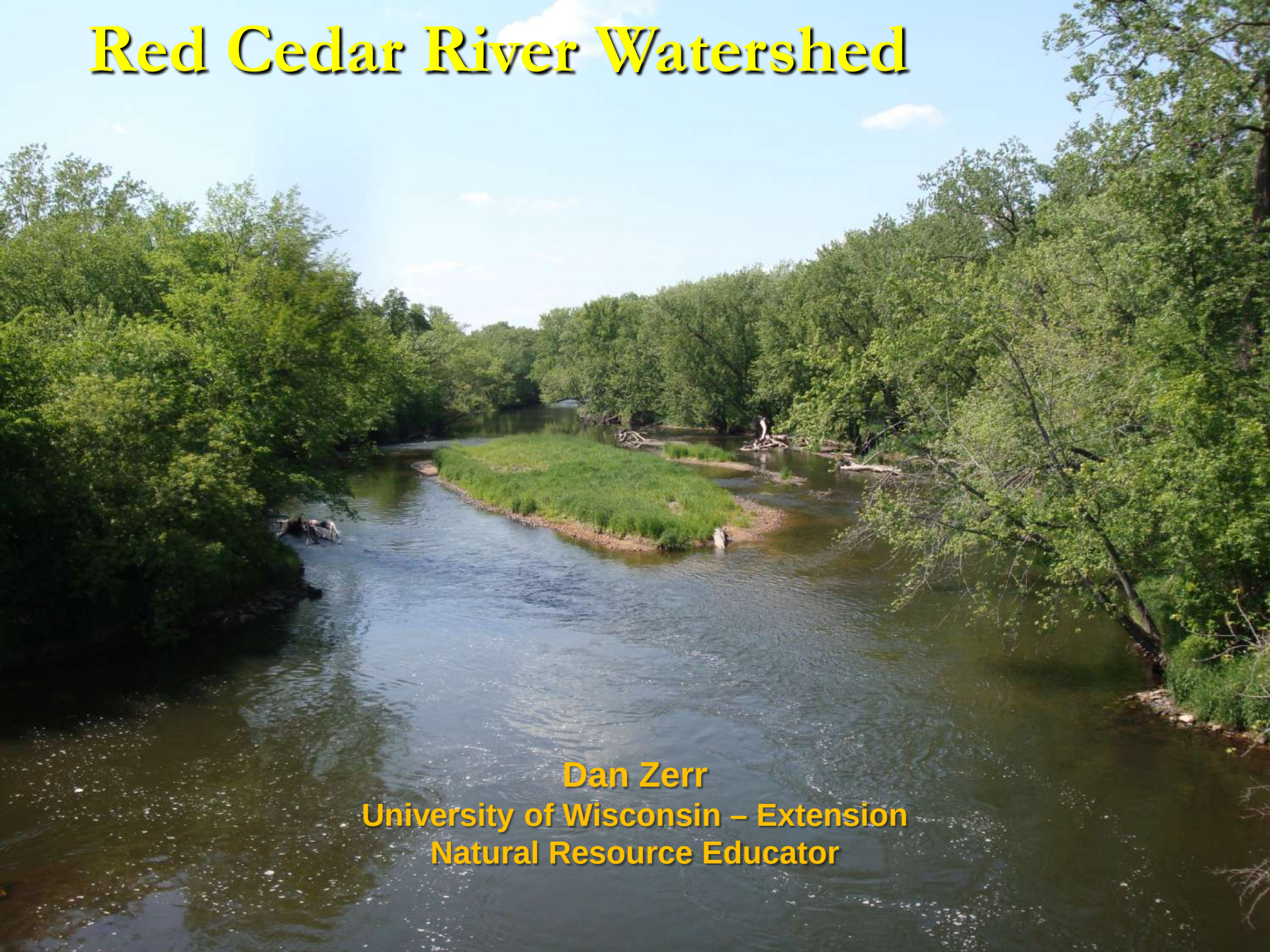
Red Cedar River Watershed



Dan Zerr
