



Clean Water & Healthy Habitat

Actions on the land,
to care for the water
May 9, 2018

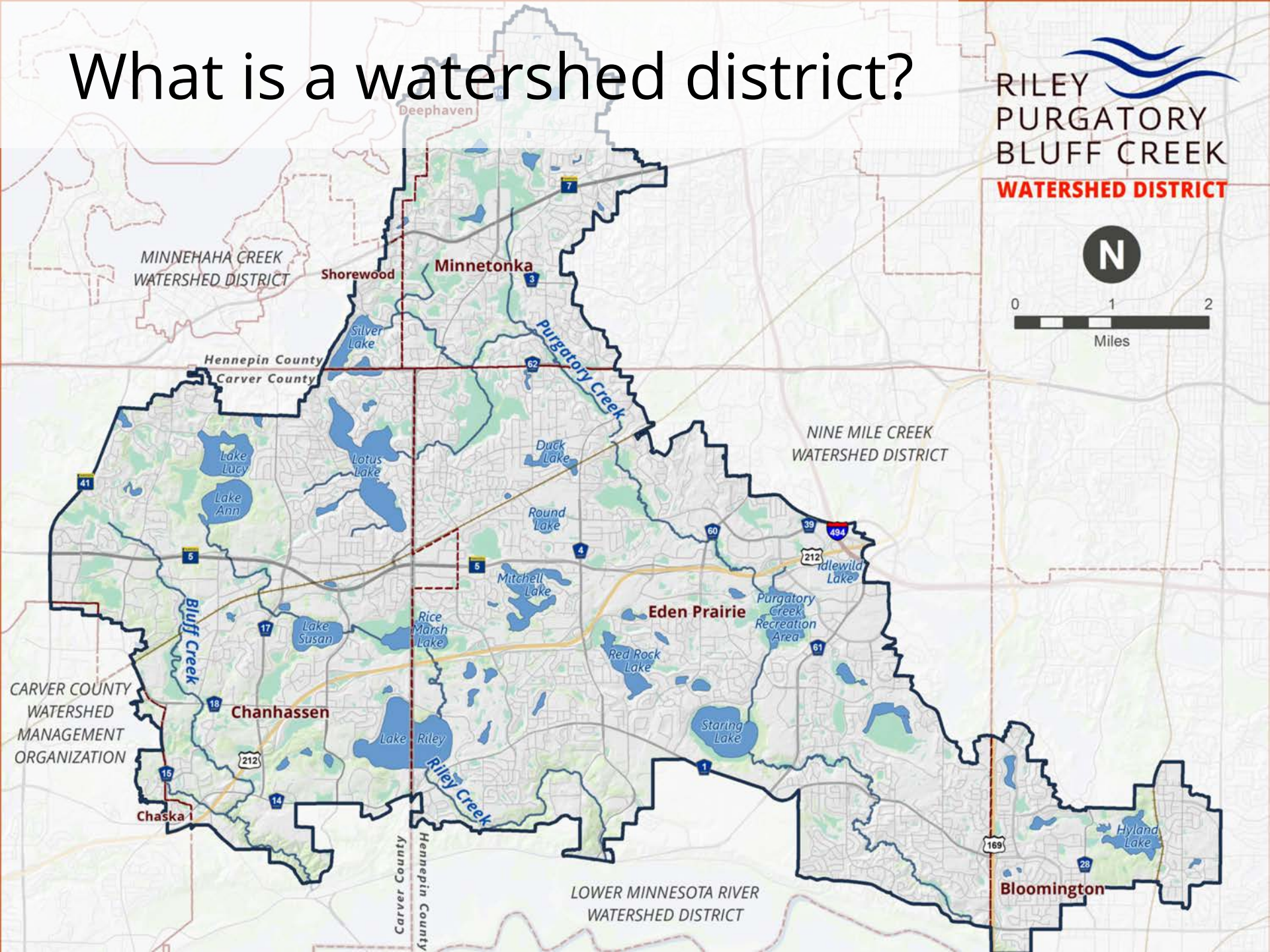


What is a watershed district?

RILEY
PURGATORY
BLUFF CREEK
WATERSHED DISTRICT



0 1 2
Miles



CARVER COUNTY
WATERSHED
MANAGEMENT
ORGANIZATION

What do we do?



2017 AT A GLANCE

With three creeks, over a dozen lakes, many acres of wetlands, and seven cities, there are many things to do and places to be in the District. Explore the map below to find out where we've been, and what we've done in 2017.

