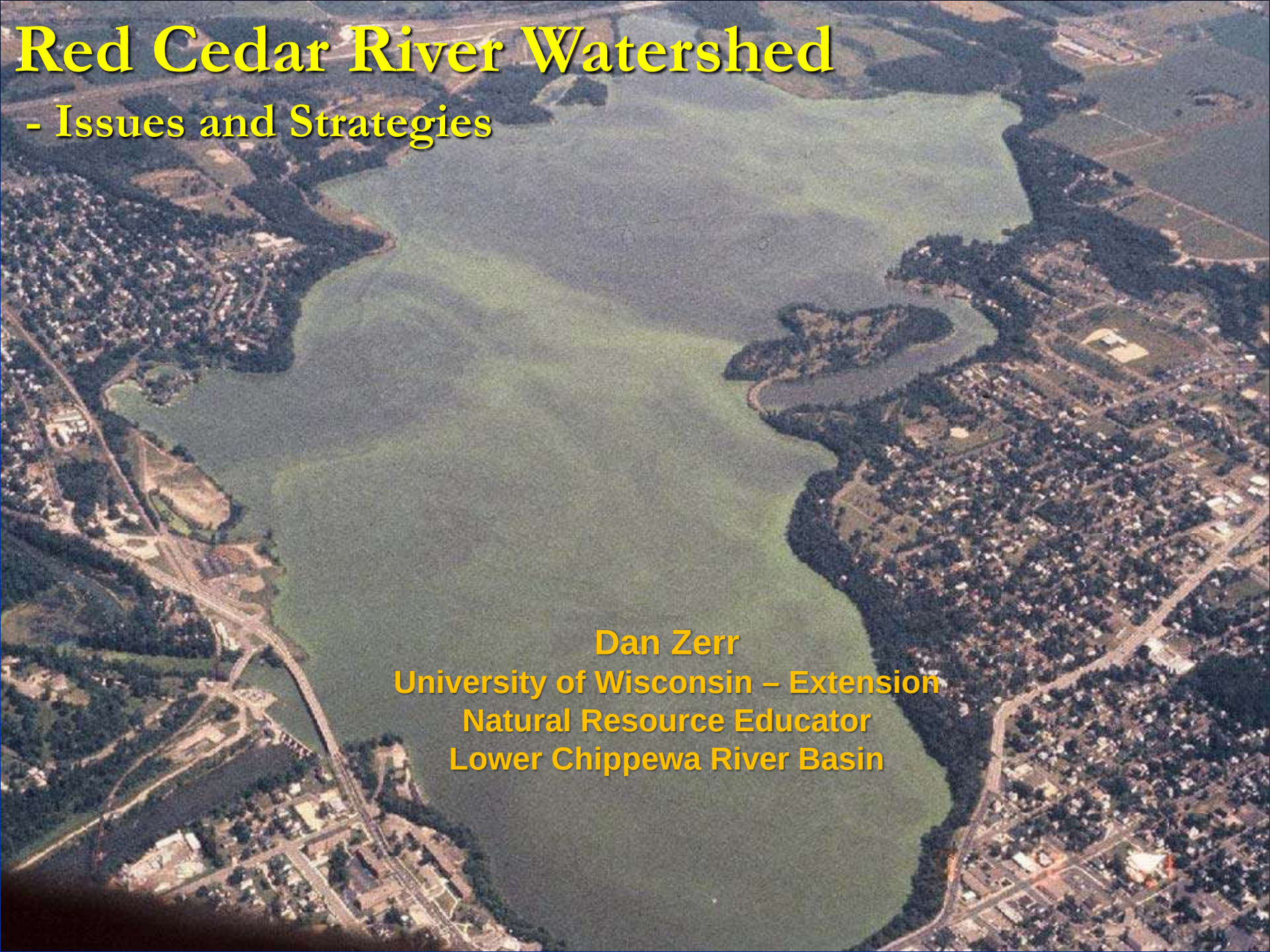
# Red Cedar River Watershed

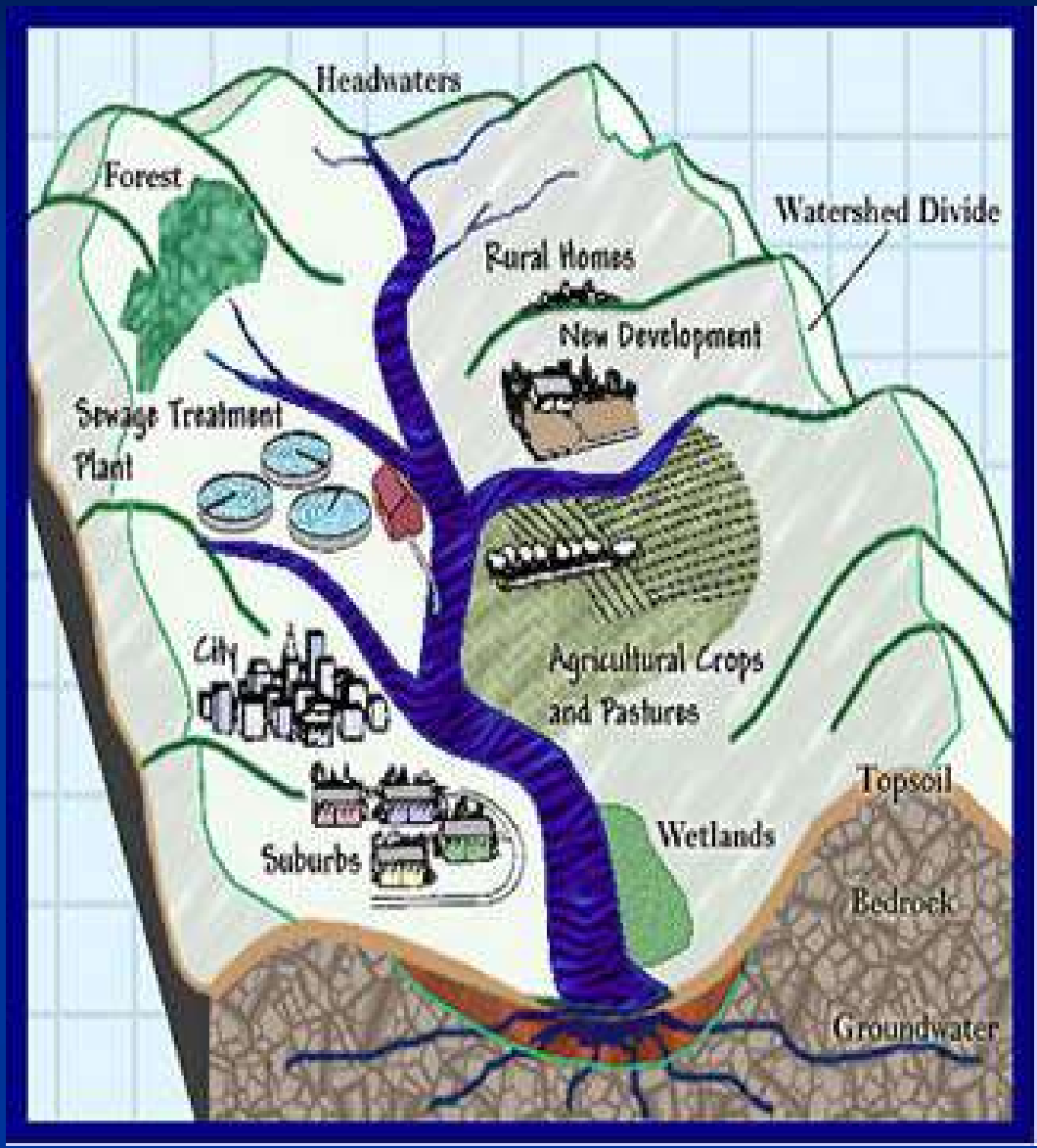