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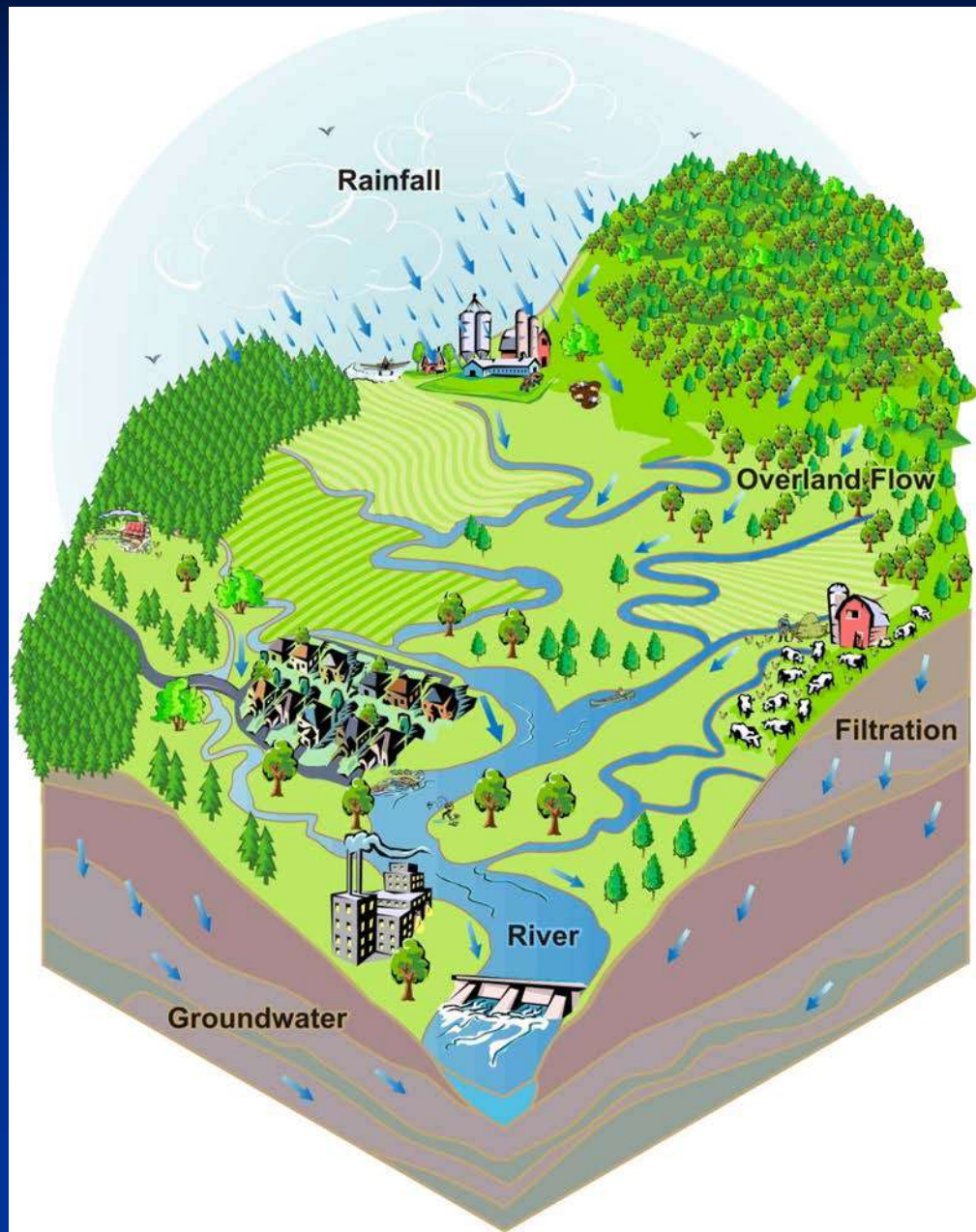
