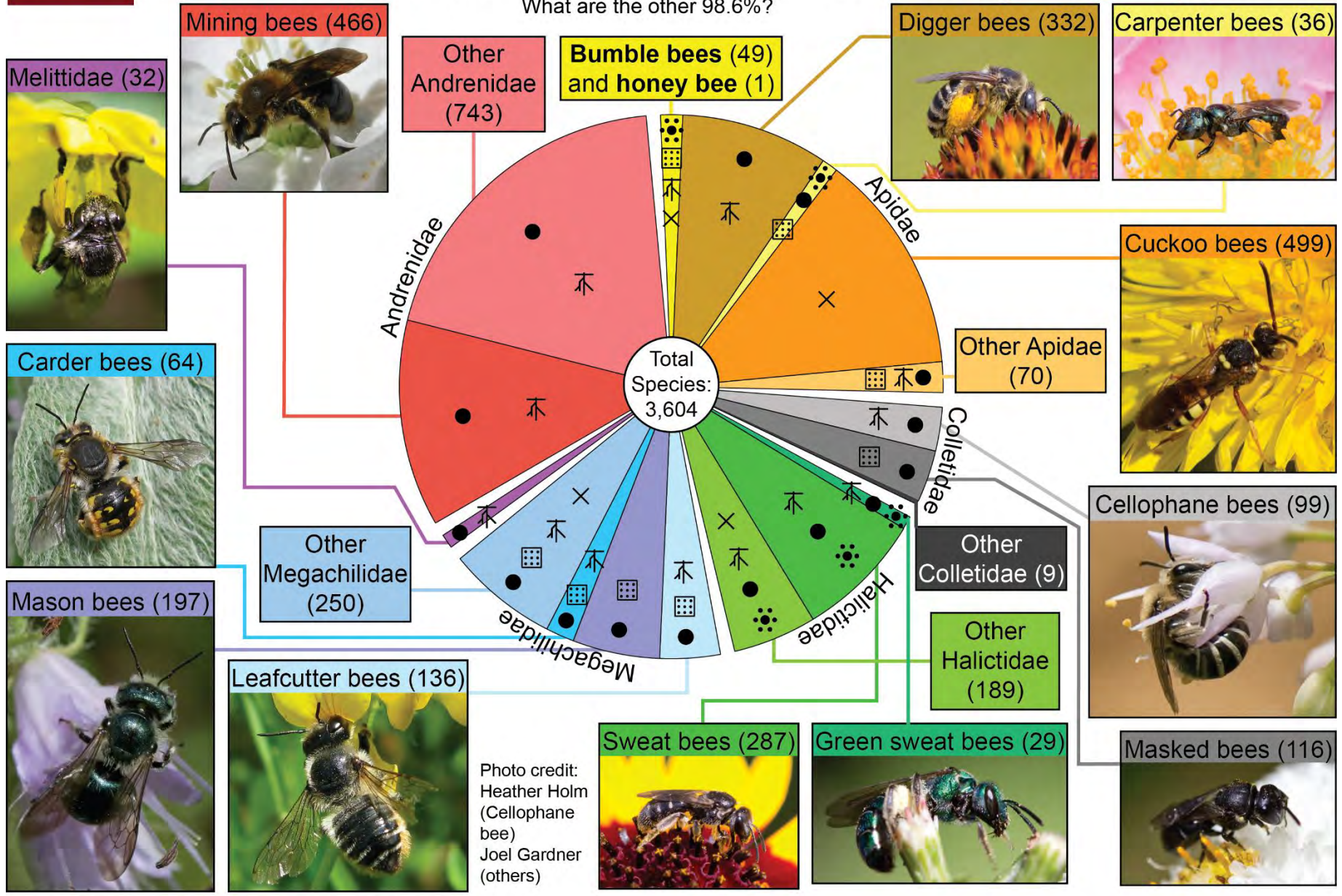


Photo credit:
 Heather Holm (Cellophane bee)
 Joel Gardner (others)