17

District projects

8

Cost-share projects

40

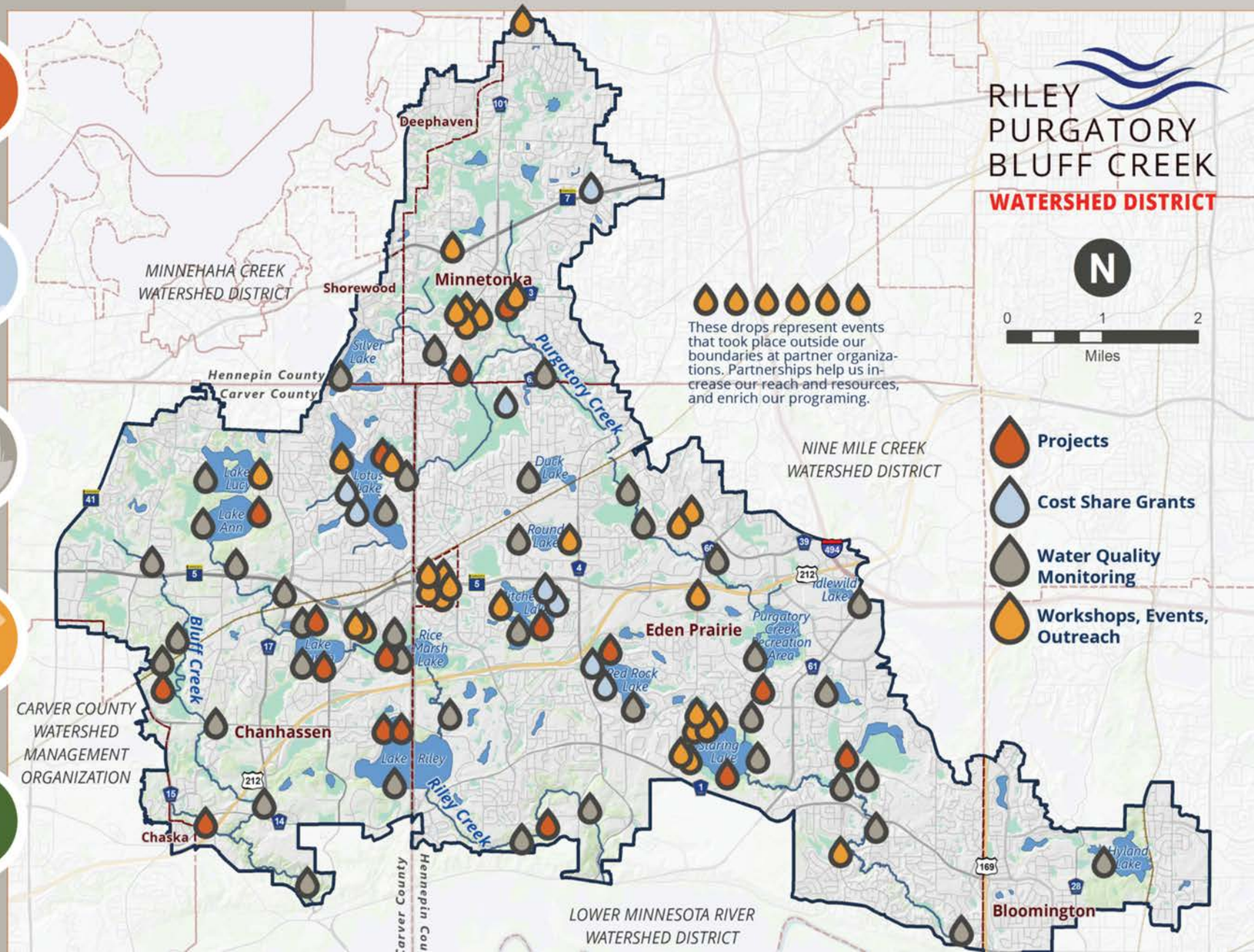
Monitoring sites

38

Workshops, events

50

Thousand \$ in grants received



Why are we here?