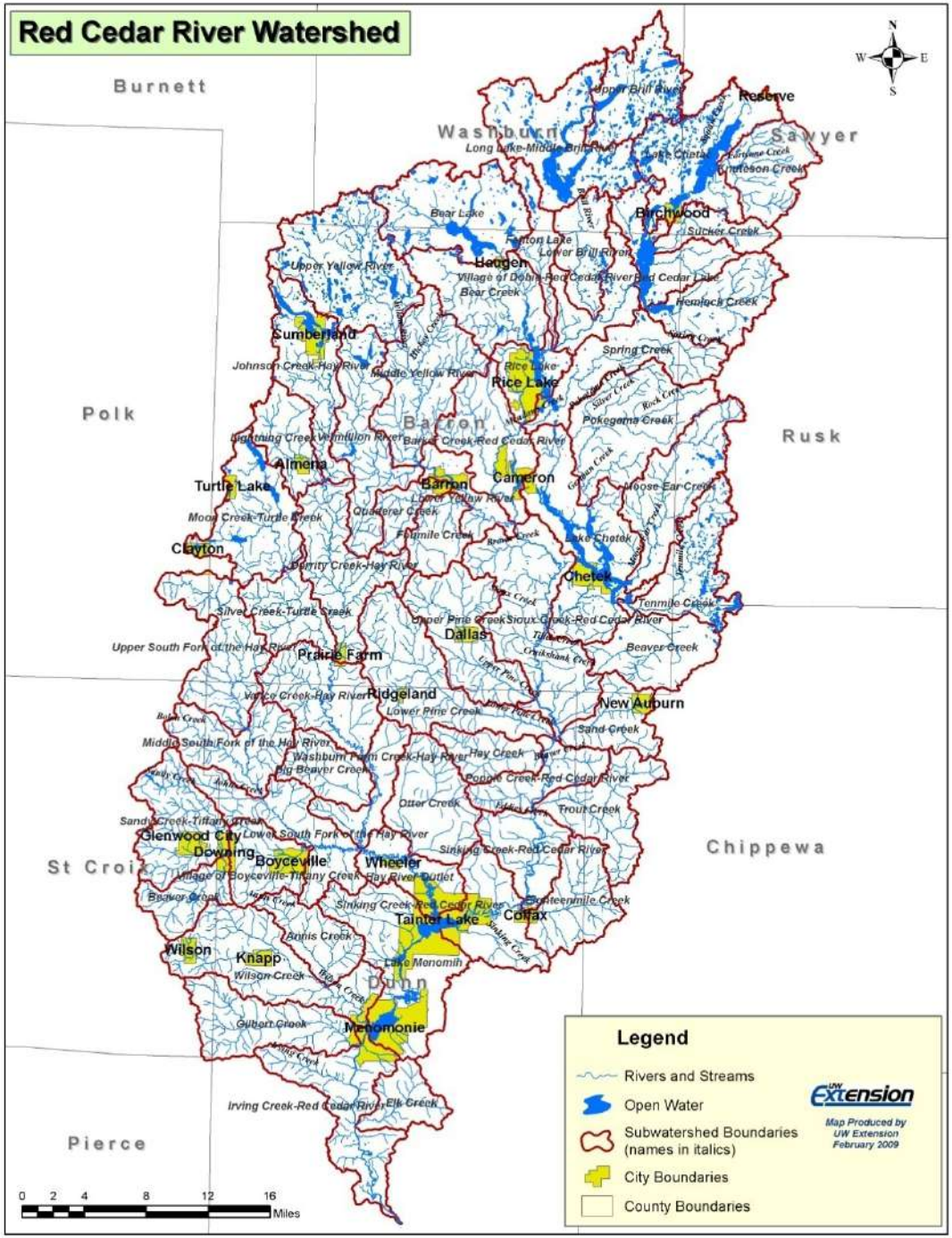
What Is A Watershed?

