Bring Watershed Science to Your Classroom or Event!

River Raisin Watershed Council
Partner · Protect · Preserve

At the **River Raisin Watershed Council** (RRWC), we're passionate about connecting people of all ages to the health of their watershed. We offer engaging, hands-on environmental education presentations for schools, libraries, community centers, youth programs, and public events. These sessions are adaptable by age and group size, and most can be brought right to your location.

1 Enviroscape Model - Watershed pollution & prevention

This interactive, tabletop 3D model allows participants to see firsthand how everyday activities can lead to water pollution and what we can do to prevent it. We "rain" on the landscape overhead and observe how pollutants travel from land to water.

Teaches: Point vs. non-point source pollution, Human impact on water systems, Stormwater runoff & solutions like buffers and green infrastructure

Best for: Grades 3–12, families, community events

2 Water Surface Model - Flooding, Urban Development, and Stormwater Engineering

Participants use this cityscape model to design and modify buildings, parks, and pavement surfaces, then simulate a rainstorm to see how their choices affect flooding. A fun, gamified approach to understanding stormwater management and climate resilience.

Teaches: Urban runoff vs. green space absorption, Flood mitigation strategies, How we can "design with nature"

Best for: Grades 5–12, libraries, community groups

3 Rain Gardens 101 - Green Infrastructure and Native Planting

This presentation explores the basics of rain gardens—how they work, why they matter, and how participants can create one at home or school. Includes visuals, interactive Q&A, and example plant lists. Optional hands-on soil testing or design activity for older students or adults.

Teaches: Benefits of native plants, Stormwater capture, Site selection and design basics

Best for: Grade 5 to adult audiences

4 Master Rain Gardener Training - Advanced Rain Garden Design & Community Action

This presentation introduces our **Master Rain Gardener Certification Program**, a deeper training for those interested in installing or advocating for rain gardens in their neighborhoods. It includes case studies, design guidance, and how to enroll in the full certification course (hosted online or in partnership with other watershed groups).

Teaches: Advanced garden design & maintenance, Neighborhood-scale green infrastructure, Advocacy and stewardship

Best for: Adults, homeowners, landscape professionals, and city staff

+

We work with: Elementary to high school classrooms | Libraries and after-school programs | Nature centers and outdoor schools | Scouting groups and summer camps | Public events, Earth Day fairs, and festivals

Presentations are adaptable for age group, space, and time available. We bring all supplies and materials unless otherwise noted.

Interested in scheduling a presentation? Email us at **admin@riverraisin.org** or visit **riverraisin.org** to request a visit or learn more. Let's bring watershed science to your community!

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Michigan Department of Environment, Great Lakes, and Energy