Everything we do on land





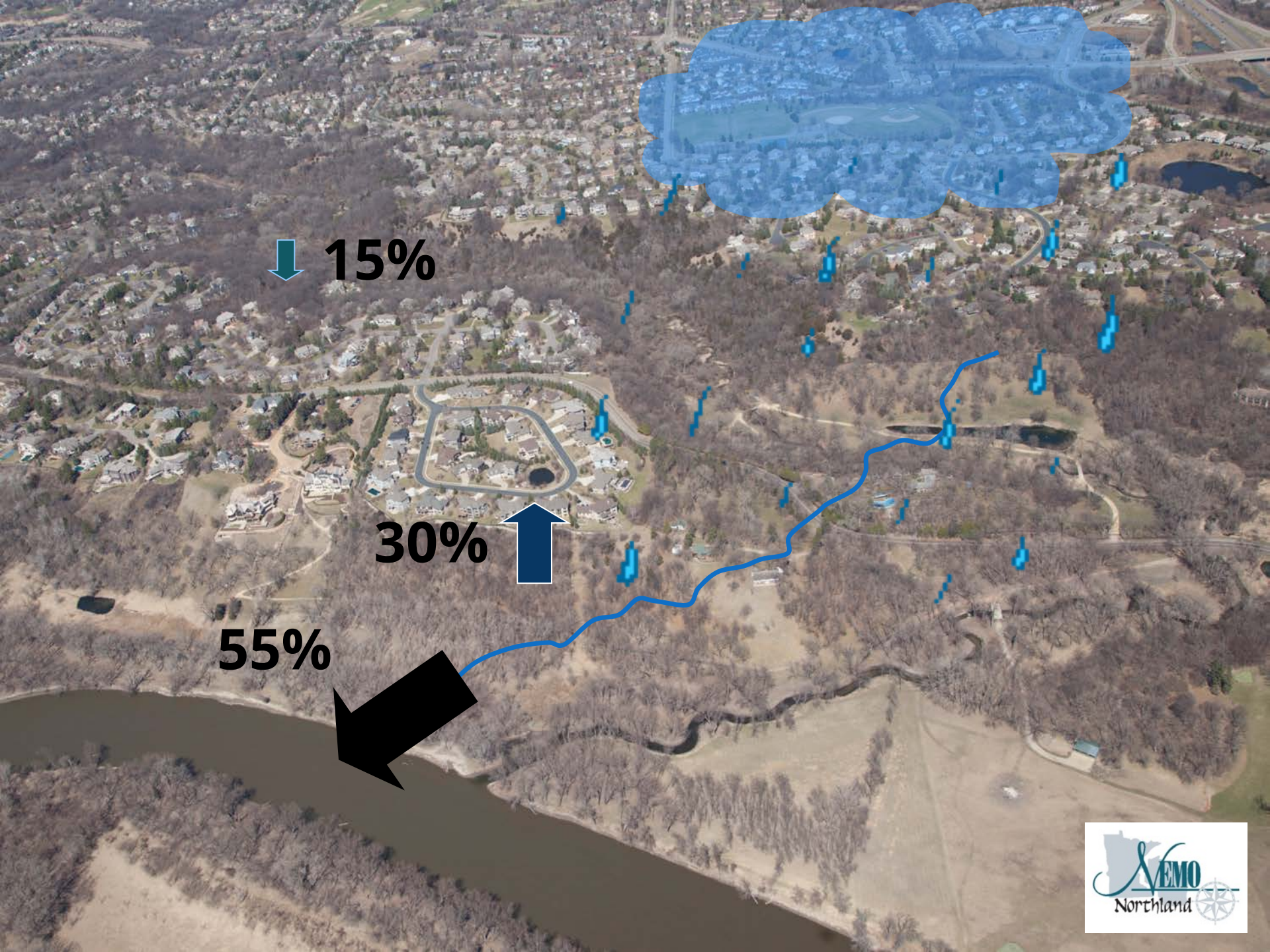
impacts the water



40%

50%

10%



↓ 15%

↑ 30%

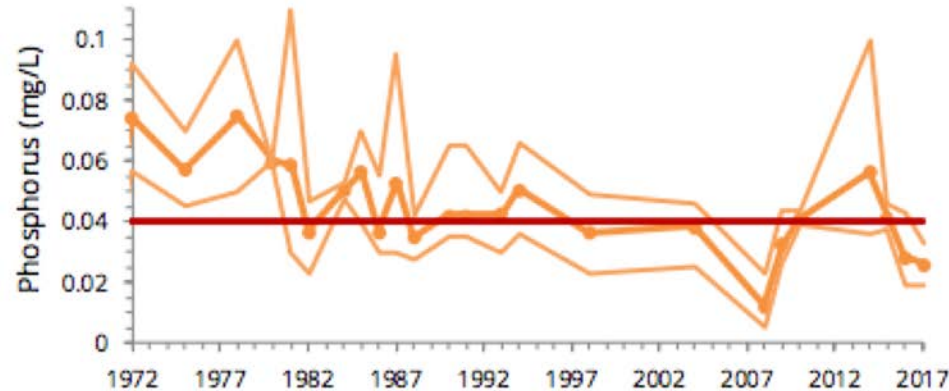
55% ↙



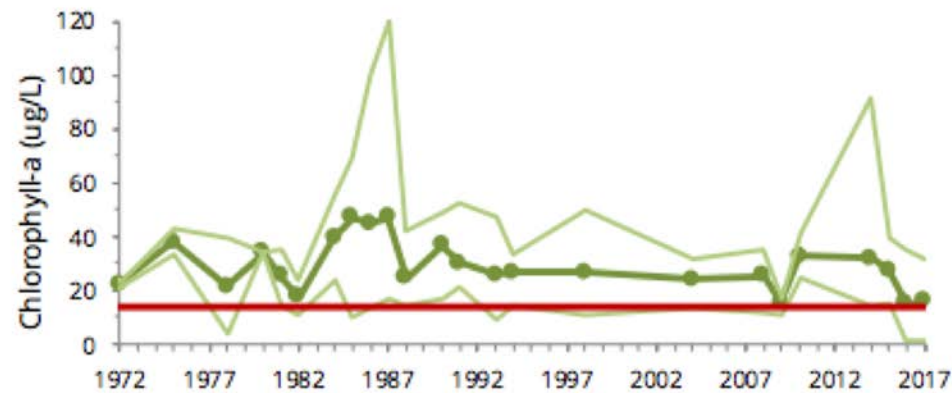
How is Riley doing?

Water quality graphs 1972 - 2017