- An area that all drains to a particular stream, river, lake, or ocean.
- Includes all surface land area, smaller streams within that watershed, and groundwater flow.
- Watersheds are “nested” within each other. Small watersheds are usually part of larger watersheds.



- The Red Cedar River Watershed covers most of Barron and Dunn Counties, and parts of several others.
- Includes many smaller subwatersheds
- The Red Cedar River empties into the Chippewa River south of Menomonie

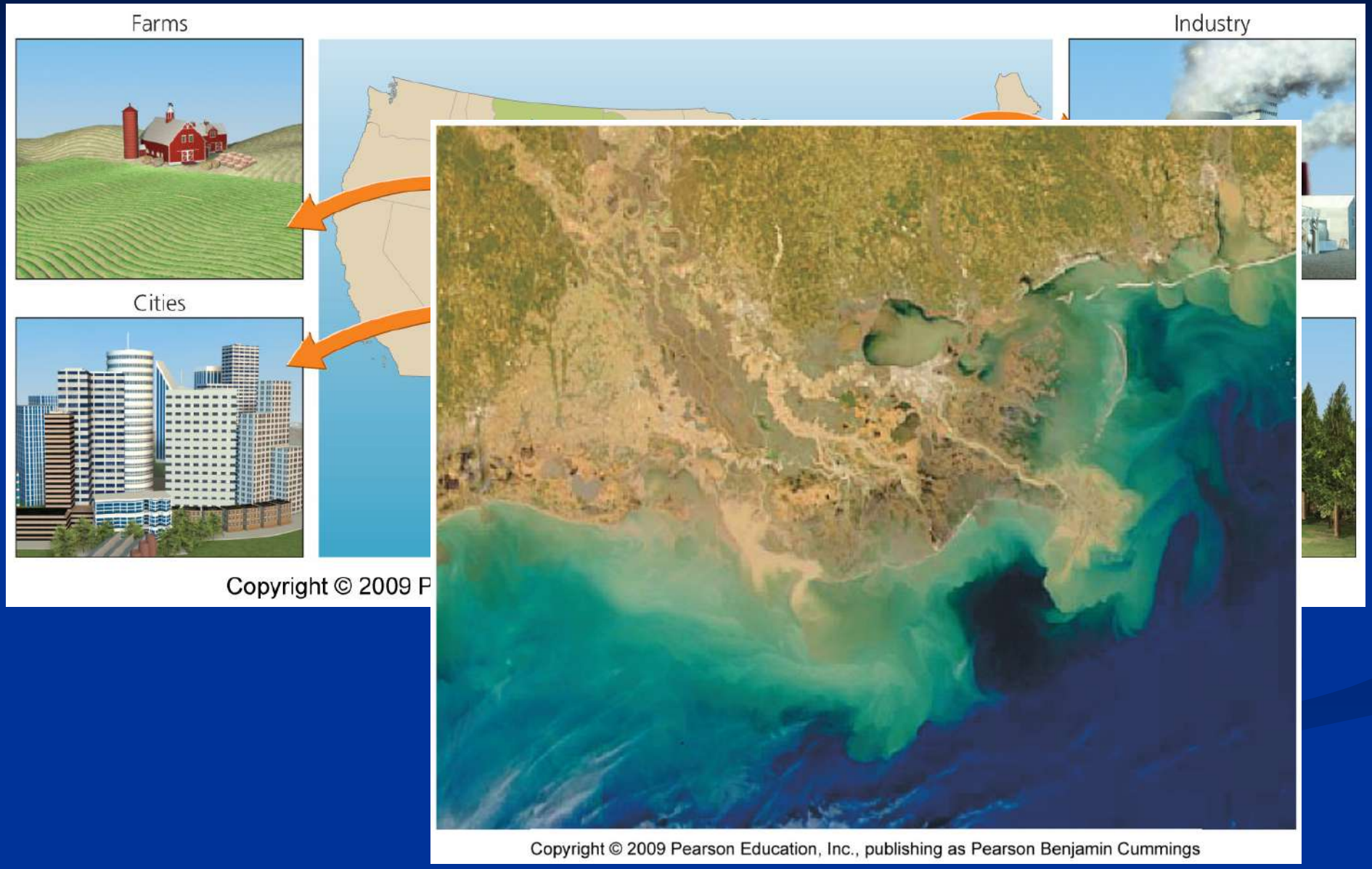


Red Cedar River Watershed Is Part of Other, Larger Watersheds

Part

Map Courtesy of US EPA

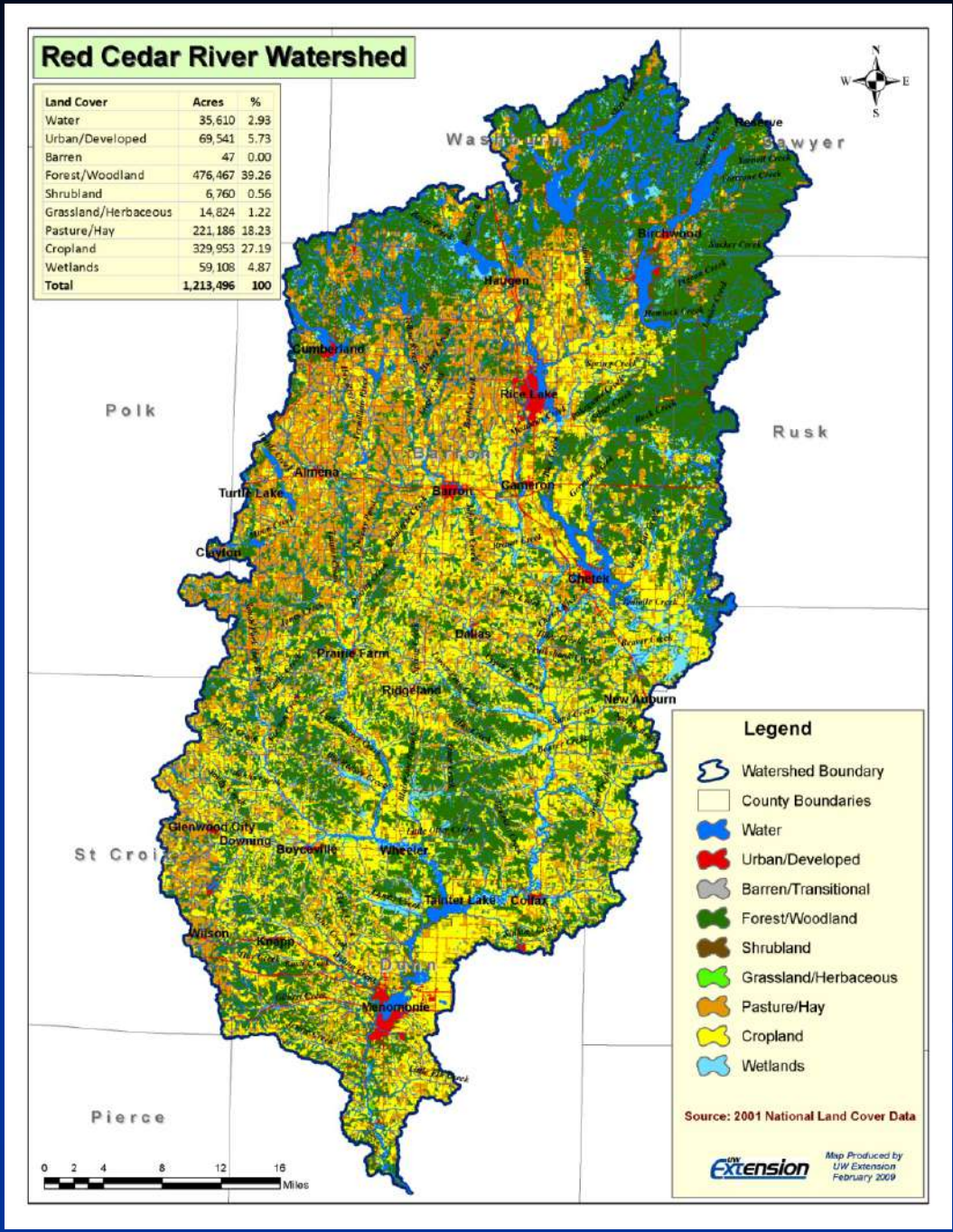
