



# LAND TO LAKE

**magazine** issue 9 | autumn 2018 | [landtolake.com](http://landtolake.com)

Local Watershed Groups

MS4: Improving Water Quality

4Rs of Nutrient Stewardship

*Riverfront*  
Improvements



# COMMUNITY EVENTS | NEWS

Fall 2018 - Winter 2019:

## 2 The Nature of Water in Cities: A Cascade of Benefits

October 26, 7:00 pm – Toledo Museum of Art. Presented by Kathleen L. Wolf, University of Washington, Seattle.

[www.toledomuseum.org/visit/events](http://www.toledomuseum.org/visit/events)

## Tree Climbing, Health Walks, Trail Challenges and more!

Year-round. Metroparks Toledo offers dozens of low-cost or free educational programs for all ages and interests. [metroparkstoledo.com](http://metroparkstoledo.com)


## Farm Fair

January 18-20, 2019 – Northtowne Mall, Defiance. Presented by Tinora Young Farmers and Defiance Soil & Water Conservation District. *Come out to this indoor 'fair' to see farm equipment, wildlife presentations, local farmers, and enjoy some fair food!*

[defianceswcd.org](http://defianceswcd.org)

## Defiance SWCD Tree Seedling Sale

Deadline for orders: March 15, 2019  
*See back cover for details.*



### BLACK SWAMP NATURE CENTER

51 acres for wildlife, education and recreation. Boat launch allows easy access to Flat Rock Creek. Trails loop around the top banks of three ponds along Flat Rock Creek and past the old Sugar Beet dam.

[pauldingswcd.org](http://pauldingswcd.org)



## SWCD Conservation Partner of the Year 2018

Bill Wendling of Sherwood was presented with the Conservation Partner Award at the Defiance SWCD Annual Banquet, September 2018. The Award is presented to an individual or an organization who has worked closely with the District to promote natural resource conservation throughout Defiance County.

Bill graciously provided his expertise and guidance in designing and constructing a lean-to structure that ensures that the District's conservation equipment is well-maintained and readily accessible by landowners—not only for this year, but for decades to come. The project was finished early spring of 2018. Thank you Bill, for helping to construct the lean-to structure and ultimately, helping to put conservation on the ground in Defiance County!



Published to provide the community with information on protecting the water resources of the Maumee River Watershed throughout Defiance County.

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watch for our next issue  
**SPRING 2019**

On The Cover: **View From The Fort Grounds**  
Photo by Debbie Stevens ©2018

## Organizations Working To Improve Water Quality

# SAVE MAUMEE

**S**ave Maumee Grassroots Organization has been implementing restoration projects since 2005 as a 100% volunteer organization. Save Maumee's purpose is to preserve, protect and improve the ecosystems of the Upper Maumee River and Watershed by increasing public awareness through advocacy, collaboration, education and hands-on projects in the Ft. Wayne, Indiana area.

This riparian buffer\* initiative protects water quality by reducing erosion and protecting the river from the impact of adjacent land uses. For more info, visit: [savemaumee.org](http://savemaumee.org)

\*A riparian buffer is a vegetated area adjacent to a stream or river. A healthy riparian area is host to a diverse mix of native trees, shrubs, grasses and flowering plants. See page 4-5.

## Save Maumee Riparian Buffer Initiative 2016-2019

- Restored 1.4 miles of degraded stream banks
- Created 4 acres of riparian buffer
- Planting 2780 native trees and shrubs
- Removal of invasive species including:  
Tree of Heaven, Autumn Olive & Asian Honeysuckle
- Funding from Great Lakes Restoration Initiative and US Forest Service
- LOCAL PARTICIPATION! Thousands of volunteer hours!



## Maumee River Basin Watershed Groups:

Partners for Clean Streams  
[partnersforcleanstreams.org](http://partnersforcleanstreams.org)

St Joseph River Watershed Initiative:  
[sjrwi.org](http://sjrwi.org)

Upper Maumee Watershed Partnership:  
[uppermaumeewatershed.com](http://uppermaumeewatershed.com)

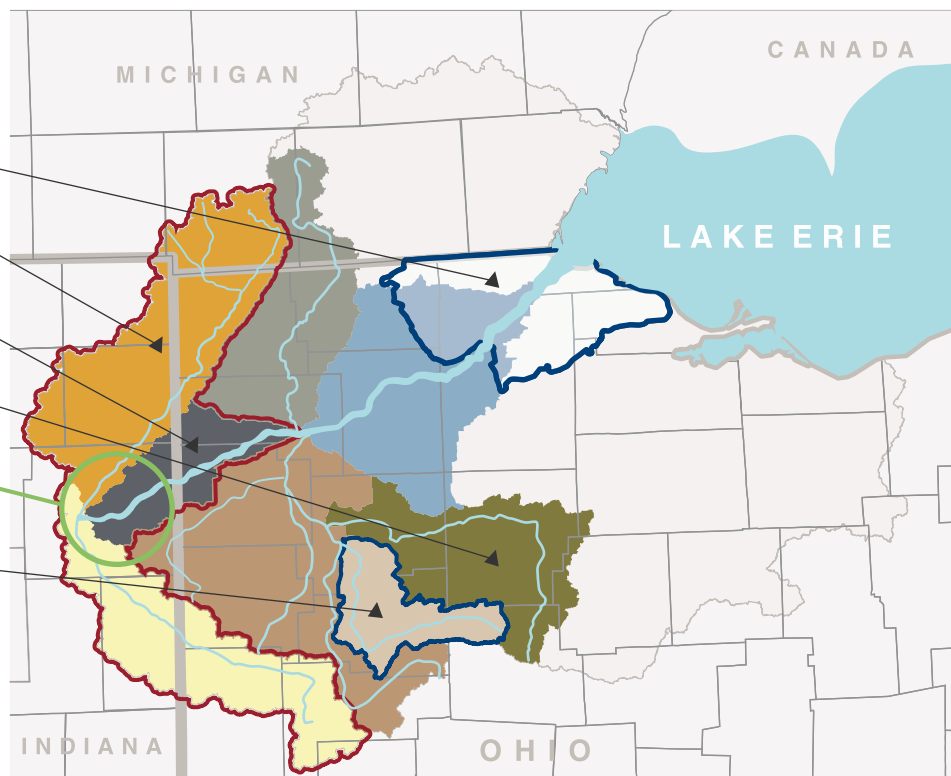
Blanchard River Watershed Partnership:  
[blanchardriver.org](http://blanchardriver.org)