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

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

RECONYA

NORTH

58°F



2017-06-23 09:27:18 PM

64°F

M 1/2

2017-06-03 10:38:06 PM 66°F M 2/2



SOUTH

RECONYA

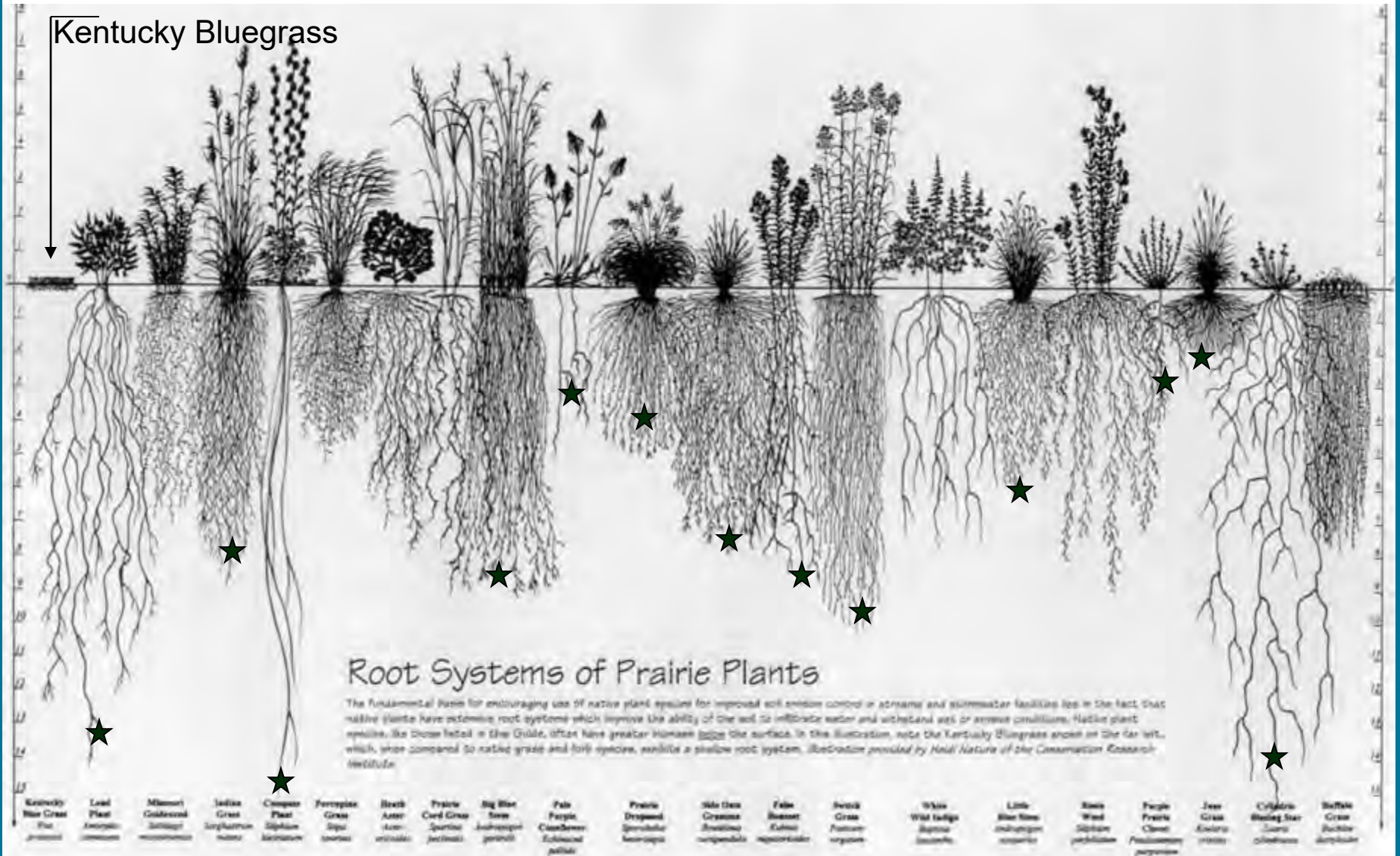
NORTH



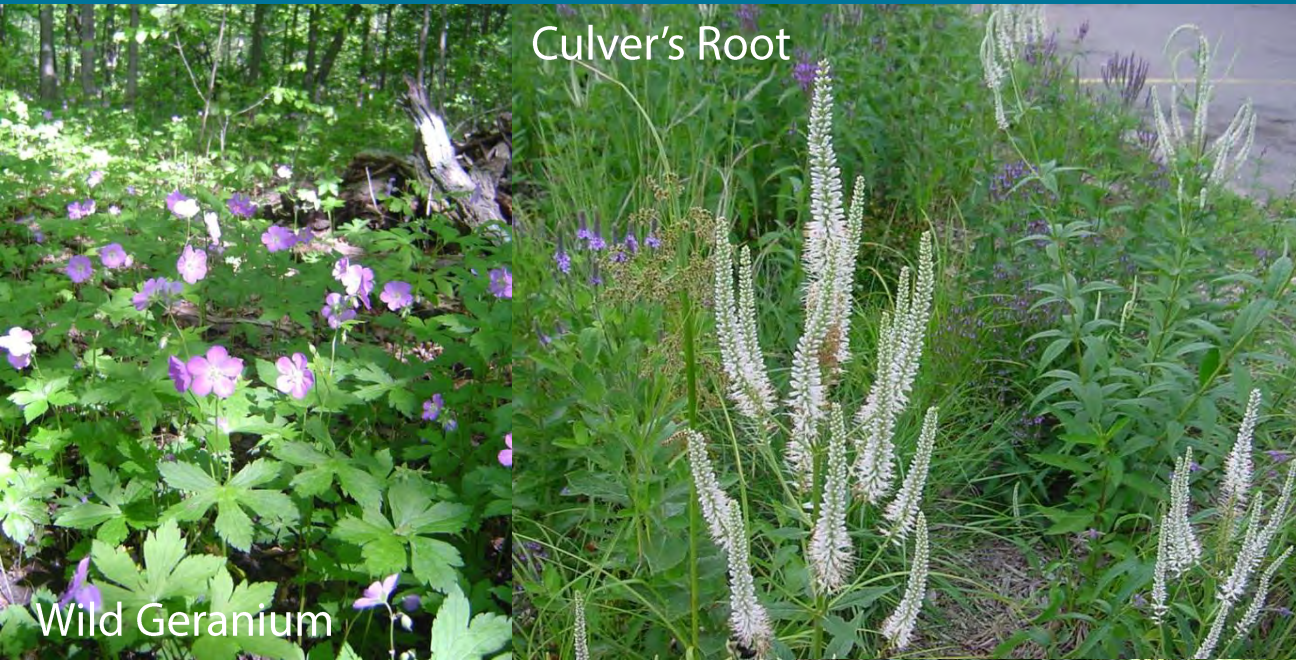


Gardening with native plants

Roots of Native Prairie Plants



Shady to Partial Shade



Culver's Root

Wild Geranium



Columbine



Lady Fern



Fox Sedge

Partial Sun to Partial Shade



Culvers 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

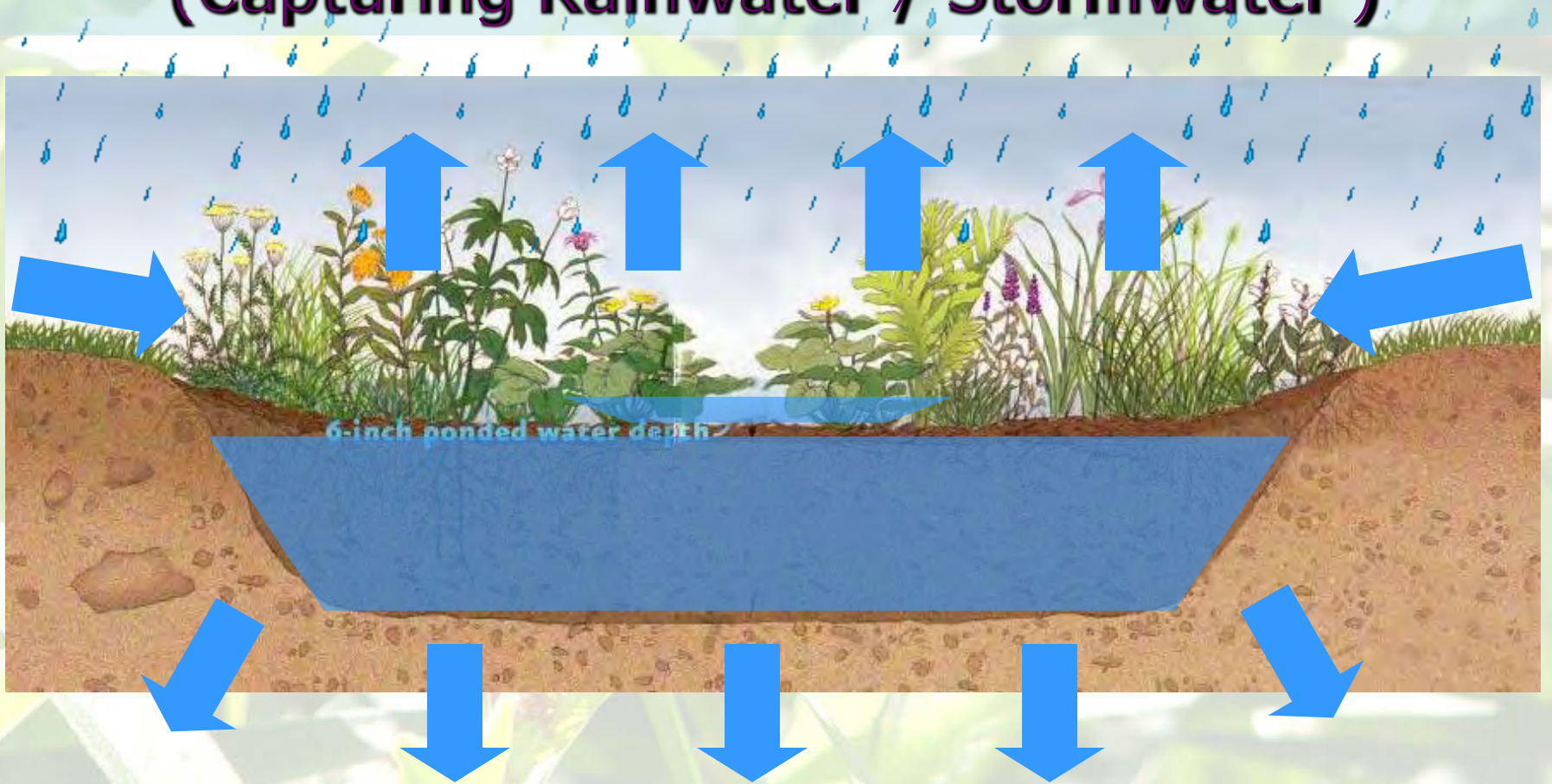


Side Oats Grama



Early Sunflower

Raingardens (Capturing Rainwater / Stormwater)

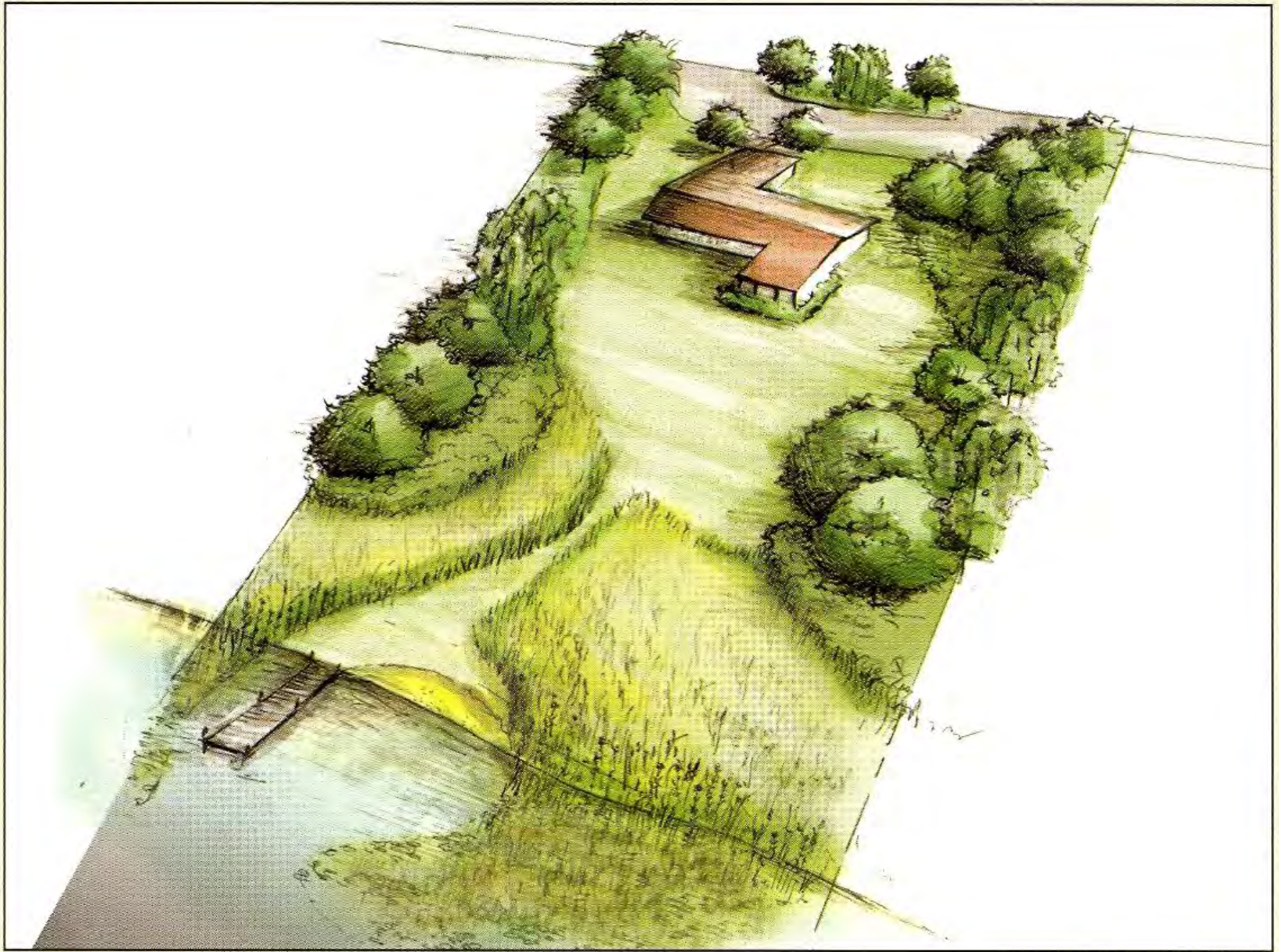


Just like a regular planting, but able to
absorb rainwater and breakdown pollutants



Blue Thumb – Planting for Clean Water

Shorelines



Roxanna Esparza



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?

- Are they actually weeds?
 - Some native plants appear messy but provide wonderful habitat and water quality benefits.
 - Invasive species like reed canary grass, purple loosestrife, and phragmites should be managed.
- Always research local regulations before clearing vegetation around wetlands.

Wetland Grasses & Rushes



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
 - Outside Washington County, contact your SWCD
 - In Wisconsin, contact your Land & Water Conservation Dept.
2. Watershed District cost-share grants
3. Find plants & contractors: www.bluethumb.org

Local plant suppliers:

Dragonfly Gardens – Amery, WI

dragonflygardens.net

*Now selling Victory Gardens for \$30

Landscape Alternatives – Schafer, MN

landscapealternatives.com

Kinnickinnic Natives – River Falls, WI

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?

Angie Hong

angie.hong@mnwcd.org

952-261-9599 (cell)





Policies to protect pollinators



POLLINATOR FRIENDLY ALLIANCE

www.pollinatorfriendly.org



POLLINATOR FRIENDLY ALLIANCE grassroots non-profit that protects the natural world through the conservation of pollinators and their habitats.

Laurie Schneider, Executive Director, Pollinator Friendly Alliance

Research Supervisor, Entomology, University of Minnesota



Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has.

- Margaret Mead





Today's topic

- Pollinator decline
- Pollinator conservation initiatives
- Partnerships and policies





Endangered:

Persius duskywing,
Ottoe skipper,
Dakota skipper,
Assiniboia skipper,
Uncas skipper,
Karner blue,
Poweshiek skipperling,
Uhler's artic.