Mississippi River Watershed



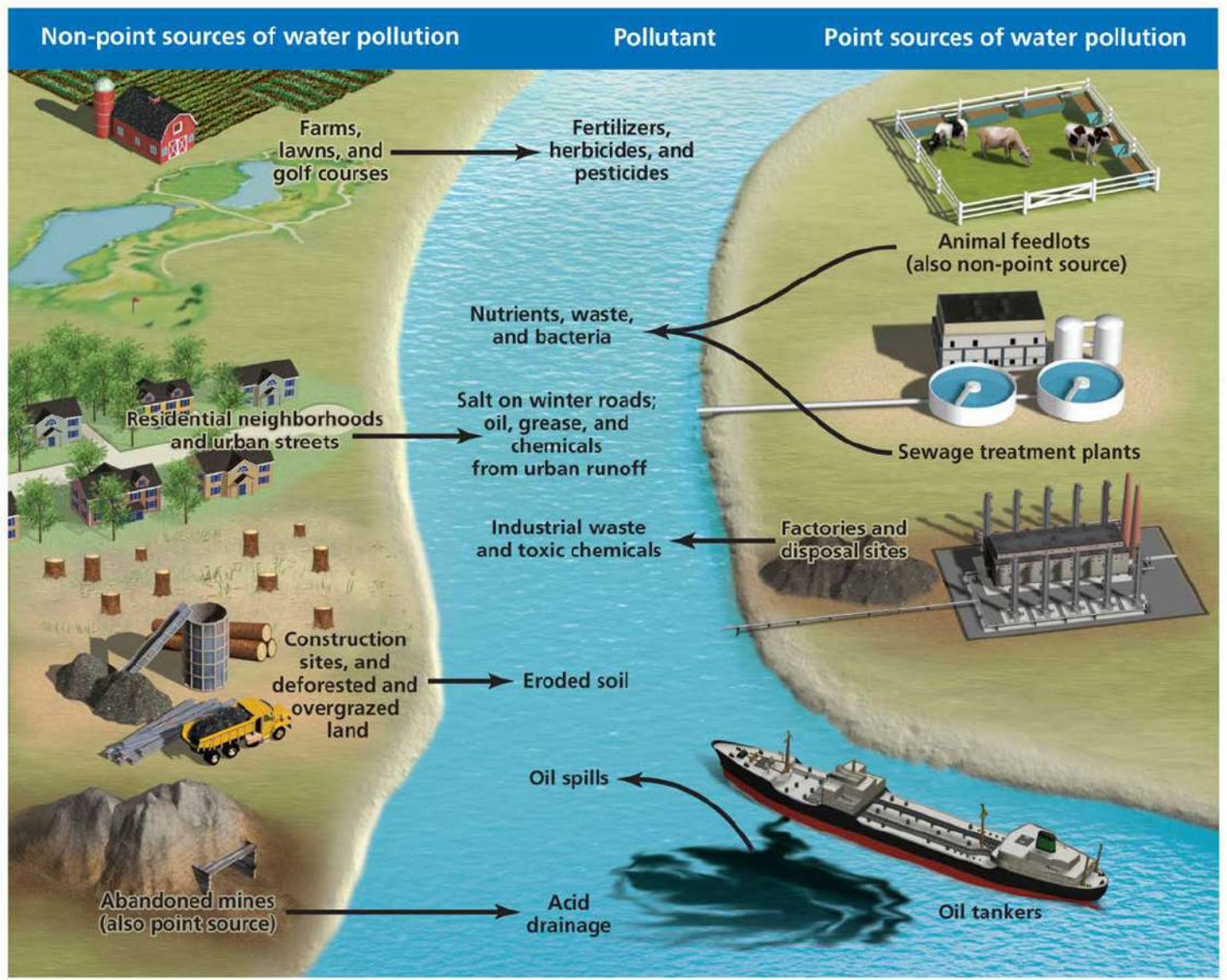
Human Impacts Within a Watershed

- Historic land cover in the basin was mostly forest with some prairie-oak savanna

- Since settlement, much of historic cover was lost, replaced by agriculture and grazing land, and lakes were created by placing dams on the river



