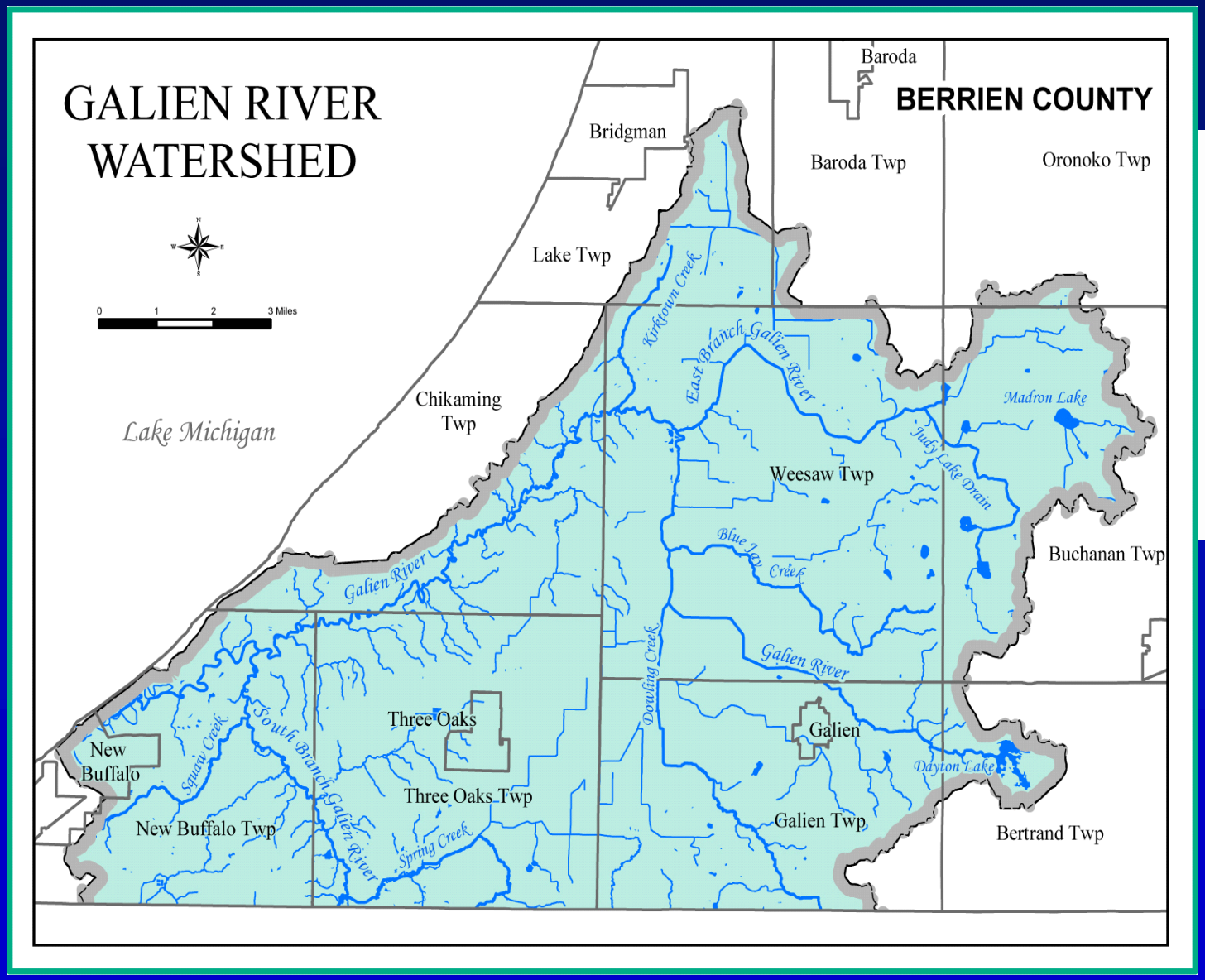
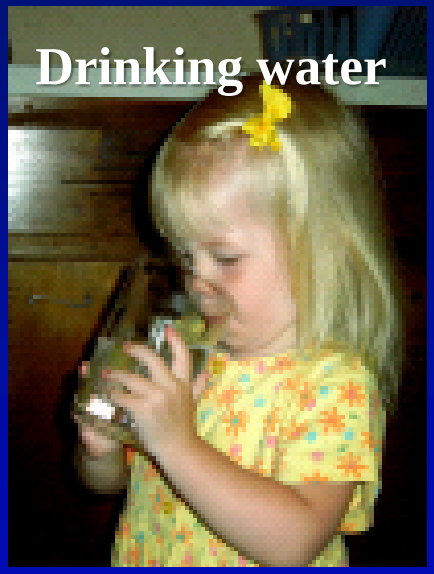
Galien River Watershed



GALIEN RIVER WATERSHED

SWMPC Southwest Michigan Planning Commission

Are We Being Good Stewards?