## - Issues and Strategies



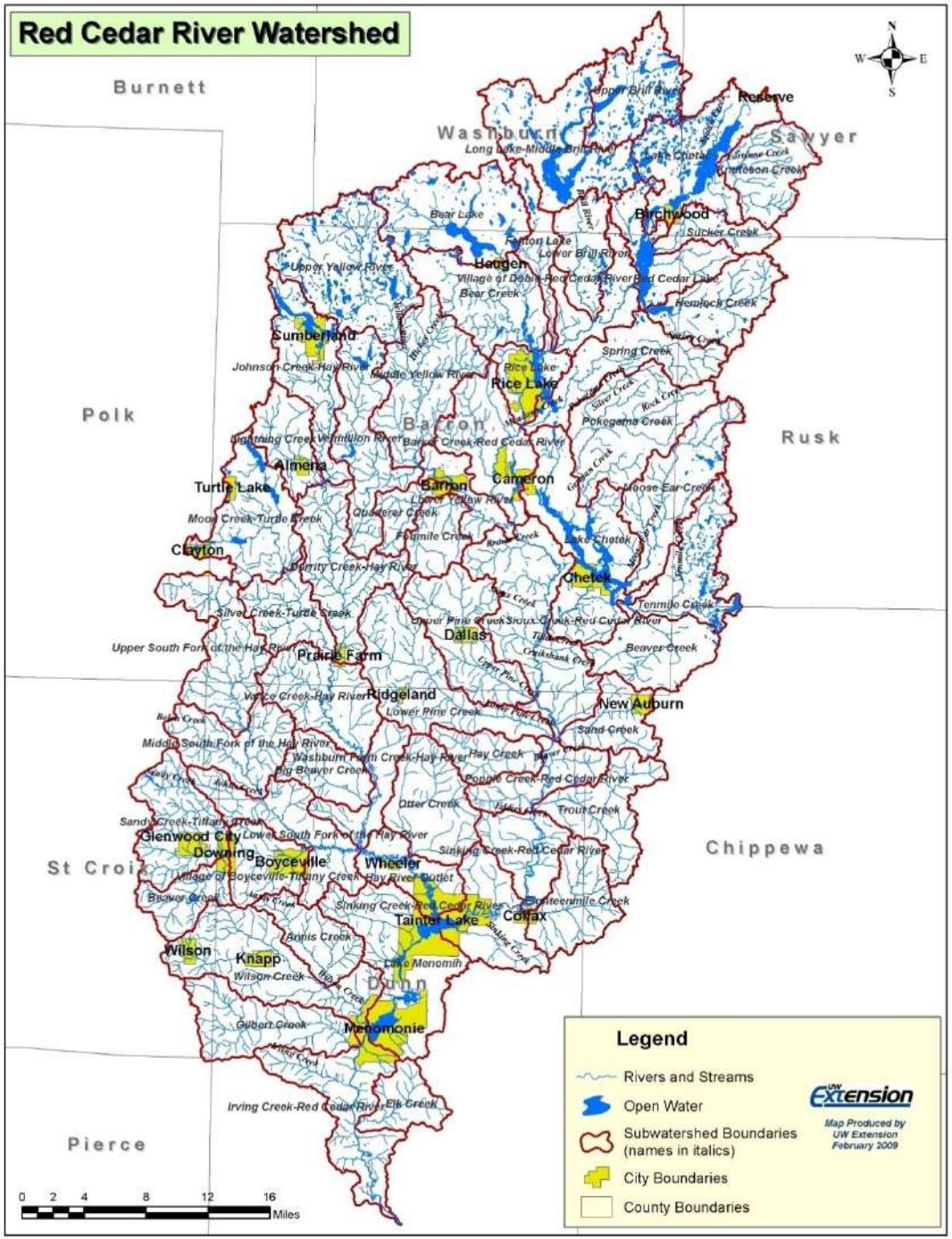
**Dan Zerr**
**University of Wisconsin – Extension**
**Natural Resource Educator**
**Lower Chippewa River Basin**