Threatened:

Garita skipperling.

Special Concern:

Arogos skipper, Disa alpine,
Leonard's skipper,
Nabokov's blue, Grizzled skipper,
Regal fritillary.

Excerpt from
Minnesota Environmental
Quality Board Pollinator
Protection Report

MINNESOTA'S IMPERILED POLLINATORS

Federally endangered



Cale Nordmeyer, Minnesota Zoo

Poweshiek skipperling butterfly.



Christopher E. Smith

Karner blue butterfly.



Debbie Johnson

Rusty-patched bumble bee.

Federally threatened



Christopher E. Smith

Dakota skipper butterfly.



Sandy Gillians

Yellow-banded bumble bee.



Christopher E. Smith

Monarch butterfly.

Under review for federal listing

In addition to federally-listed species, Minnesota has **8** state-listed endangered pollinator species, **1** threatened, **10** species of special concern, and an additional **19** non-listed species in greatest conservation need.



Top Causes of Pollinator Decline

- Pesticide use
- Habitat loss and fragmentation of landscapes, development
- Climate change





Reducing pesticides is a key ingredient in creating habitat.



2014 Oregon bumblebee deaths 50,000 after city crews spray neonic safari on trees

- Combining pesticides, additives and inert ingredients has synergistic effects that can increase toxicity.
- Insecticides have toxic lethal and sub-lethal effects on pollinators.
- Herbicides can kill the plants pollinators use for food and shelter.
- Some fungicides are toxic to bees.



Woodbury, Minnesota

Backyard habitats are crucial as we lose natural habitats to:

- Residential development
- Commercial agriculture
- Human overpopulation
- Pesticide use
- Climate change



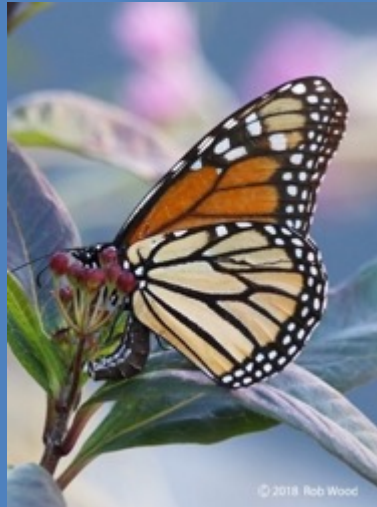
Native plant and pollinator species co- evolved



Eastern black swallowtail and dill



Glacier lily
and
mining bee



© 2018 Rob Wood



Monarch and
milkweed



Minnesota Pollinator Advocate Initiatives

- Cultivate **habitat** corridors in urban and suburban areas.
- Develop incentives for conventional **farmers** to transition to regenerative pesticide-free practices.
- Neonic tag on **coated seed bags**.
- **Replace turf with habitat**. (Lawns to legumes and other programs).
- Advocate for **pesticide reduction**: ban systemic insecticides in wildlife management areas, preemption for local communities to regulate pesticides locally.
- **Awareness and education** on pollinator conservation.

MINNESOTA STATE AGENCY POLLINATOR REPORT

2019 | Annual Report

Protecting pollinators in Minnesota: How are we doing?



2016 GOVERNOR'S EXECUTIVE ORDER ON POLLINATOR PROTECTION

- Cross state agency directive to implement pollinator protection actions.
- Create pollinator protection committee.
- Create pollinator protection fund.
- Ban neonicotinoid insecticides on public state lands.





www.bwsr.state.mn.us/121

LAWNS TO LEGUMES

State funded cost
share program
for residents to
convert
turf to habitat

Lawns to Legumes: Your Yard Can BEE the Change



The Lawns to Legumes program offers a combination of workshops, coaching, planting guides and cost-share funding for installing pollinator-friendly native plantings in residential lawns. The program also includes a public education campaign to raise awareness for pollinator habitat projects and will establish



Pollinator Friendly Alliance Initiatives

- **Education** programs, citizen science, best practices summit, pollination festival.
- **Advocate** pollinators in communities, pollinator friendly resolutions, civic stewardship.
- **Pollinator habitat** in partnership with other orgs and agencies.





REPLACE TURF WITH HABITAT

- Cultivate a lawn with low flowering plants like wild violets, white dutch clover, creeping thyme, ground ivy.
- Dandelions are the most important spring food source.
- Bee lawns require little mowing, no watering or chemicals.





POLLINATOR LAWN



provides food and habitat for
pollinators with grasses and low
growing perennials.

Eagan,
Minnesota

Steve Thomforde, Ecologist



PARTNERSHIPS
WE CAN DO
MORE TOGETHER



Local and county



PARTNERSHIPS
WE CAN DO
MORE TOGETHER



VOLUNTEERS



PARTNERSHIPS WE CAN DO MORE TOGETHER

BEFORE

Empty city
lot in
Stillwater

Pollinator
Friendly Alliance



Build protected sanctuaries and mini ecosystems in adjacent backyards, community gardens, underutilized lots, and public spaces.



AFTER

Empty
city lot in
Stillwater

Pollinator
Friendly Alliance

Create
living
corridors





POLLINATOR PROTECTION RESOLUTION



CITY – COUNTY –
STATE OF
MINNESOTA



44 POLLINATOR PROTECTION RESOLUTIONS

- Promotes healthy environments
- Cease use of systemic insecticides
- Inventory of pesticides being used
- Plant pollinator habitat
- Public education & awareness
- Coordinator

THEREFORE, BE IT RESOLVED:

- The [county, city, township, school district, agency] promotes healthy environments including food sources, clean water and habitat for pollinators through existing programs and new opportunities.
- The City, including its contractors, shall take immediate steps to eliminate the use of systemic insecticides, including neonicotinoids and fipronil on trees, public property and parks including the plants and plant products they purchase. The city shall encourage citizens and businesses to do the same on their property.
- The City will immediately conduct an inventory of all pesticides being used by the city and its contractors. This inventory will be reviewed and updated with the least toxic methods as part of the Integrated Pest Management System plan.
- The City shall restore and increase habitat to include native plants with succession blooming, aiming for pollen and nectar sources throughout pollinator seasons. The city shall encourage and allow citizens and residents to participate in pollinator programs and gardening.
- The City shall take immediate steps to learn or improve and implement an Integrated Pest Management (IPM) plan and sustainable land management practices. IMP is a land management strategy that emphasizes least possible disruption to ecosystems and controlling pests with chemical use as a last resort. Practices and principles include: inspection and monitoring plant health and pests, forecasting and timing weather, pest trapping, reasonable thresholds that allow for plant damage and pests, cultural controls, biological controls, and organic chemical controls. Sustainable land management embraces: building soil health, conserving biodiversity, restoring native vegetation, and promoting composting.
- The City shall assign or appoint a person to oversee and encourage actions of this resolution to include an annual report, public awareness, habitat installation and communication across departments.
- The City shall publish a yearly report, during the anniversary month of this resolution, to its citizens and staff regarding the city's progress during the past year and goals for the upcoming year.
- The City will support efforts to educate the broader community about the action it has taken, the importance of creating and maintaining pollinator-friendly habitat and encourage residents and businesses to use similar pollinator protection practices.
- The City shall transmit copies of this resolution to the Minnesota Department of Agriculture, The Governor of Minnesota, State Representatives and Senators, U.S. Representatives and Senators, U.S. Department of Agriculture and U.S. Environmental Protection Agency.