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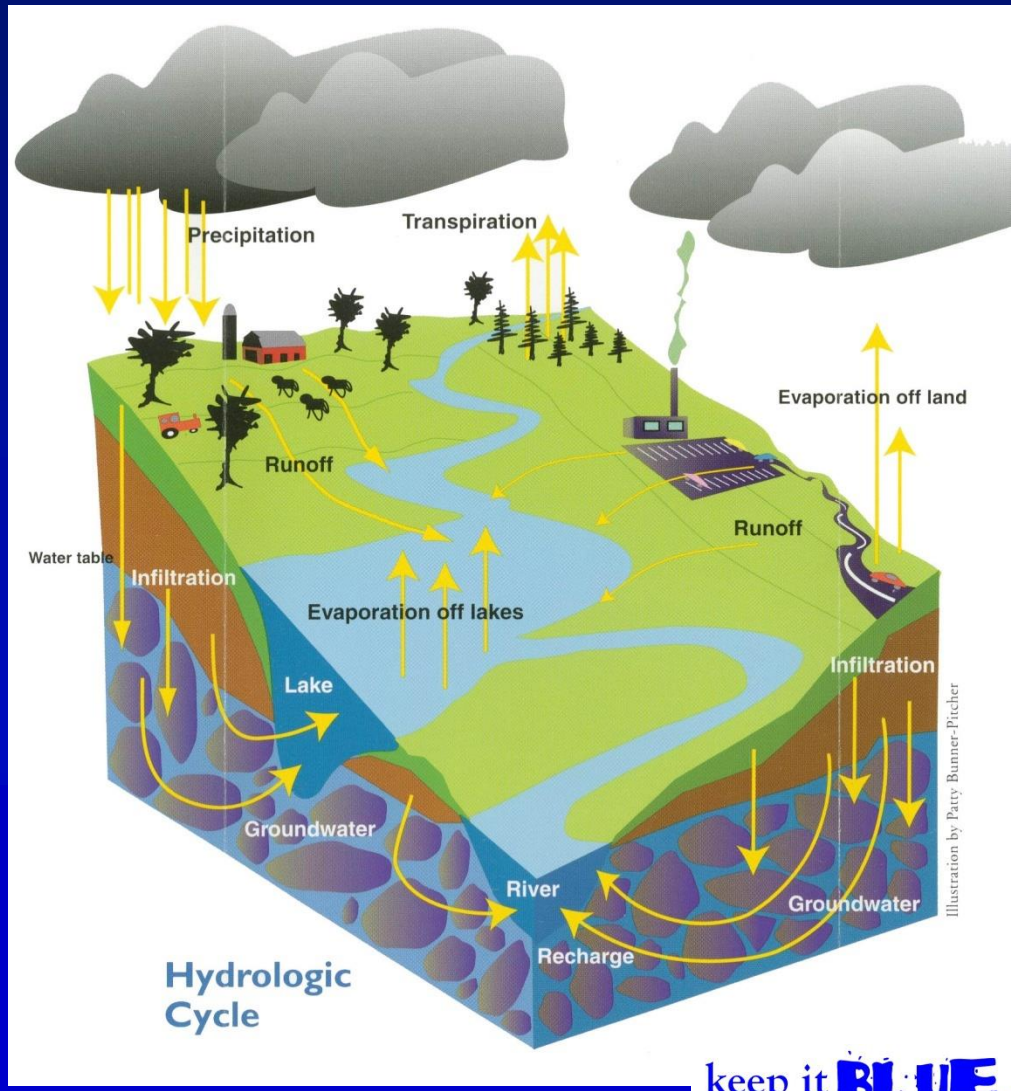
Two Types of Pollution

- Point Source
- Polluted Runoff

Over 60% of water pollution comes from <u>polluted runoff</u>!