# 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

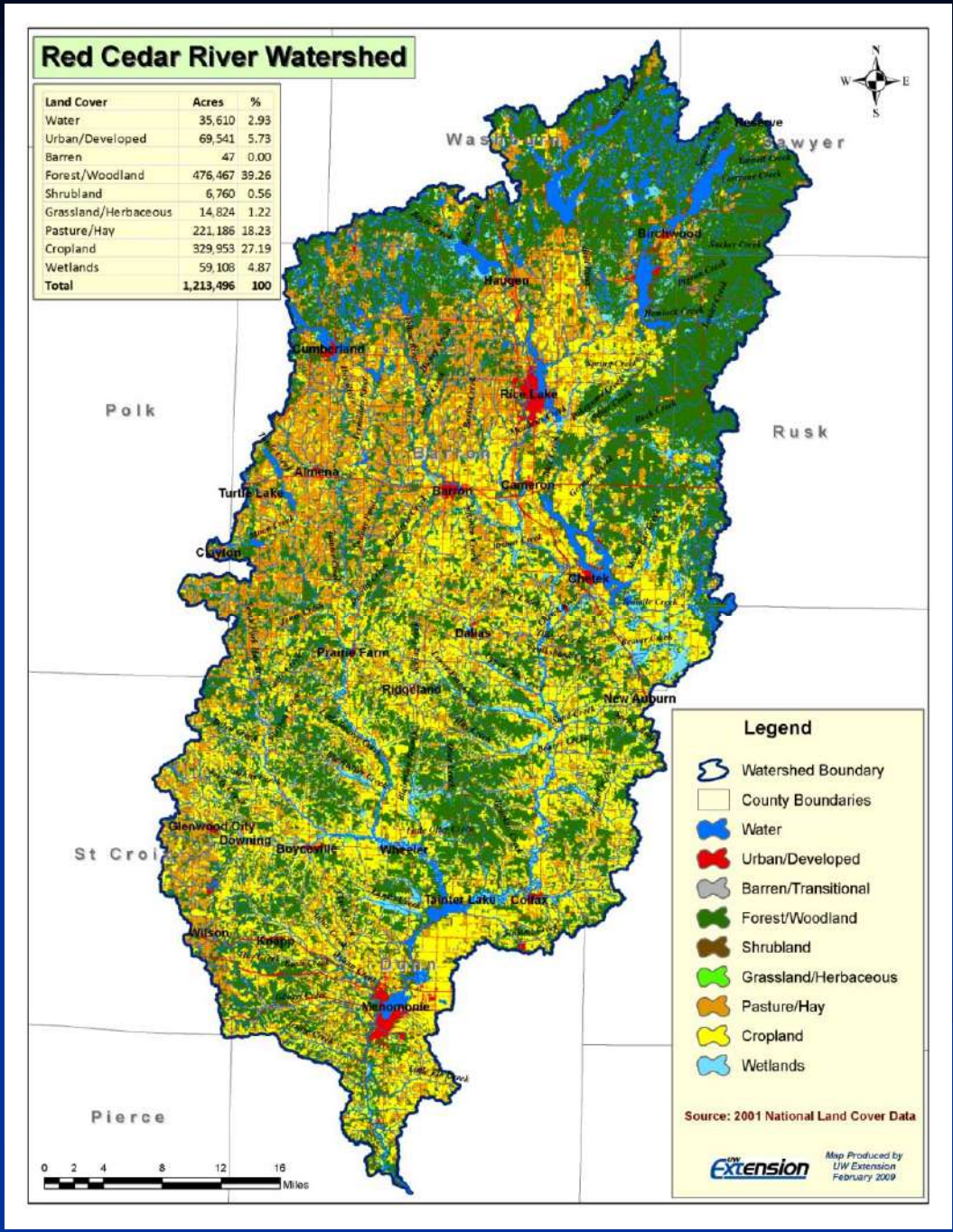
Part


Map Courtesy of US EPA

# Human Impacts Within a Watershed

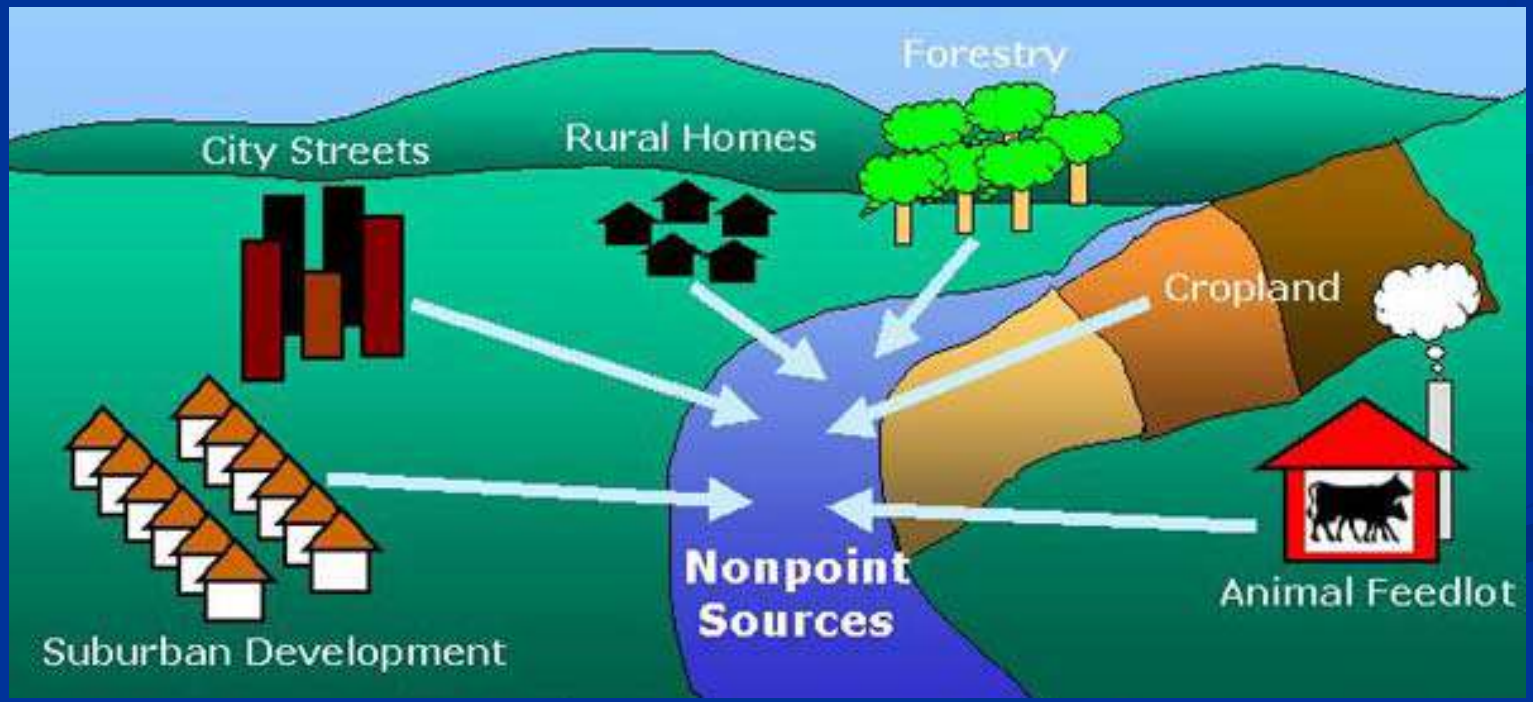
- Historic land cover in the basin was mostly forest with some prairie-oak savanna

- 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

- **Whatever lands on the ground within a watershed can easily end up in the stream or lake (NPS pollution)**