Human Impacts Within a Watershed

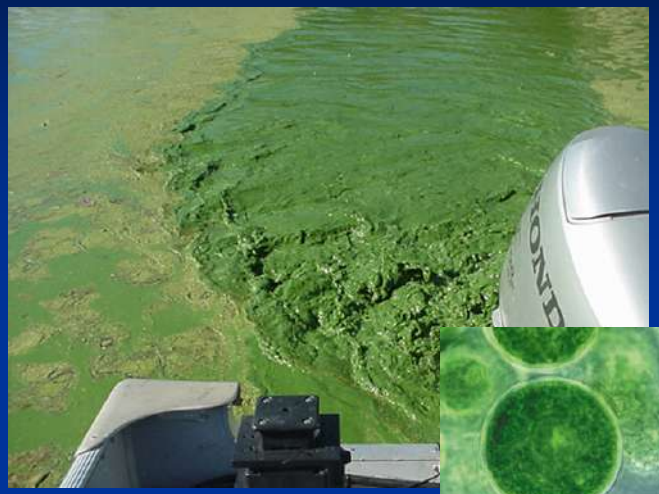


Water Quality Problems in The Red Cedar River Watershed

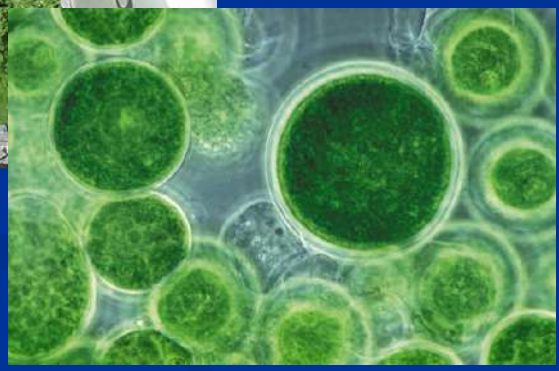
Photos Courtesy of WDNR

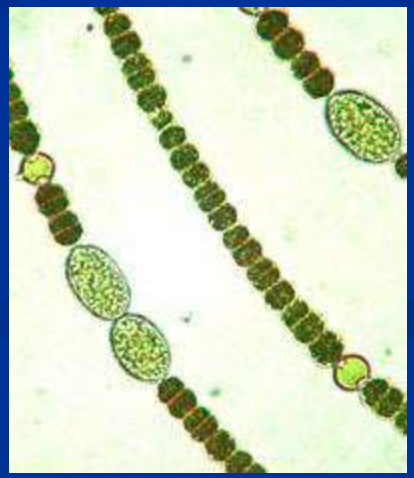
What's All That Green Stuff?

- Algae, cyanobacteria (blue-green algae)
- Photosynthetic organisms that, just like plants, need nitrogen and phosphorus to function
- Is naturally in our waters, but too much nitrogen and phosphorous cause algae to increase dramatically – known as an algal "bloom"



WDNR





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Why is Algae Bad For Water Quality?

- **Looks terrible! Who wants to swim in that?**

- **Cyanobacteria (blue-green algae) produce toxins that are harmful to animals, including humans**

- **Some people are more sensitive than others and may react with respiratory distress during a severe algal bloom**

Photos Courtesy of WDNR

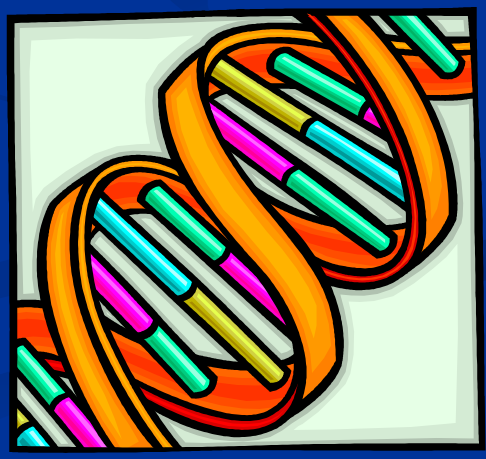
Why is Algae Bad For Water Quality?

- Decreases dissolved oxygen in the water, leading to fish kills (known as eutrophication)
- Can raise pH, which some aquatic organisms can't tolerate
- Bad for economy (less fishing, less swimming, etc.)

WDNR

What Is Phosphorus?

- A natural element present in rocks and soil
- Is also present in water, usually attached to soil particles suspended in the water
- Is a key component of living organisms, including plants and algae, and is found in DNA and in the membranes of cells
- Component of inorganic fertilizers, manure, and also human and pet waste

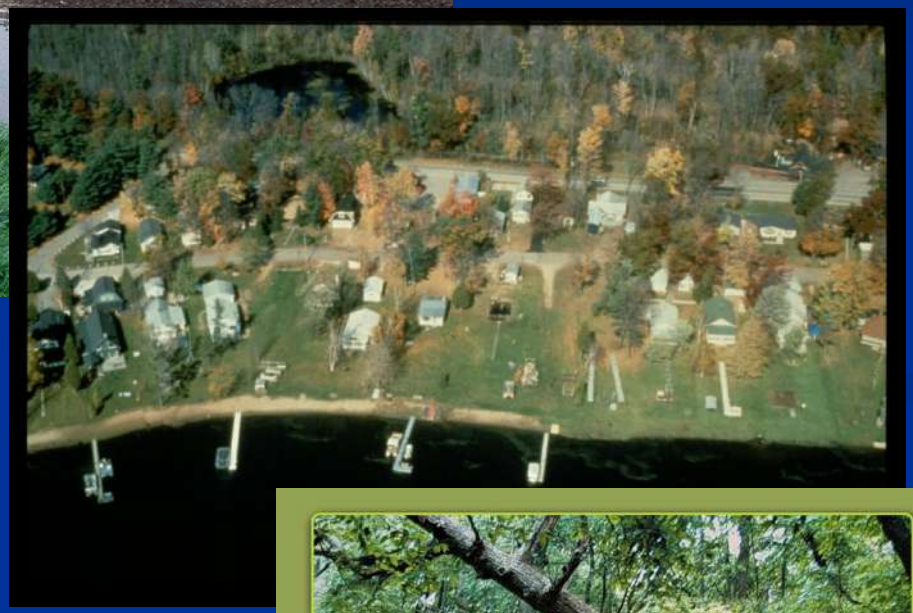


How is Phosphorus Getting In The Water?