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Polluted Runoff

We ALL contribute to polluted runoff:

- **Agriculture**
  - runoff from fields - manure, bacteria, fertilizers, pesticides, sediment
- **Households and other Urbanized Areas**
  - runoff from “car habitat” (roads, parking lots), lawns, rooftops, golf courses, construction sites, etc – sediment, oils, grease, fertilizers, pesticides, bacteria, pet waste
- **Natural Areas**
  - runoff can carry nutrients and E.coli (bacteria) from wildlife

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Common Pollutants

- **Sediment**
  - Improperly managed construction sites
  - Croplands
  - Eroding stream banks
- **Nutrients**

  Excess fertilizers from golf courses, farms, household lawns
- **Bacteria – *E. Coli***
  - livestock
  - pet waste
  - faulty septic systems
- **Oil, grease, and toxic chemicals**
  - Cars - parking lots and streets
  - Pesticides from farms and lawns

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only rain in the drain

Galien River Watershed

- **Nonpoint Source (NPS) Pollutants of Concern**
  - ***E. coli***
  - **Sediment**
  - **Nutrients**
  - Obstructions and debris
  - Altered hydrology
  - Chemicals
  - Increased temperatures
  - Invasive species
  - Urban storm water runoff

Water Pollution Causes

Decreased *fish* and other aquatic life habitat.

Increased chance of ***contaminated drinking water*** *supplies*.

Increased beach closures.

Increased *algae blooms* causing fish kills.

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Agricultural Sources

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Water pollution comes from EVERYDAY activities of households.

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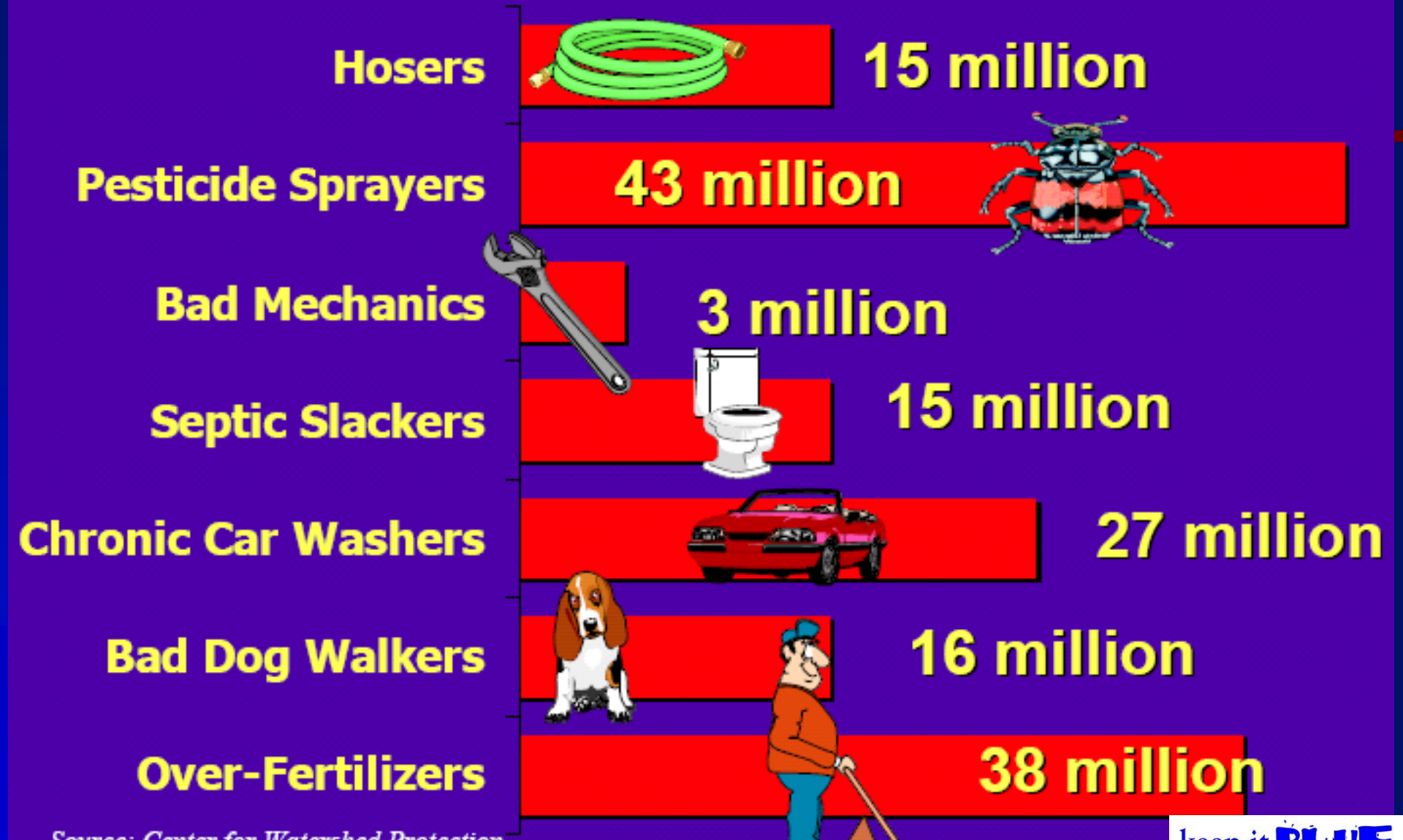
Conservative Estimates of U.S. Polluters