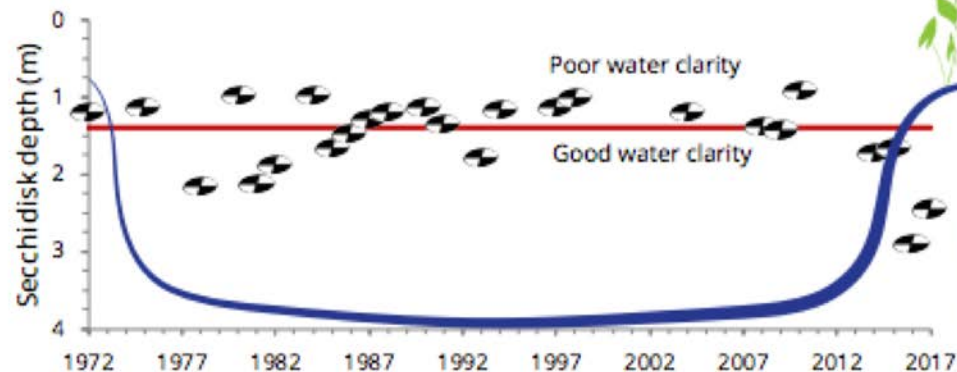
Points are growing season (Jun-Sep) averages. Thin lines are the min and max values for each year.



Phosphorus is a nutrient that plants and algae need for growth. It is often measured as total phosphorus (TP). Too much phosphorus can cause algae blooms.