Understanding Your Watershed: The River Raisin

What is a Watershed & Why It Matters to You

River Raisin WATERSHED COUNCIL
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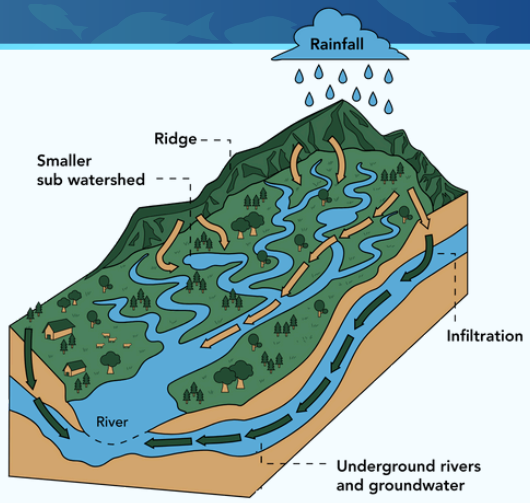
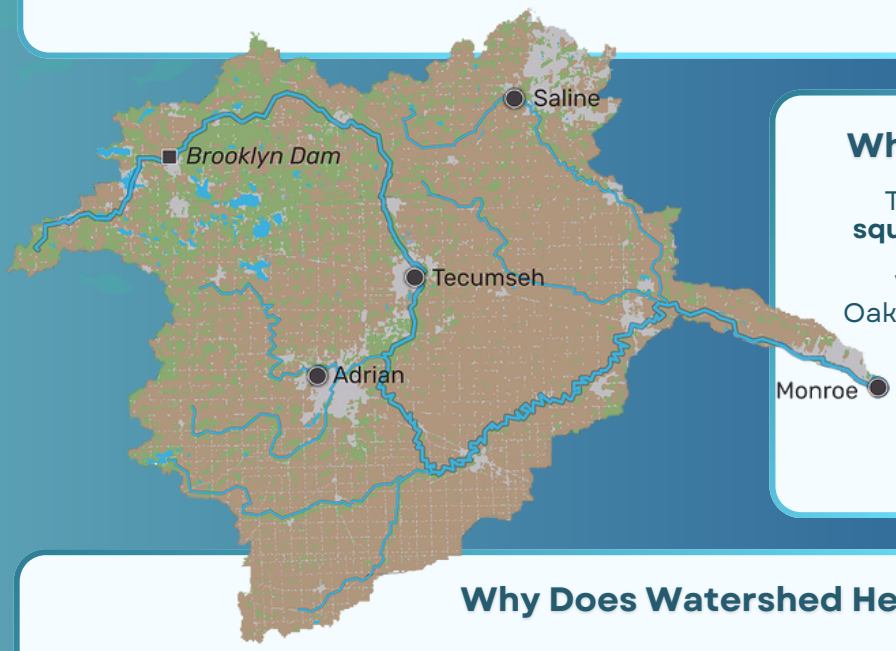
What is a Watershed?

A **watershed** is the land area that drains into a common body of water—like a river, stream, or lake. When rain falls or snow melts, that water travels downhill, picking up whatever's on the land—soil, nutrients, pollution before flowing into nearby waterways.

Think of it as a giant funnel: every drop of water that falls within the boundaries of a watershed eventually flows into the same place.

Watersheds are shaped by natural features like hills, valleys, and soil type. They're also impacted by human activity, such as development, farming, and infrastructure.





Where Is the River Raisin Watershed?

The River Raisin Watershed covers about **1,072 square miles** across southeast Michigan, flowing through Lenawee, Monroe, Jackson, Hillsdale, Washtenaw, and small portions of Wayne and Oakland Counties before emptying into Lake Erie.

The River Raisin itself is **139 miles long**, with over **430 miles** of tributary streams. Towns like Tecumseh, Adrian, Blissfield, and Monroe all lie within its watershed.

Why Does Watershed Health Matter?

What happens on the land directly impacts the health of our water. From the farm fields of Adrian to the storm drains of Monroe, every action, big or small, has a ripple effect.

Healthy watersheds mean:

- **Clean drinking water**
- **Safe places to swim, fish, and enjoy nature**
- **Resilient ecosystems that support fish, birds, and pollinators**
- **Reduced flooding and erosion**
- **Stronger local economies and agricultural sustainability**

When we protect our watershed, we protect our communities, wildlife, and future generations.

The River Raisin Watershed Council offers: Educational programs, Volunteer opportunities, Master Rain Gardener certification & rain garden workshops, Stewardship events and community cleanups

Interested in learning more? Email us at **admin@riverraisin.org** or visit **riverraisin.org** to get involved with watershed protection!