Everyday People doing Everyday Things



Source: Center for Watershed Protection

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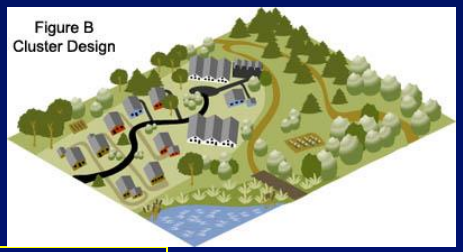
Local Government

- Update master plans and ordinances
- Set a good example – Be a Good Steward!

Developers

- Utilize Low Impact Development
- Preserve natural features (wetlands)



Everyone Needs to Do their Part

Agricultural Operators

- Install agricultural best management practices (BMPs)

Everyone

- Participate in community activities

Landowners

- **Use native plants and provide backyard habitat**
- Conservation Easement with Land Conservancy

Agricultural Lands

Best Management Practices

- Filter Strips
- Wetland Restoration
- Riparian Forested Buffers
- No Till /Conservation Tillage
- Wind Breaks

Wetlands…

- Reduce soil erosion on lake and stream banks
- Filter water (sediment, nutrients, etc)
- Absorb water (reduce flooding)
- Recharge groundwater (provide drinking water)
- Provide habitat (fish, birds, amphibians, etc)
- Provide recreation opportunities (hunting, fishing, bird watching, etc)

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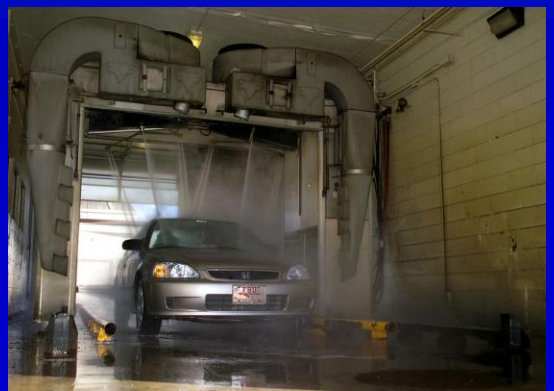
1. Do Not Dump anything down the drain
2. Save Water
3. Use fertilizers sparingly (Zero In The Middle - Phosphorus Free!)
4. Clean up after your pet
5. Clean out your septic system regularly
6. Take your car to a carwash



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Galien River Watershed – And the Survey Says….

Survey Purpose

- What do people know about the watershed and water quality?
- How do we provide the most effective education and outreach materials to the residents of the watershed?

Results

- Mailed 1585 surveys
- 20% response rate (300+ responses)

Water Quality

- Most rated the Galien “Good” for “Scenic Beauty and Enjoyment” (57%)
- Many “Don’t Know” if the water quality is good or not for:
  - Canoeing/Kayaking (35%)
  - Fishing/Fish Habitat (37%)
  - Eating the Fish (45%)

- Many rated the water quality as “Poor” for swimming. (42%)

Key Findings

- 90% - Agree or Strongly Agree - it is my personal responsibility to help protect water quality.
- 80% - Agree or Strongly Agree - the economic stability of my community depends on good water quality.
- 82% Agree or Strongly Agree – my actions have an impact on water quality.
- 68% Agree or Strongly Agree – I would be willing to change the way I care for my lawn to improve water quality
- 74% Disagree or Strongly Disagree – Lawn Care practices on individual lots do not have an impact on local water quality

Water Pollutants

- **E.Coli**
  - 50% - Don’t know
  - 20% - Severe Problem
  - 17% - Moderate Problem
- **Sediment**
  - 43% - Don’t know
  - 26% - Slight Problem

- **Trash/Debris**
  - 25% - Don’t know
  - 20% - Severe Problem
  - 27% - Moderate Problem
- **Phosphorus/Nitrogen**
  - 68-73% - Don’t know

Sources of Water Pollutants

- **Land Development (22% - Severe Problem;** 25% - Moderate Problem; 25% - Don't know)
- **Excessive use of fertilizers**
- **Improperly Maintained Septic Systems**
- **Outputs from Marinas**
- **Littering/Dumping**
- **Landfills**
- **Streambank erosion**