Contributors: Humming for Bees, Pesticide Action Network, Pollinate Minnesota, Pollinator Friendly Alliance 4/2017.



Integrated Pest Management Plan

Approach to solving pest problems that applies knowledge about pests and plants to prevent plant damage early before it becomes a problem and uses the least toxic options first.



Integrated Pest Management (IPM)

- The IPM plan was developed with an ecosystem-based strategy that focuses on long term prevention of pests
- The IPM plan establishes clear criteria for acceptable circumstances in which using an organic or low-level pesticide is prioritized.
- The IPM plan presents a balanced approach between proper cultural practices, preventative practices, and the use of pesticides.
- The IPM plan exceeds standards and regulations set forth by federal, State and County agencies.



Conventional Pesticide Use

Conventional Pesticides Proportional Usage Declined 86% From Previous Year in Ounces



The diagram above shows conventional pesticide applications over the past four years. Overall, the use of conventional pesticides dramatically declined with 86% less conventional product applied in 2017 compared to the previous year.

This is in keeping with the long-term strategy is to favor manual methods supplemented with organic treatments while minimizing the need for synthetic chemical applications. IPM will vary each year based on the types of pests, risks, and conditions in the field.

Strategies

Pesticide use 2014-2017 replaced by IPM

Irvine California IPM Plan, 2018



Introduction

Washington County Parks Division has adopted this Integrated Pest Management (IPM) Plan for the grounds, facilities and natural areas it manages. An IPM system establishes a sustainable approach to managing pests by combining cultural, mechanical, physical, biological and chemical tools to eliminate or mitigate economic, environmental and health damage caused by pests. A pest is an organism considered injurious or unwanted by humans. This can include, but not limited to groups, including animals, plants, fungi, and viruses. The primary audience for the IPM is full-time and seasonal staff in the parks.

Objectives

- Identify cultural, mechanical, physical, biological and chemical control methods to manage noxious plants and pests, parking lot and pavement preservation, trail maintenance, ROW maintenance, turf areas, and natural areas.
- To reduce pesticide usage.

IPM Decision Making Strategy

An Integrated Pest Management decision shall consist of the following steps:

1	Identify noxious plant/pest species	Proper and accurate ID of pests is essential for choosing the appropriate control method.
2	Monitor and assess the action threshold levels of pests	Some pests and plants can be tolerated at low levels. Monitoring on a regular basis ensures staff is taking action when an action threshold has been reached.
3	Select management methods based on site conditions	Cultural, physical, biological and chemical control methods are reviewed based on site.
4	Record keeping	Staff will record when a management action is taken, including pest identification, population size, distribution, recommendations for future prevention. Records will be maintained at each facility for at least two years.
5	Assess effectiveness of pest management	Using the records the IPM coordinator will review the management methods used and adjust IPM strategies in the future.
6	Tactics for future pest prevention	Park staff will use preventative actions to reduce conditions that attract pests to both the facility grounds and buildings such as proper design, soil preparation, proper planting/irrigation, and mulching practices. Include preventative measures into future and existing structures and designs.
7	Further evaluation	The IPM coordinator will review and update annually.

Strategies



Restricted Plant List

Species	Common buckthorn, European buckthorn (<i>Rhamnus cathartica</i>) and Glossy buckthorn (<i>Rhamnus frangula</i>).
Info	Found throughout the Washington County park system at varying densities.
Cultural	Burns can be used to help kill smaller buckthorn seedlings and top kill larger buckthorn stems, preventing the species from going to seed.
Mechanical	Forestry mowing and mowing re-sprouts.
Physical	Use of oats in areas initially removed of buckthorn.
Biological	Goats are tolerant of the secondary plant compounds in buckthorn which makes them useful for removal. On average, ten goats can clear an entire acre of buckthorn in a week. The management effort is the best choice for managing natural areas. Goats were used in the area and cleared.
Chemical	-Foliar -Cut



Goats are tolerant of 2, 4, and 6-trichloroacetic acid in Cottage Grove State Regional Park, where they eat the buckthorn. Monday, October 24, 2011

Least toxic options first: burns, oat cover crop, mowing, goats, treat stumps only restoration

Washington County IPM Plan





Solarize
method
along trail





Biodiverse Backyard Design Elements



- Hedgerow, buffer strip
- Trees
- Shrubs
- Flowers
- Veggie and herb garden
- Mulch, wood chip, leaf or mulch piles
- Pathway
- Patio, bench
- Pollinator lawn
- Bird houses
- Pond, water feature



Untidy yards offer habitat

Mulch, wood chips, leaves or compost



Water source



Eagan backyard,
Minnesota
Native Landscapes

BACKYARD HABITAT, ST. ANTHONY BY
MINNESOTA NATIVE LANDSCAPES



BACKYARD HABITAT, SCANDIA BY
MINNESOTA NATIVE LANDSCAPES





Duluth, shoreview natives

curbside





Duluth, Minnesota Curbside Habitat

Shoreview Natives



Buffer Strips: provide groundwater filtration, provide shelter along property lines, and add visual interest to borders and lawn edges.



LEARN . PROTECT . UNITE

Biodiverse backyard guides:

Pollinator Friendly Alliance: pollinator lawn, plant lists, suppliers. . .

<https://www.pollinatorfriendly.org/plants-and-gardening>

Lawns to legumes habitat guide & cost share program

<https://bwsr.state.mn.us/l2l>

University of Minnesota: biodiverse backyard, gardens, biocontrols, plant lists, videos . . .

<https://ncipmhort.cfans.umn.edu/>

Xerces Society: pollinator conservation and habitat resources

<https://www.xerces.org/pollinator-conservation/habitat-installation-guides>

Karl Foord videos, University of Minnesota:

<https://www.youtube.com/watch?v=Olo8KG3h3U8>

More plant lists:

Heather Holm, biologist/author, pollinator-plant guides:

<https://www.pollinatorsnativeplants.com>

Xerces plant list:

<https://xerces.org/publications/plant-lists>

Audubon plant database by zip code:

<https://www.audubon.org/native-plants>

Wild Ones St. Croix Savanna Resources:

<https://stcroixoaksavanna.wildones.org>

Plant, trees and shrubs for pollinators lists:

<https://www.pollinatorsnativeplants.com>

Minnesota wildflowers database by LCCMR:

<https://www.minnesotawildflowers.info>



Invite them in!