River Raisin WATERSHED COUNCIL

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Planting with Purpose: Native Plants & Water Quality

How Native Plants Help Keep Our Waters Clean

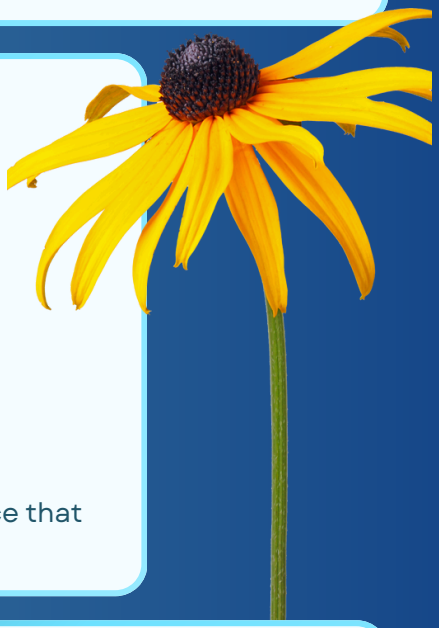
Why Native Plants Matter for Clean Water

Native plants do more than look beautiful, they're essential to the health of our local waterways. Because native species have deep root systems and are well-adapted to Michigan's climate, they:

- Absorb more stormwater than traditional turfgrass
- Reduce flooding and runoff
- Filter out pollutants like fertilizer, motor oil, and pet waste before they reach our rivers and streams
- Prevent soil erosion along shorelines and in yards

When you plant native, you're helping to protect the River Raisin Watershed, support biodiversity, and build climate resilience–one garden at a time.

Beginner's Guide to Choosing Native Plants



Not sure where to start? Here are some easy-to-grow native species that thrive in Southeast Michigan:

Type	Example Species	Water-Loving?
Flowers	Black-eyed Susan, Purple Coneflower, Wild Bergamot	Moderate
Grasses	Little Bluestem, Switchgrass	Yes
Shrubs	Red Osier Dogwood, Buttonbush	Yes
Groundcover	Wild Strawberry, Foamflower	Moderate

Tip: Mix flower types and bloom times to create a vibrant, pollinator-friendly space that provides beauty and function all season long.

Where to Find Native Plants or Seeds

Support local conservation and biodiversity by purchasing from trusted native plant sources:

- River Raisin Native Plant Sale (Spring & Fall events–check our calendar!)
- Washtenaw County Conservation District
- Liv's Native Nursery - Milan, MI
- Michigan Wildflower Farm – Portland, MI
- Windy Rock Nursery - Manchester, MI

You can also explore seed libraries, land trusts, or join a native plant swap with neighbors and gardeners.

Want to Learn More or Volunteer? We host rain garden design workshops, volunteer native plantings, Master Rain Gardener training and educational presentations.

Email us at **admin@riverraisin.org** or visit **riverraisin.org** to get involved!

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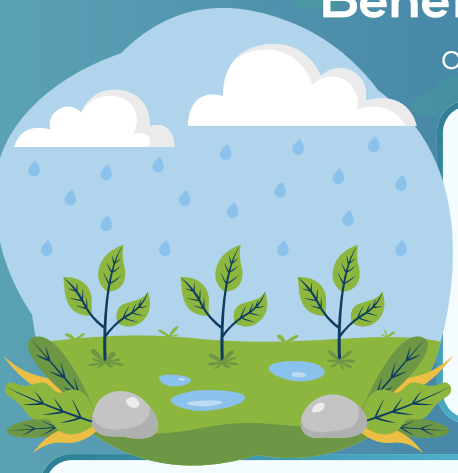
Rain Gardens: Beautiful, Beneficial, and Easy to Build

Capture the Rain. Clean the Water. Grow Something Beautiful.



What Is a Rain Garden?

A **rain garden** is a shallow, planted depression designed to capture rainwater runoff from roofs, driveways, and sidewalks. Instead of sending that water into the storm drain, where it can carry pollution into rivers and lakes. **A rain garden filters the runoff naturally through soil and native plants.**

Rain gardens mimic nature's sponge: they slow the flow, soak up water, and support pollinators, all in your own yard or school grounds.