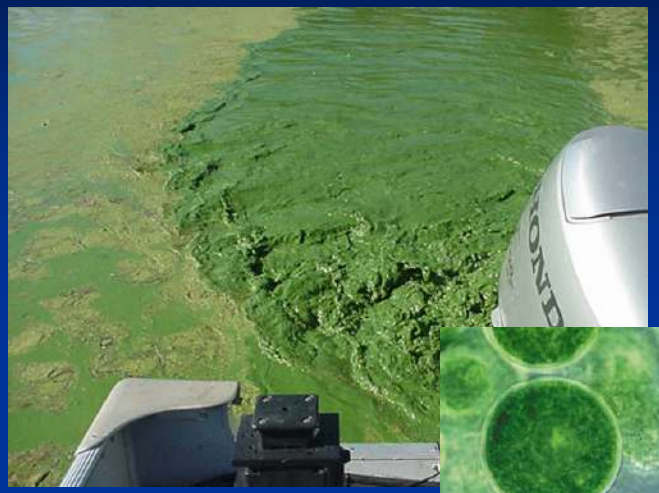


# Water Quality Problems in The Red Cedar River Watershed

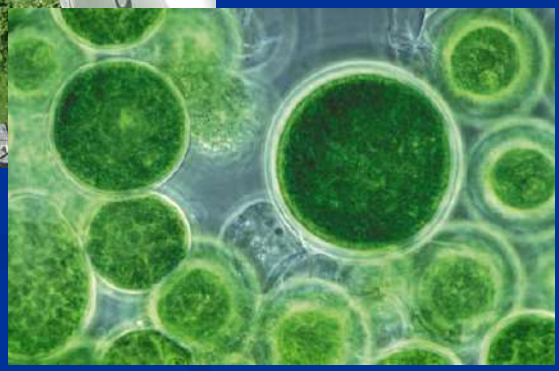
Photos Courtesy of WDNR

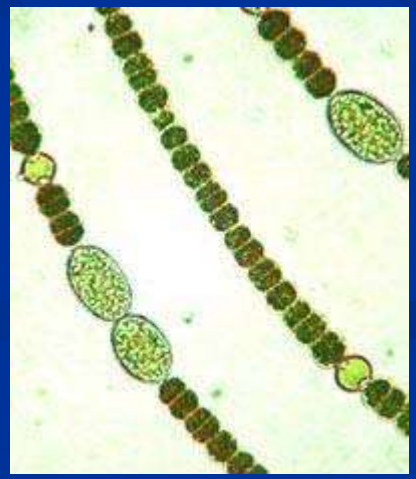
# What's All That Green Stuff?

- 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

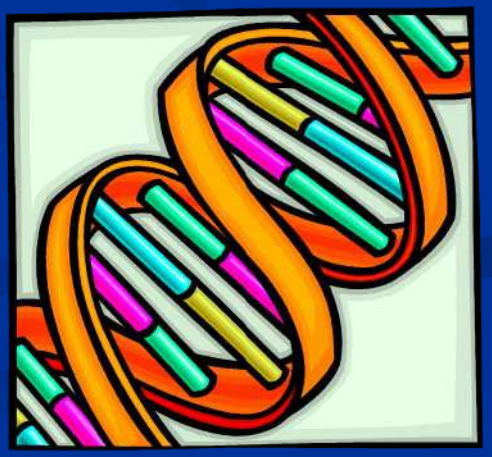
# Why is Algae Bad For Water Quality?