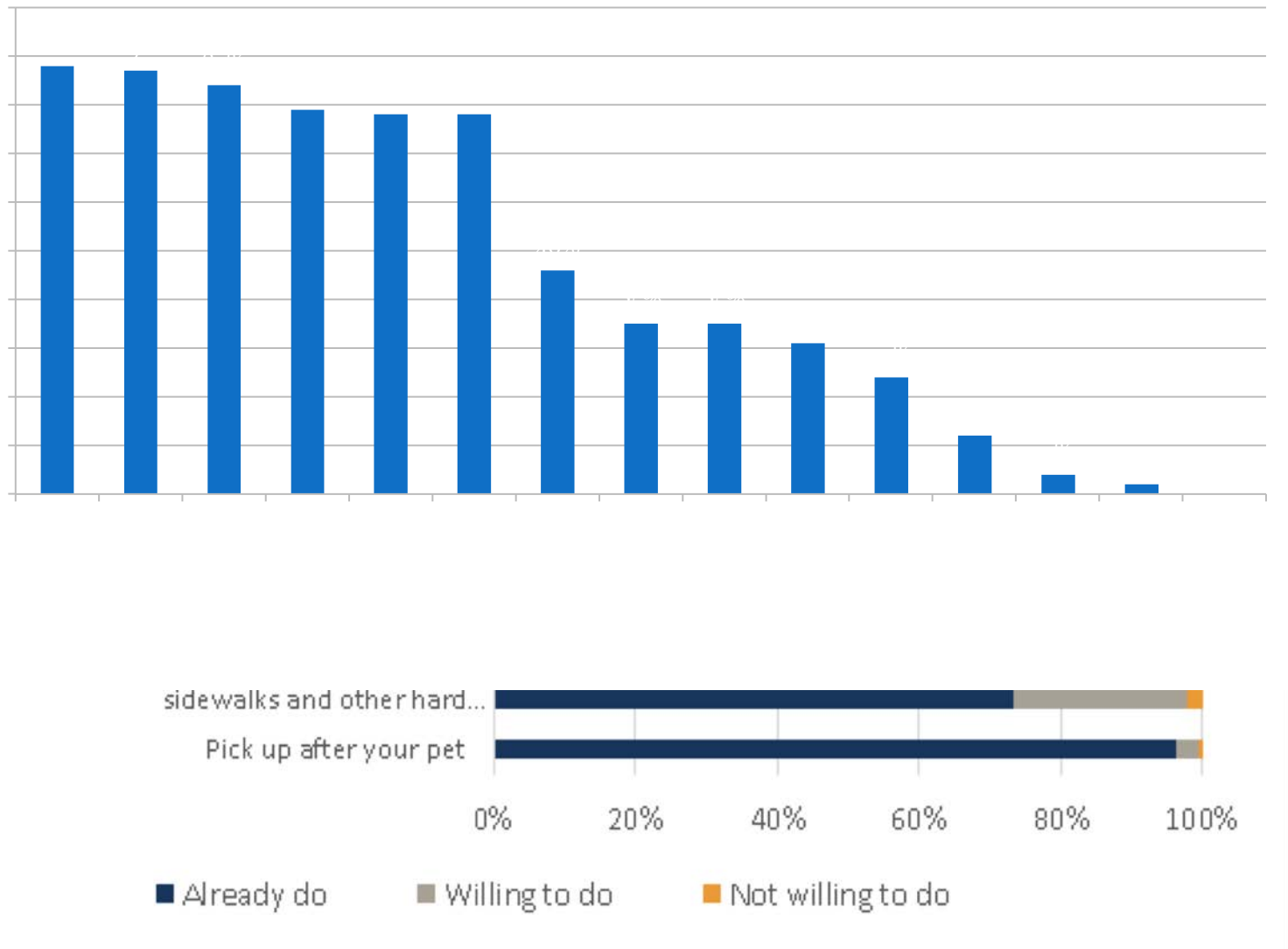


Chlorophyll-a is the main pigment in algae, so measuring chl-a can tell us how much algae there is. Too much chl-a means that there are too many nutrients in the water.



Water clarity is measured using a **Secchi Disk**, a black and white disk the size of a dinner plate. It is lowered into the water, and the depth at which it is no longer visible is recorded.

What can you do?

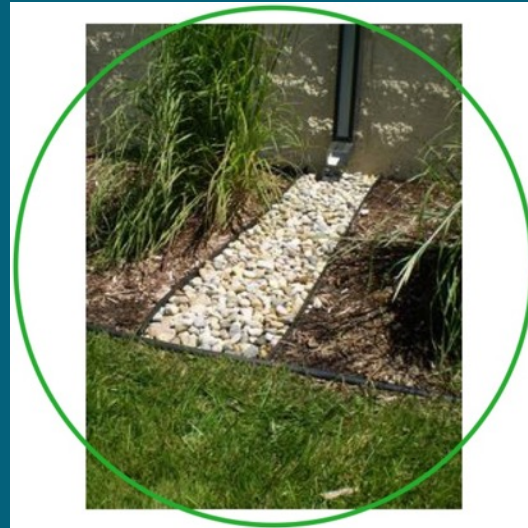


Simple Solutions

- Disconnect downspouts connected directly to impermeable surfaces and reposition ones over impermeable surfaces



- Downspout over impermeable surface



- Downspout over permeable surface



- Directly connected downspout

Rethinking Turf Lawns



No Mow Turf Grass — A fine fescue mix that requires minimal mowing, water, and fertilizer.

Rethinking Turf Lawns

Shrub Massings

- Low growing shrubs offer a great alternative to turf grass, especially on slopes and under trees.



Creeping Juniper
(*Juniperus horizontalis*)



Gro Low Fragrant Sumac
(*Rhus aromatica* 'Gro Low')

Rethinking Turf Lawns

Ground Covers

- Create a carpet appearance
- Often planted under trees and in partial shade to shady conditions