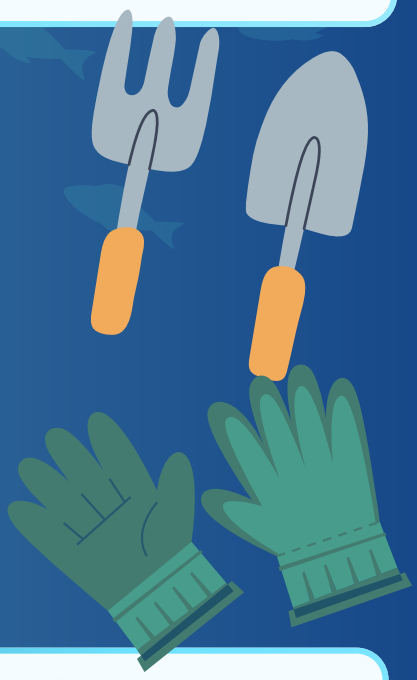
Why Build a Rain Garden?

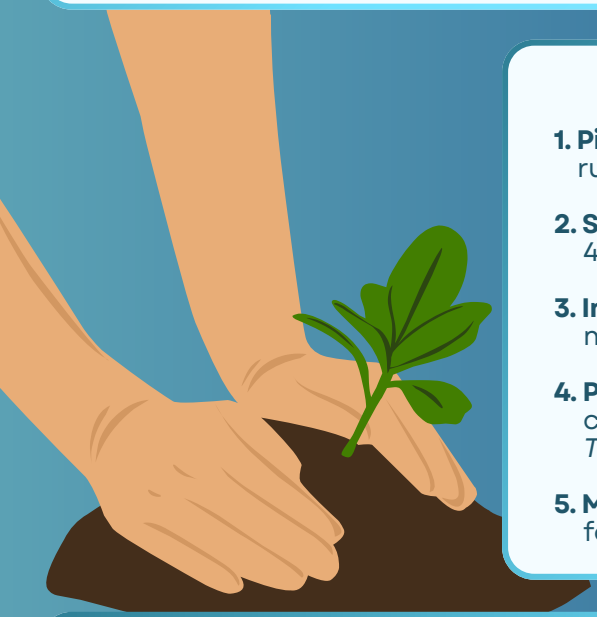
Rain gardens are a powerful tool for clean water and climate resilience.

Here's what they do:

1. Reduce flooding by catching stormwater where it falls
2. Filter pollutants like oil, lawn chemicals, and pet waste
3. Recharge groundwater and improve soil health
4. Protect rivers and streams from erosion and sediment
5. Support pollinators and native wildlife
6. Add beauty and seasonal color to your landscape
7. Save money on lawn care and water bills

Whether you're in the city or country, on a slope or flat lawn, there's a rain garden design that can work for you.





Quick DIY Rain Garden Guide

1. **Pick a Spot:** Choose a low area 10+ feet from your house where rainwater runs off your roof, driveway, or yard.
2. **Shape & Dig :** Outline your garden (kidney shape works great!) and dig it 4–8 inches deep. Slope the sides gently.
3. **Improve Drainage (if needed):** If water doesn't soak in after 24 hours, mix in compost or sand.
4. **Plant Natives:** Add deep-rooted native plants—wet-tolerant ones in the center, drought-tolerant on the edges.
   Try: Purple Coneflower, Switchgrass, Swamp Milkweed.
5. **Mulch & Water:** Cover soil with 2–3 inches of mulch, and water regularly for the first month.

Ready to Build Your Own? We host rain garden design workshops and educational presentations. **Want to become a certified rain garden expert?** Ask us about our Master Rain Gardener Program! Email us at **admin@riverraisin.org** or visit **riverraisin.org** to get involved!

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Every Drop Counts: How You Can Prevent Water Pollution

Everyday Actions. Cleaner Water. Healthier Communities.

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What's the Problem?

Every time it rains, water runs off hard surfaces like rooftops, driveways, and roads, picking up pollutants like oil, pet waste, fertilizers, and litter along the way. This dirty runoff flows into storm drains, which often lead directly into our rivers and streams untreated.