POLLINATOR FRIENDLY ALLIANCE

Join us to protect pollinators
Volunteer . Participate . Support



Invite them in!



POLLINATOR FRIENDLY ALLIANCE

www.pollinatorfriendly.org

laurie@pollinatorfriendly.org

A photograph of a yellow and black bird, possibly a Yellow Warbler, perched on a tree trunk. The bird has a bright yellow body and a black cap. The tree trunk is dark brown with rough bark. The background is a soft-focus green forest.

St. Croix River Watershed Virtual Wildlife Safari

St. Croix Virtual Workshop on the Water

June 10, 2020

Greg Seitz, St. Croix 360

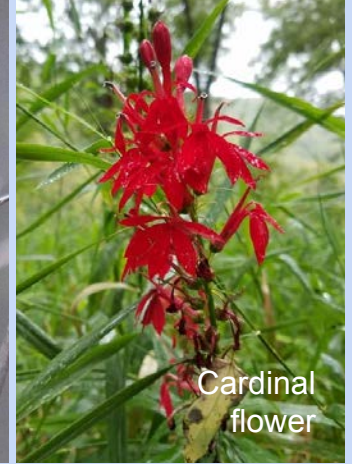
St. Croix River country is home to wonderful wildlife.



Northern
map turtle



Prothonotary
warbler



Cardinal
flower



River
otters



Great blue
heron



Horned
clubtail
dragonfly

Getting to know your natural neighbors can deepen your connection to the St. Croix River.



Magnolia warbler

Different species have complex needs to survive.

Habitat



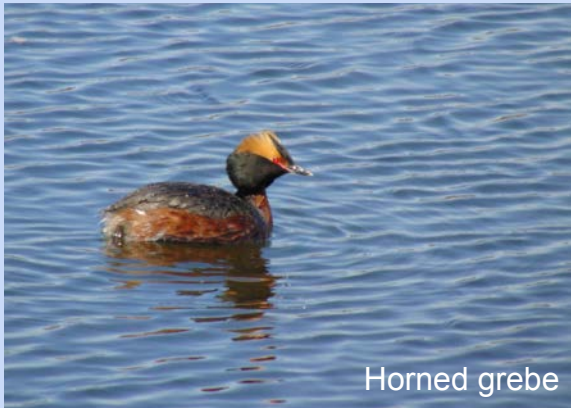
Food



Clean water



Climate conditions



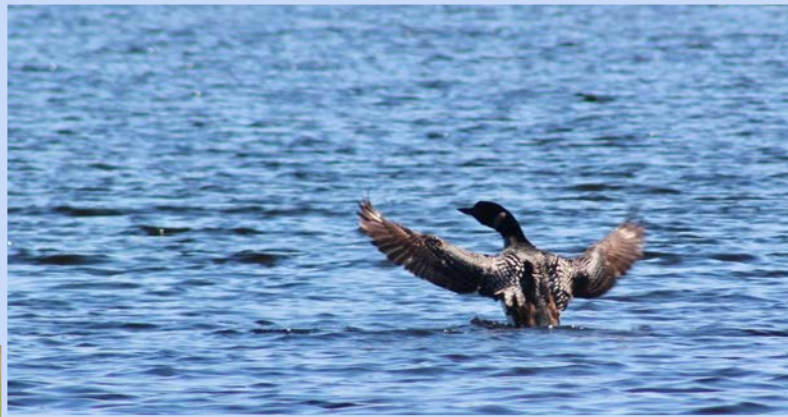
Natural ecosystems



Reproductive relationships



East meets west meets north in the St. Croix watershed.
That means there are many different species here.



Prairie skink



Wood anemone

Plentiful protected places provide habitat and opportunities to observe wildlife.



Great spangled fritillary
and monarch on
butterfly weed

William O'Brien State Park



Prairie smoke

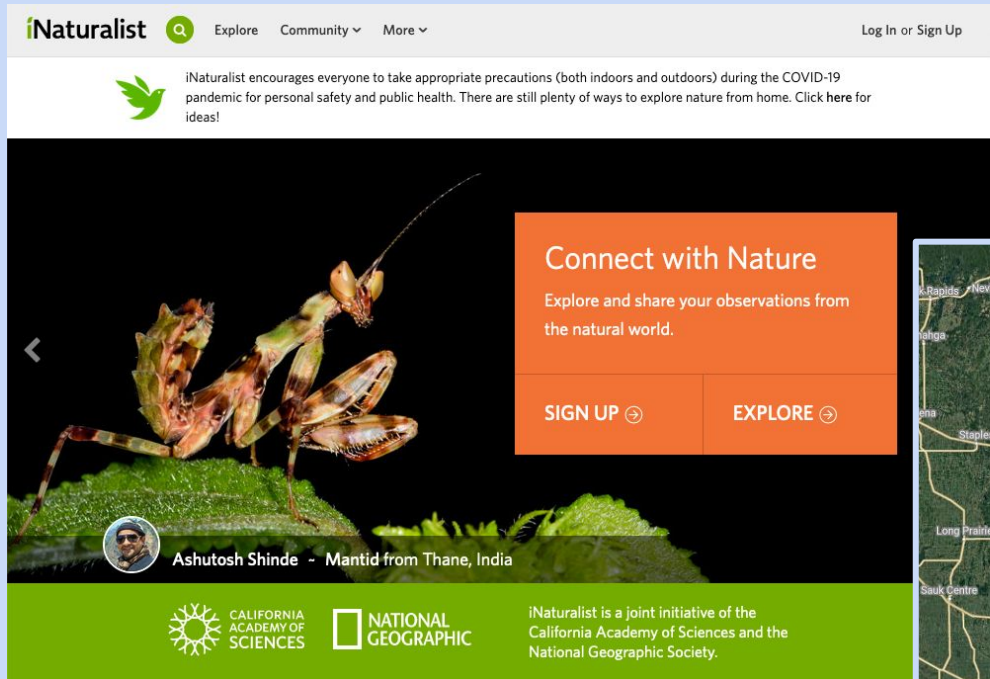
Standing Cedars



Osprey

Saint Croix National Scenic Riverway

Explore, learn, and document what you see on a website and app called iNaturalist



The image shows the top portion of the iNaturalist website. At the top left is the iNaturalist logo, followed by navigation links for 'Explore', 'Community', and 'More'. On the right is a 'Log In or Sign Up' link. Below the navigation is a green banner with a leaf icon and text: 'iNaturalist encourages everyone to take appropriate precautions (both indoors and outdoors) during the COVID-19 pandemic for personal safety and public health. There are still plenty of ways to explore nature from home. Click here for ideas!'. The main banner features a large image of a brown and green mantid on a mossy rock. To the right of the image is an orange box with the text 'Connect with Nature' and 'Explore and share your observations from the natural world.' Below this are two orange buttons: 'SIGN UP' and 'EXPLORE'. At the bottom left of the banner is a small circular profile picture of Ashutosh Shinde and the text 'Ashutosh Shinde - Mantid from Thane, India'. At the bottom of the banner are the logos for the California Academy of Sciences and the National Geographic Society, along with the text: 'iNaturalist is a joint initiative of the California Academy of Sciences and the National Geographic Society.'

iNaturalist

Explore Community More

Log In or Sign Up

iNaturalist encourages everyone to take appropriate precautions (both indoors and outdoors) during the COVID-19 pandemic for personal safety and public health. There are still plenty of ways to explore nature from home. Click here for ideas!