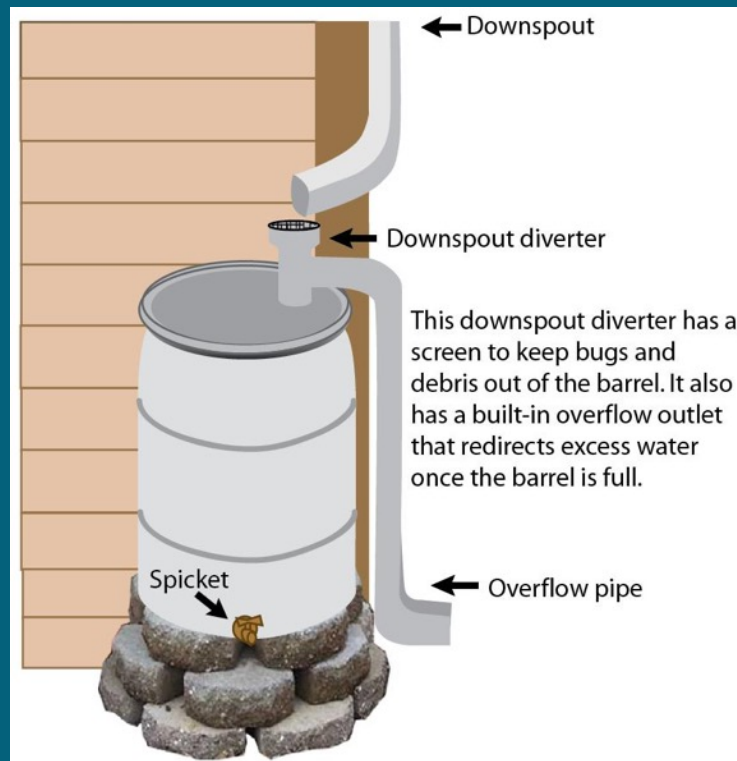


Sweet Woodruff
(*Galium odoratum*)



Pachysandra
(*Pachysandra terminalis*)

Rainbarrels/Cisterns



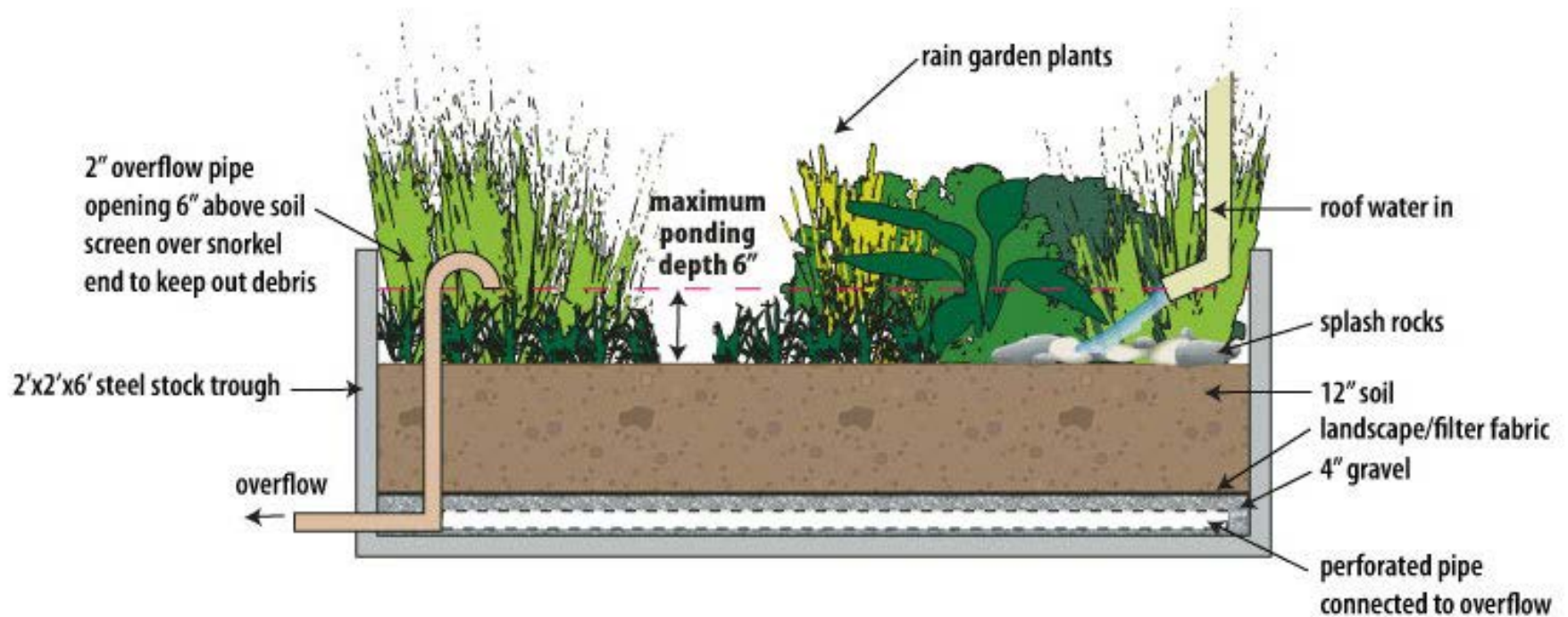
*Recycling Association of Minnesota has a sale every spring:
ram@recycleminnesota.org