Unlike household wastewater, stormwater isn't cleaned at a treatment plant. That means everyday actions in your yard or driveway can end up polluting the River Raisin, harming drinking water, wildlife, and recreation areas.

This is called non-point source pollution and while it comes from many small sources, the collective impact can be huge. The good news? There's a lot you can do to help.

Common Pollution Sources at Home

You might be surprised how common these are:

- **Motor oil & car fluids** – Leaking cars or spills on driveways
- **Pet waste** – Left on lawns or sidewalks
- **Lawn fertilizer & pesticides** – Washed off by sprinklers or rain
- **Soil erosion** – From bare ground or poorly managed landscaping
- **Household chemicals** – Dumped or rinsed into storm drains
- **Trash & litter** – From sidewalks, parks, and roadways

Small Changes = Big Impact

The good news? Simple, low-cost choices can make a big difference.

Here's how:

- **Fix oil leaks and never dump fluids in the street**
- **Pick up pet waste and throw it in the trash**
- **Use organic or slow-release fertilizer or go fertilizer-free**
- **Plant native plants to reduce runoff and absorb rain**
- **Sweep, don't hose down driveways or sidewalks**
- **Properly dispose of paints, cleaners & meds at hazardous waste sites**

Join a community cleanup or storm drain marking event!

Protecting our waters starts with you! Everything we do on land affects the health of the River Raisin. Be part of the solution, one drop at a time.

Want more tips or to volunteer? Email us at **admin@riverraisin.org** or visit **riverraisin.org** to get involved!

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Where Does the Water Go?

Flooding, Runoff, and How We Can Slow the Flow

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What Causes Local Flooding?

In natural landscapes, rainwater is absorbed by soil, filtered by plant roots, and slowly released into underground aquifers and streams. But in urban and suburban areas, **we've replaced much of that natural sponge with hard surfaces** like rooftops, roads, driveways, and parking lots.

When stormwater has **nowhere to soak in**, it rushes over pavement, picking up speed and pollution. This overwhelms storm drains, floods streets and basements, and erodes riverbanks.

And with climate change bringing more intense rainstorms, flooding is becoming more **frequent and severe** across the River Raisin Watershed.

Pavement vs. Green Space: Why It Matters

- **Pavement** = runoff, flooding, and pollution
- **Green space** = absorption, filtration, and clean water

The more we cover the land, the less water can sink in. **Even small yards, gardens, or trees can help absorb stormwater** and reduce strain on our rivers and infrastructure.

How Can We Fix It? (Mitigation Solutions)

We can design our homes and communities to work with water instead of against it.

Here are a few smart, natural solutions:

- **Rain Gardens – Planted basins that soak up roof and driveway runoff**
- **Green Infrastructure – Like permeable pavement, bioswales (landscaping features designed to manage stormwater runoff), and green roofs**
- **Rain Barrels – Capture water for use in gardens**
- **Trees & Native Plants – Slow down and absorb water**

Sponges, Not Funnels. Let nature hold water instead of rushing it away.

Be Part of the Solution

Every yard, every garden, every green space helps. Want to build your own rain garden or learn more about flood solutions? Email **admin@riverraisin.org** or visit **riverraisin.org** to get involved!

Together, we can help the River Raisin handle the rain one drop at a time!

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You Can Make a Difference!

Watershed heroes wanted, join the movement!

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You Have the Power to Protect Our Watershed

The River Raisin Watershed is shaped not just by rivers and rain but **by the people who care for it**.

From neighborhood cleanups to planting native flowers, **everyone has a role to play** in keeping our water clean, our habitats healthy, and our communities resilient.