- 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

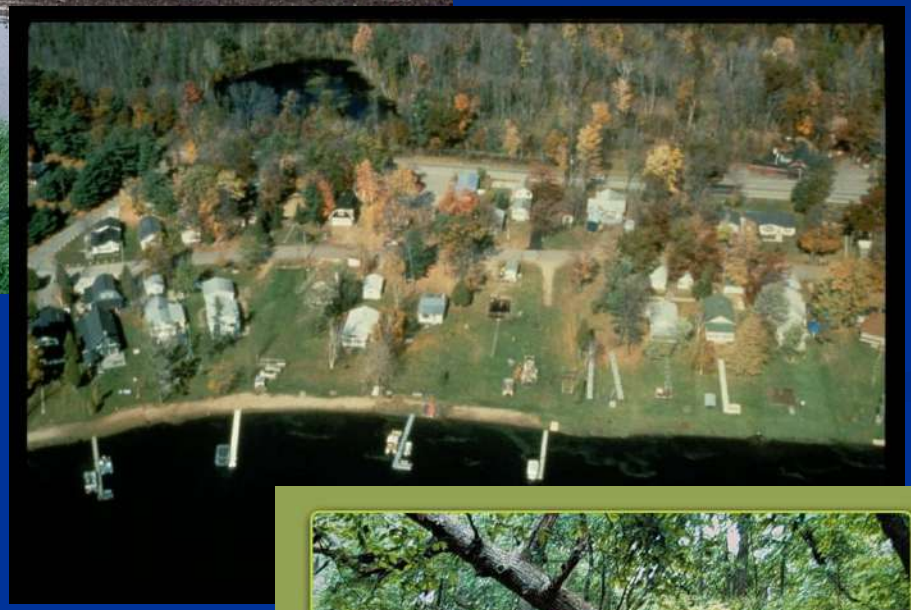



# How is Phosphorus Getting In The Water?

- **Surface runoff**
  - o 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



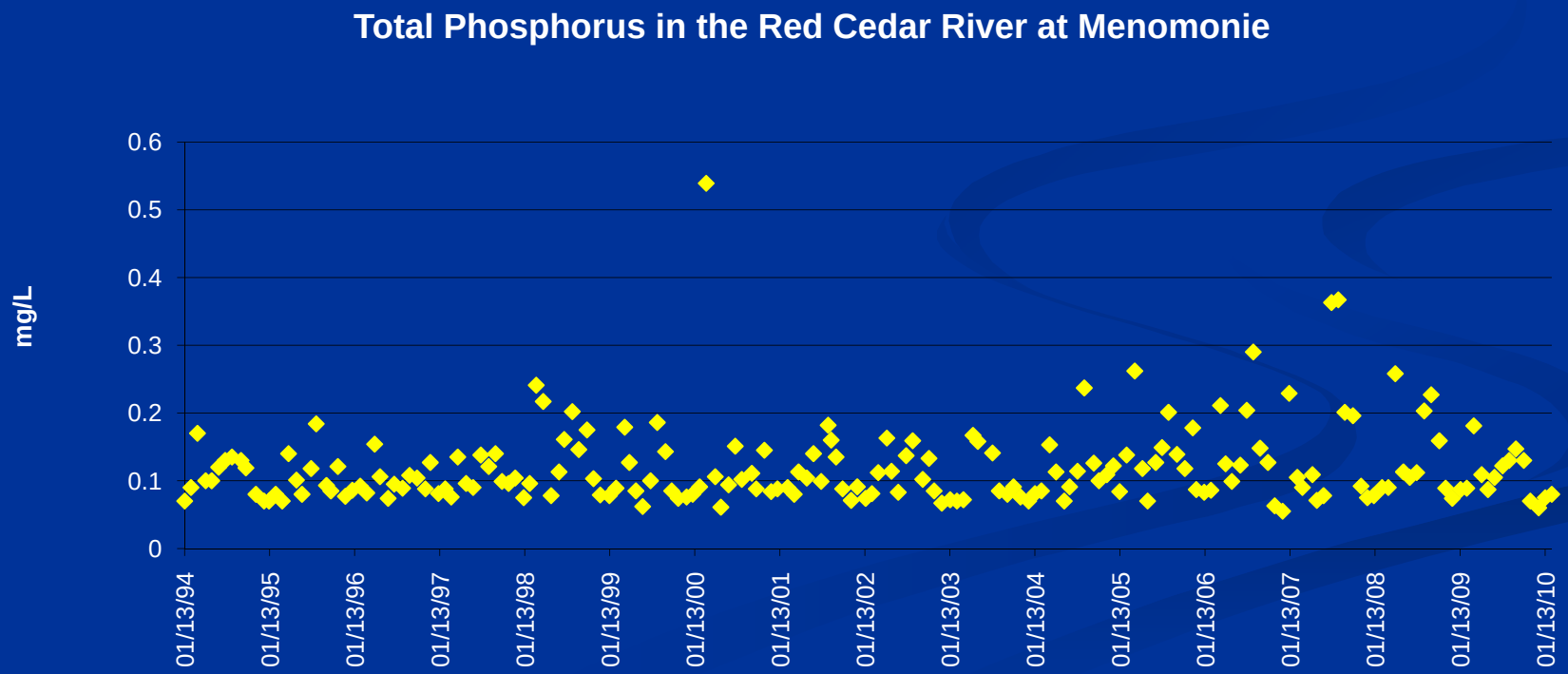
# What Is Being Done?

- County land conservation departments, 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
- Town of Grant Phosphorus Reduction Project
- City of Cumberland Water Quality Trading Project
- Great events like this one from great organizations like Sustainable Dunn

Town of Grant project

# What Is Being Done?

- **Water quality monitoring by UW-Stout and other area schools**
- **WDNR working to both study the issue and provide grants for water quality improvement practices**



# 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**
- **Change agricultural practices to minimize use of phosphorus and manure applications (nutrient management)**
- **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

Photo Courtesy of USGA

# What Can You Do?

- Don’t dump pollutants or other liquids down 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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