Downspout Planters



Downspout Planters

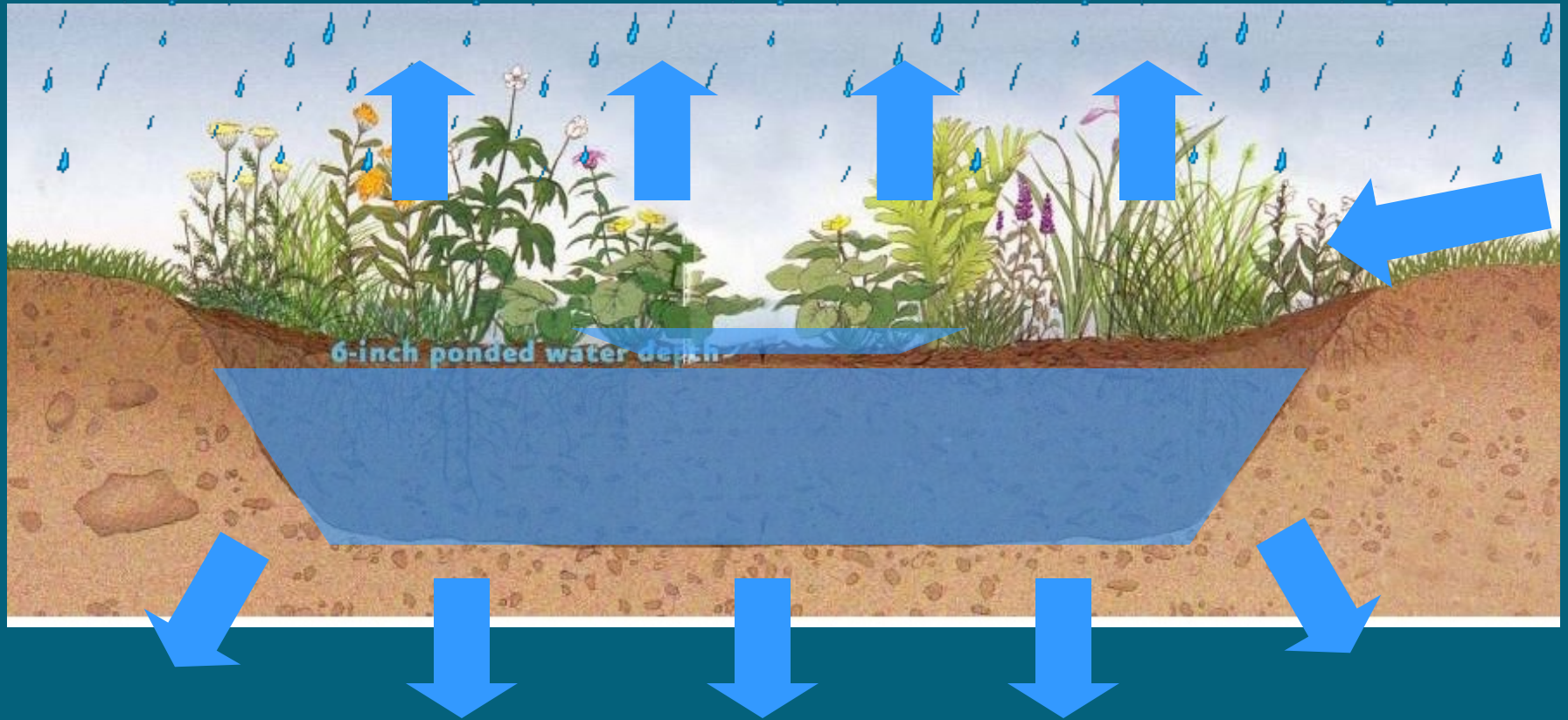
2'x2'x6' Stock Trough Stormwater Planter



Raingardens



Raingardens: How they work



Just like a regular garden planting, but able to store and absorb rainwater while breaking down pollutants and providing habitat

Basic Keys to Success

Hydrology



Soil Prep



Plant
Selection



Topography and Hydrology

- What are the water sources?
Downspouts, Roadways, Driveway, Neighboring Property
- Where are the High and Low Points?
- Identify the paths of concentration.
- Where are the proper interception points?
Not at the bottom of the watershed
- Where is the water going?
Street, Neighboring Property, Water Body, Basement
- What is in the water?
Road Salts and Sediments, Lawn chemicals
-



Design Considerations

- Identify existing vegetation - Work with your existing palette
- Determine location of utilities
- Locate all structures (stay 10' away from buildings)
- Determine property lines and easements
- Identify any local ordinances affecting project