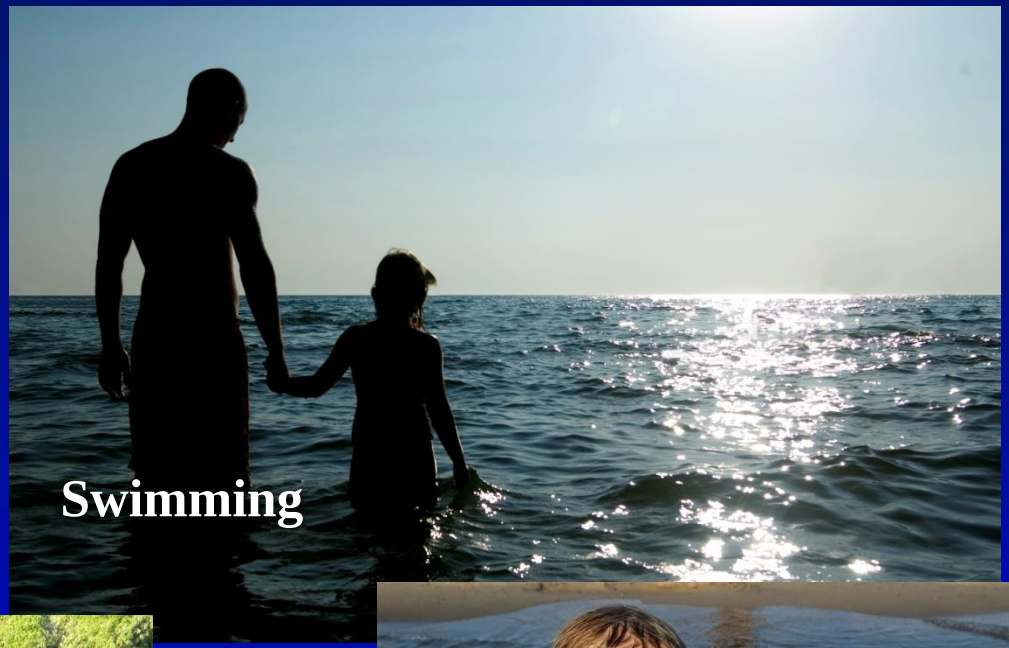
Practices

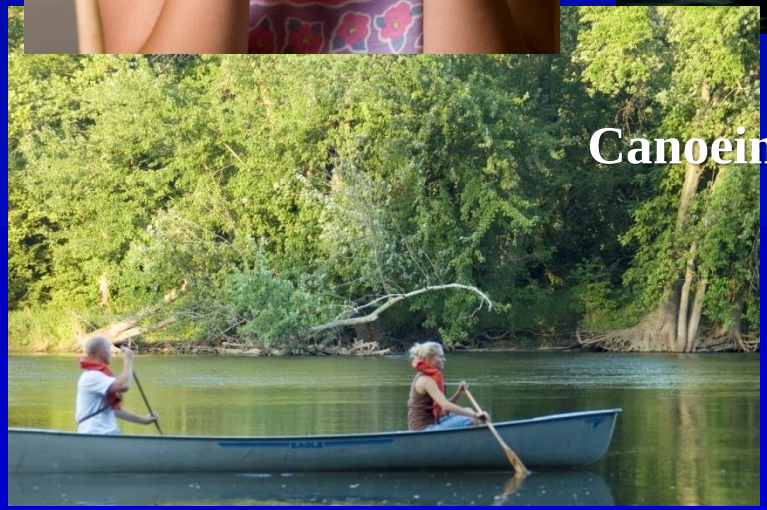
- Most say they:
  - Repair/regularly service their septic system
  - Keep grass clippings on the lawn
  - Recycle auto oil
  - Follow pesticide application instructions
- Many say they don't
  - Protect streambanks with vegetation
  - Plant vegetated buffer strips
  - Use phosphorus free fertilizer
  - Restore wetlands
- Most do not know what a rain garden is!

Septic Systems

- Age of System – 20 years average
- Septic Problems in Last 5 years
  - 14% - Slow drains
  - 0.8% - Sewage flowing to ditch
  - 82% - None
- 21% use a garbage disposal daily or occasionally
- 30% Don’t know if their septic system is designed to treat sewage or get rid of waste
- 65% think a local government agency should handle inspections and maintenance of septic systems

Do your part so we can enjoy….





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For more information visit:

www.swmpc.org/water.asp

The Galien River Watershed

www.swmpc.org/grw.asp