Connect with Nature

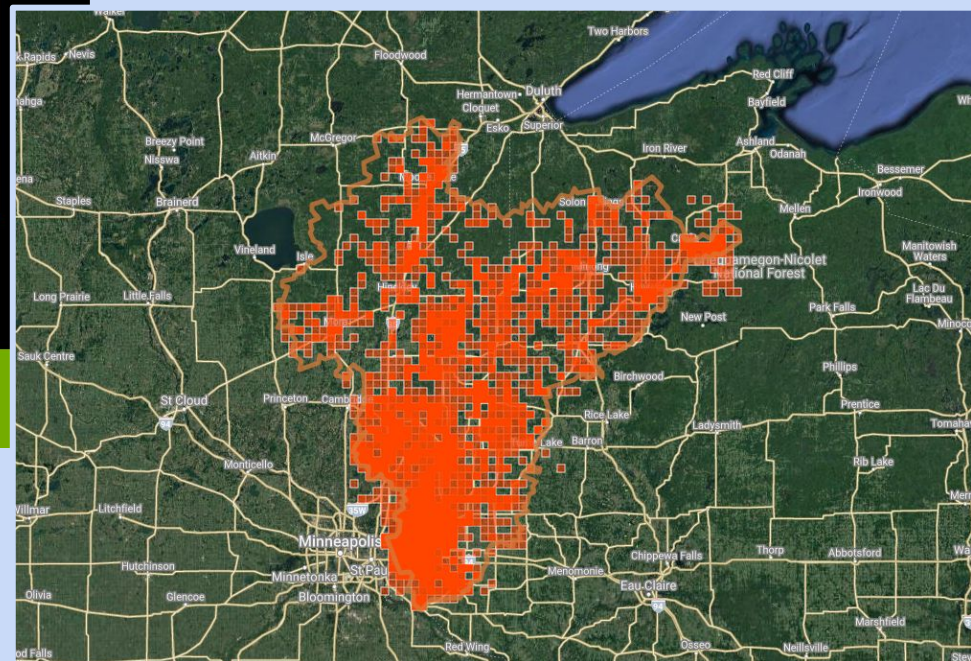
Explore and share your observations from the natural world.

SIGN UP EXPLORE

Ashutosh Shinde - Mantid from Thane, India

CALIFORNIA ACADEMY OF SCIENCES NATIONAL GEOGRAPHIC

iNaturalist is a joint initiative of the California Academy of Sciences and the National Geographic Society.



Add your own observations of plants and animals.

iNaturalist

+ Add ✕ Remove ✎ Combine 🔄 Duplicate Select All

Editing 1 observation:

Details

🔍 Species name

📅 2018/05/08 10:31 AM CDT

📍 St. Croix River

Notes


Location is public

Captive / Cultivated

🏷️ Tags


📁 Projects

📄 Fields








🔍 Species name

We're pretty sure this is in the genus:

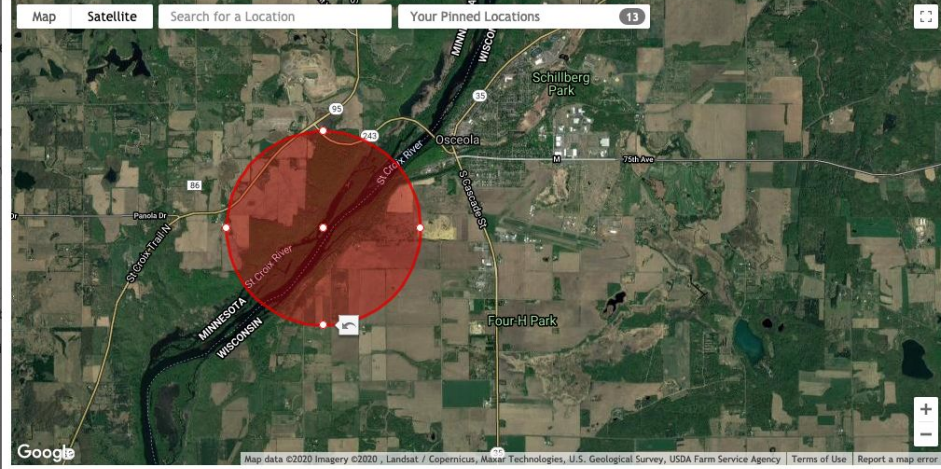
-  **Protonotaria**
Genus [View](#)

Here are our top species suggestions:

-  **Prothonotary Warbler**
Protonotaria citrea
[Visually Similar](#) / [Seen Nearby](#) [View](#)
-  **Hooded Warbler**
Setophaga citrina
[Visually Similar](#) / [Seen Nearby](#) [View](#)
-  **Hermit Warbler**
Setophaga occidentalis
[Visually Similar](#) [View](#)
-  **Golden Whistler**
Pachycephala pectoralis
[Visually Similar](#) [View](#)
-  **Blue-winged Warbler**
Vermivora cyanoptera
[Visually Similar](#) / [Seen Nearby](#) [View](#)

St. Croix River

Map Satellite Search for a Location Your Pinned Locations 13



Latitude Longitude Acc (m) Geoprivacy Locality notes

45.30902160010E	-92.72957063973	1399.922721024C	Open	St. Croix River
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Cancel **Update Observations**

Add your own observations of plants and animals.