Bio Swales and Dry Creek Beds



Bio Swales and Dry Creek Beds



Permeable Pavers



Planted Pavers



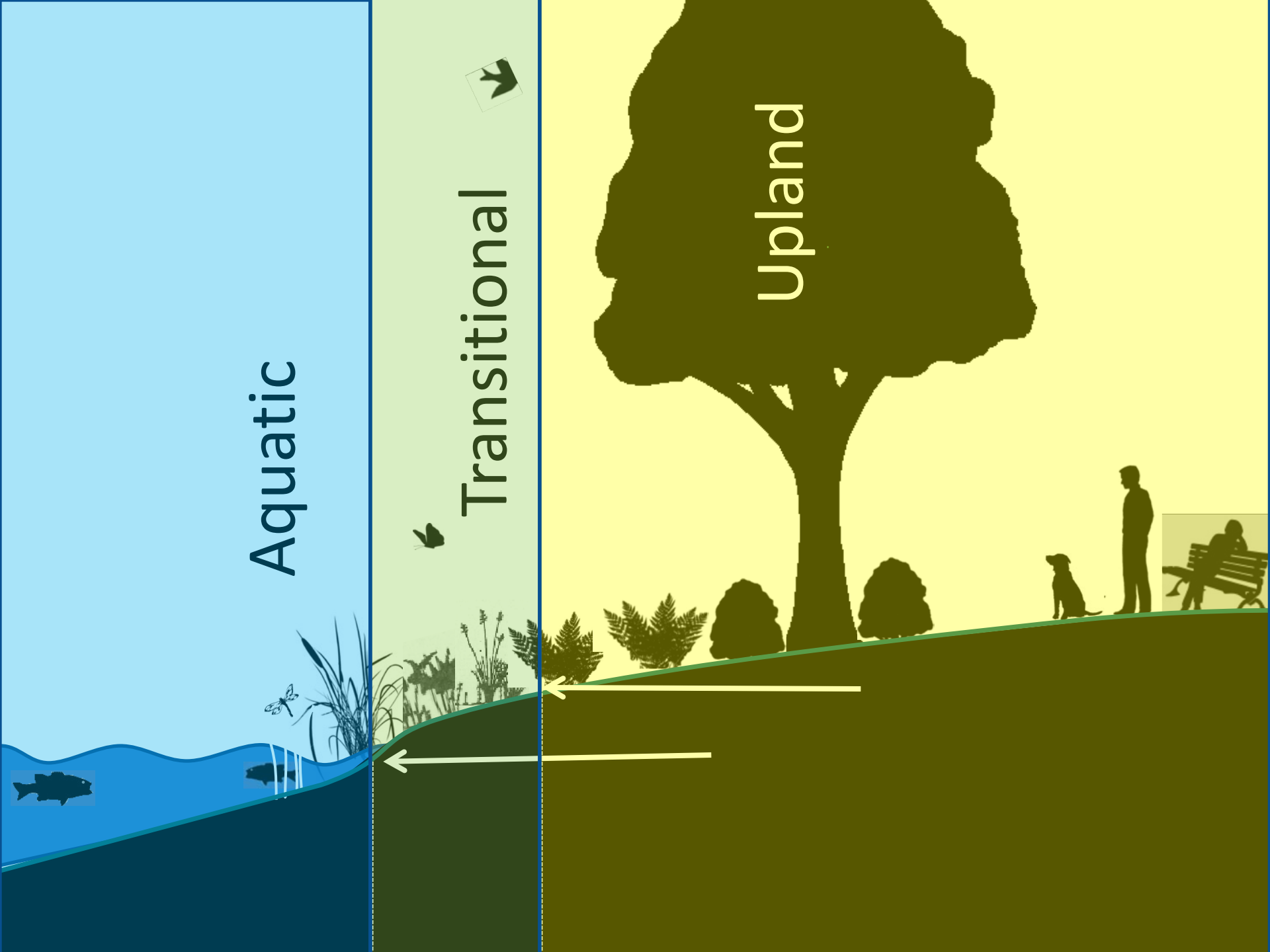
Shoreline Buffers/Native Buffers



Aquatic

Transitional

Upland





Before

Metro Conservation Districts
Ramsey Conservation District



Newly installed

Metro Conservation Districts
Ramsey Conservation District



After

Metro Conservation Districts
Ramsey Conservation District





RPBCWD Cost Share Program

Riley Purgatory Bluff

CREEK WATERSHED DISTRICT



Cost share grants

2018 applications

Deadlines:

First round: April 11

Second round: June 13

Grants are available for projects that:

- improve watershed resources
- foster water resource stewardship
- increase awareness of water resource vulnerability
- increase familiarity with solutions to improve waters

Project ideas

raingardens, cisterns, green roofs, pervious pavement, shoreline stabilization, streambank restoration, wetland restoration



- Up to 75% match of eligible expenses
- Up to:
 - \$3,000 per project for **home-owners**
 - \$20,000 per project for **non-profits**
- Can count your labor
- Project must be completed within 1 year of signed agreement
- Funds will be disbursed after proper completion of project