- **Surface runoff**
  - Rainwater washes over land and runs into streams and lakes, carrying soil, excess fertilizer, manure, pet waste and other pollutants with it

How is Phosphorus Getting In The Water?

- **Many Sources**
  - Farm fields
  - Lawns & Yards
  - City streets
  - Failing septic systems
  - Livestock operations
  - Pet waste
  - Eroding shorelines and banks
  - Waste water treatment plants



What Is Being Done?

- County land conservation departments, DATCP, NRCS, other organizations working with farmers to minimize nutrient inputs to streams, rivers and lakes
- TMLIA and other lake groups working to raise awareness among their members and the community
- Red Cedar/St. Croix Farmer-led Council development
- Town of Grant project
- City of Cumberland Water Quality Trading Project

Town of Grant project

What Is Being Done?

- Total Maximum Daily Load (TMDL) completed, and approved by US EPA in 2012
- Water quality monitoring by WDNR, UW-Stout and other area schools and groups
- WDNR working to both study the issue and provide grants for water quality improvement practices
- Great events like the Red Cedar River Conference bringing people together to collaborate on solutions

What Can You Do?

- **Practice no-till farming, and plant marginal farmland to natural vegetation**
- **Install grass waterways to control soil erosion in natural flow areas**
- **Manage nutrients, plant vegetated buffers near streams, other agricultural practices**
- **Keep livestock away from streams and rivers**

Town of Grant project

NRCS

Greener Loudoun

What Can You Do?

- Maintain septic systems to prevent failure and leaking of phosphorus into water bodies

- Use phosphorus-free products
  - fertilizers (or go without!)
  - dishwasher detergent
  - laundry detergent

What Can You Do?

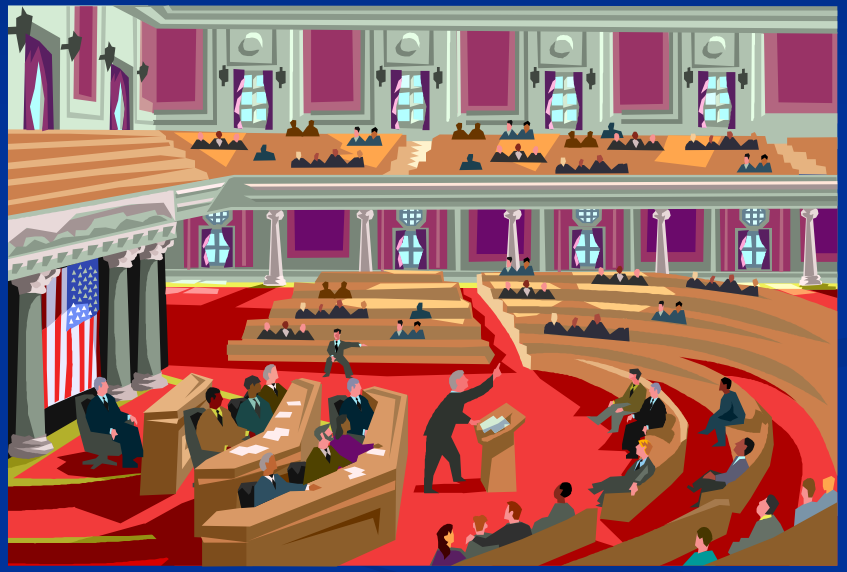
- Keep leaves, grass clippings and other pollutants from storm drains
- Pick up after your pets
- Use proper erosion control on construction sites

Photo Courtesy of Sandy, UT

Photo Courtesy of Hickory, NC

What Can You Do?

- Network and partner with other individuals or groups who may be working on water quality issues and events
- Talk to your local and state government officials about the need for proper resources to address the problems



What Can You Do?

- Talk to your family and friends about what you learn and what you're doing to help
- Participate in clean-ups and other events designed to keep our environment, including our lakes and rivers, clean and sustainable

What Can You Do?

- **Build rain gardens in your yard to keep runoff from carrying pollutants to rivers and lakes**
- **Businesses and cities can use innovative practices to infiltrate runoff and rain water**
- **Plant buffers of natural vegetation next to rivers and lakes**

What Can You Do?

- **Remember, water is life, and we need to keep it clean and available for everyone!**

Questions

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