You don't need to be a scientist or a landowner to help. **All you need is curiosity, care, and a little time.**

Ways to Get Involved

Here are some easy ways you can be a Watershed Hero in your own backyard or neighborhood:

- **Join a Stream or River Cleanup –** Help remove trash and debris from local waterways
- **Try Citizen Science –** Monitor water quality, or identify macroinvertebrates.
- **Plant Native Gardens –** Volunteer with us or add native plants to your yard to reduce runoff
- **Invite Us to Speak –** Host an educational talk at your school, library, or community group
- **Attend a Rain Garden Workshop –** Learn how to manage stormwater at home
- **Help Restore Habitat –** Join invasive species pulls, plantings, or buffer zone projects

We welcome individuals, families, students, scout troops, and community groups.

Events & Opportunities

Stay connected and join us at events like:

- **Spring & Fall River Cleanups**
- **Native Plant Sales**
- **Rain Garden Workshops**
- **Stream Monitoring Days**
- **Volunteer Events**

Check the full calendar at and to sign up for event updates at **riverraisin.org**.

Scan the QR code and join our Facebook group for more information on exciting volunteer opportunities and events!

Protecting our waters starts with you! Everything we do on land affects the health of the River Raisin. Be part of the solution, one drop at a time. **Want more tips or to volunteer?** Join our **Facebook group** (QR code on the right), email us at **admin@riverraisin.org** or visit **riverraisin.org** to get involved!

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Smart Land Use for Cleaner Water

Best Management Practices (BMPs) for a Healthier Watershed

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What Are BMPs?

Best Management Practices (BMPs) are simple, science-backed techniques that landowners and farmers can use to protect water quality while improving soil health and productivity.

They help:

- **Reduce erosion**
- **Filter stormwater runoff**
- **Keep fertilizers and pollutants out of rivers and streams**
- **Support wildlife habitat and healthy ecosystems**

BMPs can be adapted to **urban lots, farms, or rural properties**, making them a smart investment for cleaner water and long-term land resilience.

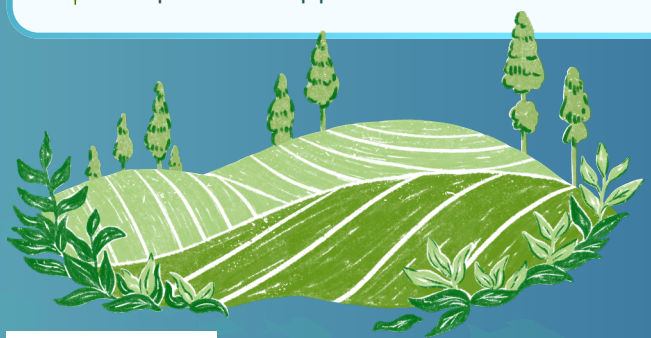
Examples of BMPs in the River Raisin Watershed

- **Riparian Buffers –** Strips of native vegetation along creeks or ditches to trap sediment and filter pollutants
- **Filter Strips** – Grassy areas between fields and waterways that slow and clean runoff
- **Cover Crops** – Planted after harvest to reduce erosion, build soil, and hold nutrients
- **No-Till or Low-Till Practices** – Limit soil disturbance, improving water retention
- **Rain Gardens or Bioswales** – Great for homeowners and small-acreage lots

Small Changes, Big Impact

You don't need to overhaul your whole property to make a difference. Try one of these simple steps:

- **Leave** a 10–15 ft buffer of tall grass or wildflowers along drainage ditches, creeks, or field edges to slow runoff and catch sediment
- **Install** a rain barrel to capture roof runoff for garden watering
- **Reduce** lawn area and plant native species that require less watering and absorb more rain
- **Replace** gravel or paved driveways with permeable materials like crushed stone or permeable pavers
- **Create** a mini wetland or detention area in a low-lying spot on your land
- **Fence** livestock away from streams or wet areas to prevent erosion and nutrient loading
- **Use** precision application for fertilizer and pesticides to reduce excess runoff



Need Help Getting Started?

Funding and support may be available! Ask us about programs through:

- NRCS (Natural Resources Conservation Service)
- Michigan Agriculture Environmental Assurance Program (MAEAP)
- Conservation Districts
- River Raisin Watershed Council

We can help connect you with the right resources, partners, and cost-share programs.