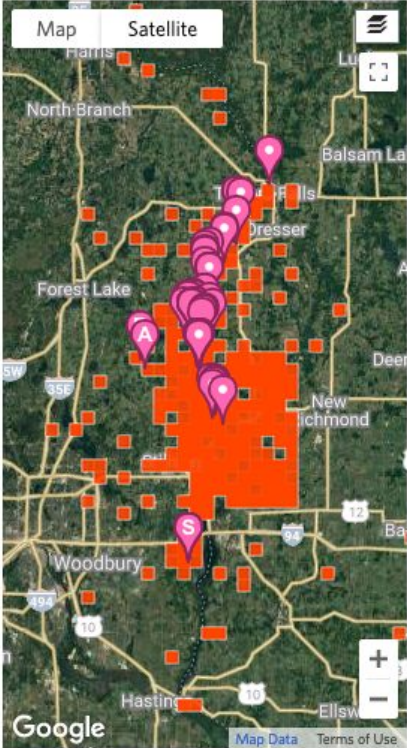
Your Observations

[Home](#) [Observations](#) [Calendar](#) [Favorites](#) [Lists](#) [Journal](#) [IDs](#) [Projects](#) [Profile](#)

[Add Observations](#) [Batch edit](#) [Search](#)

Photos / Sounds	Species / Taxon Name	Date observed	Place	Date Added	
 2 photos »	Brewer's Blackbird <i>Euphagus cyanocephalus</i>	June 9, 2020 10:47 AM CDT	Kelley Cattle Ranch (Google, OSM)	June 09, 2020 01:56 PM CDT	1 ID Research Grade Edit View »
	Great Blue Heron <i>Ardea herodias</i>	June 9, 2020 10:41 AM CDT	Kelly Cattle Ranch (Google, OSM)	June 09, 2020 01:56 PM CDT	1 ID Research Grade Edit View »
	Philadelphia Fleabane <i>Erigeron philadelphicus</i>	June 9, 2020 10:19 AM CDT	William O'Brien State Park (Google, OSM)	June 09, 2020 01:56 PM CDT	Needs ID Edit View »
	Meadow Anemone <i>Anemonastrum canadense</i>	June 9, 2020 10:19 AM CDT	William O'Brien State Park (Google, OSM)	June 09, 2020 01:56 PM CDT	1 ID Research Grade Edit View »
	Northern Blue Flag <i>Iris versicolor</i>	June 9, 2020 10:11 AM CDT	William O'Brien State Park (Google, OSM)	June 09, 2020 01:55 PM CDT	1 ID Research Grade Edit View »

Map Satellite



Google
Map Data Terms of Use

Redo search in map area

Explore observations made by other people in the watershed.

iNaturalist Explore Community More Log In or Sign Up

Places > North America (Continent) > United States (Country) > Find a place Search

St. Croix River Watershed, US Drainage

Species Observations Projects People About St. Croix River Watershed Embed place widget


Grid List Map

Umbrellaworts Genus Xylaria Yellow-flowered Horsetails Northern Marsh Fern Sourgrass Pale-spiked Lobelia


Common St. John's Wort Smooth Cliffbrake White-tailed Deer Red-shouldered Hawk Ferns Mosses Canada Goose


<https://www.inaturalist.org/places/st-croix-river-watershed>



Explore observations made by other people in the watershed.



iNaturalist  Explore Community ▼ More ▼ Log In or Sign Up

Red-shouldered Hawk (*Buteo lineatus*) VU Research Grade Follow ▼

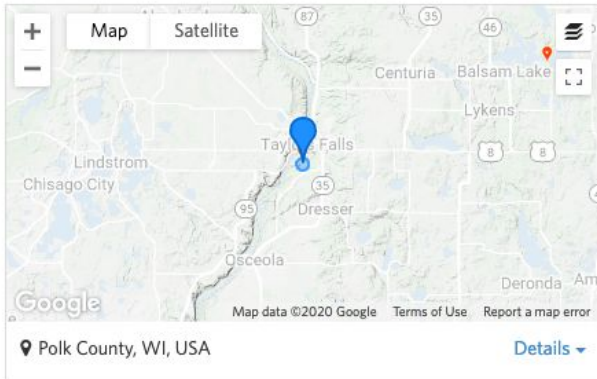





 **annrinkenberger**
 31 observations

Observed: Mar 27, 2020 · 4:37 PM CDT	Submitted: Jun 10, 2020 · 8:30 AM CDT
--	---



 Polk County, WI, USA [Details ▼](#)

Virtual Wildlife Safari: Interesting iNaturalist observations



St. Croix Snaketail

Virtual Wildlife Safari: Interesting iNaturalist observations



Wilson's Snipe

Virtual Wildlife Safari: Interesting iNaturalist observations



Kittentails

Virtual Wildlife Safari: Interesting iNaturalist observations



Brittle Prickly-Pear Cactus

Virtual Wildlife Safari: Interesting iNaturalist observations



Sand fameflower

Virtual Wildlife Safari: Interesting iNaturalist observations



Cecropia Moth

Happening now: Virtual BioBlitz in Bayport

The screenshot shows the iNaturalist website interface. At the top, the iNaturalist logo is on the left, followed by a search bar and navigation links: 'Explore', 'Your Observations', 'Community', and 'More'. On the right, there are icons for a home button, a mail icon with '0', a chat icon with '0', and a user profile icon.

The main content area features a large banner for the 'MINNESOTA SCIENTIFIC AND NATURAL AREAS' project. The banner includes the text 'EVENT IN PROGRESS' in a red box, 'Summer Self-Guided BioBlitz Series!' in large blue font, and 'St. Croix Savanna SNA Self-guided Bioblitz ...' in white text on a dark background. Below this, it says 'JUN 10, 2020 - JUN 24, 2020'. A smartphone image shows the iNaturalist app interface with the hashtag #SNABioBlitz2020.

To the right of the banner is a green sidebar with the heading 'About'. It contains a 'Join' button with a person icon and the number '14'. Below this is a paragraph of text: 'Join the first Minnesota Scientific and Natural Area summer self-guided Bioblitz at St. Croix Savanna Scientific and Natural Area! Between June 10th-24th, head over to St. Croix Savanna SNA in Bayport, MN, anytime that works for you and make some'. A 'Read More >' link is at the bottom of the paragraph. Below the text is a 'Project Journal' button with a book icon.

At the bottom of the page, there is a navigation bar with the following items: 'Overview' (underlined), '0 OBSERVATIONS', '0 SPECIES', '0 IDENTIFIERS', '0 OBSERVERS', and a 'Stats' button with a lightning bolt icon.

<https://www.inaturalist.org/projects/st-croix-savanna-sna-self-guided-bioblitz-2020>

Questions?



More information

www.inaturalist.org

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Connect with Nature

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[SIGN UP](#) [EXPLORE](#)

Ashutosh Shinde - Mantid from Thane, India

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www.stcroix360.com

ST. CROIX 360

River stories to inspire stewardship.

SHARE NEWS EVENT CALENDAR ABOUT SUPPORT

Twilight melody

When the wood thrush sings, the world listens.

St. Croix Valley citizens fight for quiet and clean water as mine expands

Debate over the growing sand and gravel quarry near Osceola is coming to a critical juncture.

A portrait of imperfect peace

Words fail, but the St. Croix's silence lets us hear.

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POPULAR POSTS

- St. Croix National Scenic Riverway modifies operations in response to pandemic
- St. Croix County sheriff's unique new boat serves river patrols and rescues
- Wakes allowed again on Lower St. Croix after river drops three feet
- St. Croix Valley citizens fight for quiet and clean water as mine expands
- Postcard from the past: A historic note from the 'new' St. Croix Falls dam

CURRENT CONDITIONS

St. Croix River Stream Flow
Real-time data courtesy the U.S.

Greg Seitz | greg@stcroix360.com