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Life in the Watershed: Flora & Fauna Facts

Clean water. Safe habitat.Thriving wildlife.

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Who Lives in the Watershed?

Native Fish:

- Smallmouth Bass
- Northern Pike
- Rock Bass
- Darters and Shiners

Amphibians & Reptiles:

- Green Frogs, Spring Peepers
- American Toads
- Painted Turtles and Snapping Turtles

Insects:

- Mayflies, Caddisflies, and Stoneflies – vital indicators of water quality
- Dragonflies and Damselflies – predators of mosquito larvae
- Monarch & Eastern Tiger Swallowtail Butterflies

Birds:

- Great Blue Herons, Kingfishers, and Wood Ducks
- Songbirds and pollinators in surrounding riparian zones

These species rely on clean water, intact habitats, and connected ecosystems to survive and many are sensitive to changes in their environment.

What's Threatening Their Habitat?

Unfortunately, much of this biodiversity is at risk due to:

- Stormwater runoff carrying oil, chemicals, and fertilizers
- Streambank erosion from unmanaged land use
- Habitat fragmentation from development and roads
- Invasive species that outcompete native plants and animals
- Loss of native vegetation in riparian buffer zones

When water is polluted, oxygen levels drop, food chains break down, and fish and amphibians struggle to survive.

How Can We Help?

Even small actions can support big improvements in watershed health:

- Plant native vegetation along streambanks and in your yard
- Avoid using pesticides or excess fertilizer
- Keep debris and grass clippings out of storm drains
- Join stream cleanups or habitat restoration events
- Protect wetlands and low-lying areas that serve as nurseries for wildlife
- Support policies and local planning that prioritize green infrastructure and conservation

Want to help wildlife in your watershed thrive?
Email us at **admin@riverraisin.org** or visit **riverraisin.org** to learn more or volunteer.

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Stormwater, Climate, and Your Neighborhood

Building Climate Resilience Right Where You Live

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How Weather is Changing and Why It Matters

The River Raisin Watershed is already feeling the impacts of climate change. We're seeing:

- **Heavier, more frequent rainstorms**
- **Flash flooding in neighborhoods and fields**
- **Longer dry spells between storms**
- **Increased erosion and polluted runoff**

These intense rain events overwhelm storm drains and carry oil, chemicals, and sediment straight into our rivers. This affects water quality, damages wildlife habitat, and puts homes and infrastructure at risk.

Climate change isn't just a future problem, it's already reshaping our backyards, streets, and streams.

Low-Cost Solutions for Climate-Ready Communities

The good news? You don't need big budgets to make a difference. Homeowners, schools, and neighborhoods can build resilience through simple, nature-based solutions:

- **Rain Gardens** – Absorb runoff and reduce flooding
- **Native Plant Landscaping** – Deep roots stabilize soil and reduce water needs
- **Rain Barrels** – Capture roof runoff for garden use
- **Permeable Surfaces** – Gravel, pavers, or mulch instead of concrete
- **Tree Planting** – Shade, stormwater absorption, and carbon storage
- **Disconnecting Downspouts** – Redirect water to a rain garden or lawn instead of the storm drain

Each of these small actions helps slow the flow and reduce strain on our waterways during extreme weather.

Why Green Infrastructure Matters Now

Unlike traditional infrastructure (like pipes and sewers), green infrastructure works with nature, capturing, filtering, and slowly releasing water.

It's more affordable, more sustainable, and provides co-benefits like:

- **Cleaner water**
- **Healthier habitats**
- **Reduced urban heat**
- **Stronger community connections**
- **Long-term savings**

In the face of climate change, green infrastructure is no longer optional–it's essential.

Protecting our waters starts with you! Everything we do on land affects the health of the River Raisin. Be part of the solution, one drop at a time. **Want more tips or to volunteer?** Email us at **admin@riverraisin.org** or visit **riverraisin.org** to get involved!

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