Save Maumee  
[savemaumee.org](http://savemaumee.org)

Ottawa River Coalition  
[thisismyriver.org](http://thisismyriver.org)

Tri-State Watershed Alliance  
[omirivers.org/portal](http://omirivers.org/portal)

Know of another watershed group or organization that should be included?  
Please send info to: [jenglish@cityofdefiance.com](mailto:jenglish@cityofdefiance.com)



# Riverfront Improvements

Project Partners:

4



Defiance County  
Metro Parks Board



## Riparian Buffers

A riparian zone is the area adjacent to a stream or river (*in plain English, it's the riverbank*). Plant habitats along streams and riverbanks are considered “riparian vegetation.” The typical riparian area is host to a diverse mix of trees, shrubs, grasses and flowering plants.

A healthy riparian zone has mature trees with roots to hold soil in place. This forested area functions as a buffer

to protect water quality by preventing erosion.

### How To Create A Riparian Buffer:

- ① Stabilize riverbank with rocks or “hard armoring” if needed.
- ② Remove undesirable vegetation —some invasive species have become illegal.
- ③ Replant desirable vegetation —native, deep-rooted plants will hold soils in place.



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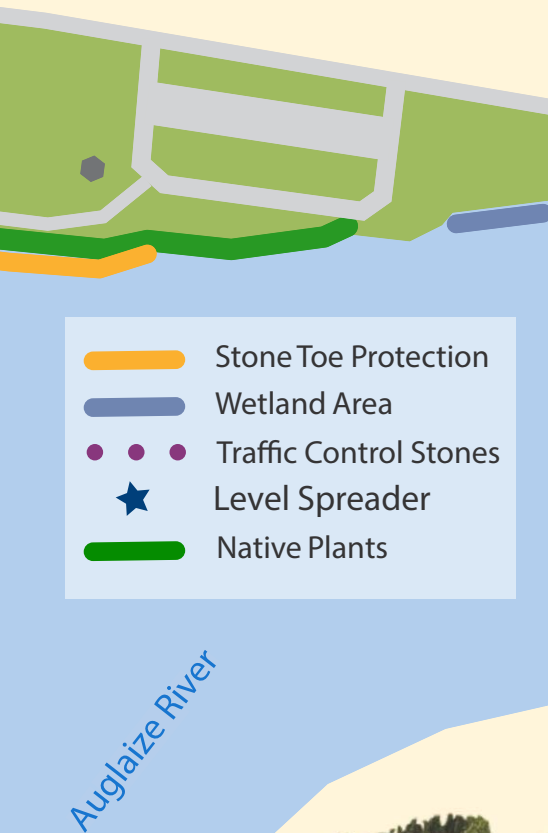
# Maumee River Streambank Stabilization & Water Quality Improvement Practices Phase Two



**Tatarian Honeysuckle** | Photo: F.D. Richards

## Invasive Plant Management

Invasive plant species can wreck the balance of an ecosystem, eliminating native plants by taking available space, shading them to steal sunlight, and absorbing water with aggressive roots. Over eight species of invasive plants have been removed at Pontiac Park.



## Biodiversity at the Confluence

The term *biodiversity* is a combination of the words *biological* and *diversity* and is defined as the variety of life on Earth. Native plants and restored ecosystems support increased biodiversity by creating places for plants, animals, fungi, and micro-organisms to grow and by laying the foundation for complex ecological relationships such as food chains. Below are some species that depend on the landscape at the confluence of the rivers.



**Bald Eagle**

Photo: Adobe Stock



**Eastern Redbud**

Photo: Adobe Stock



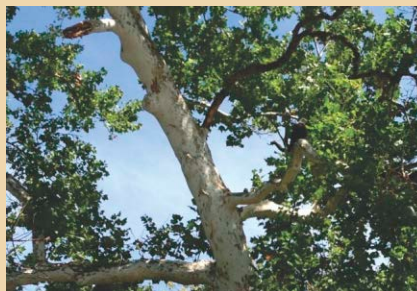
**Monarch Butterfly**

Photo: Adobe Stock



**Midland Painted Turtle**

Photo: Brian Lasenby



**American Sycamore**

Photo: Jennifer English



**Great Blue Heron**

Photo: Gregory Johnston

# Improving Water Quality

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**M**S4 is an acronym for: **Municipal Separate Storm Sewer System**. The Ohio EPA MS4 Permit requires the City of Defiance to develop and implement a Stormwater Management Plan.

The plan covers all publicly-owned systems for conveying storm water.

- Catch Basins
- Curb & Gutter
- Roadside Ditches
- Man-made channels
- Pipes, Tunnels
- Storm Drains
- Detention/Retention Ponds

«—————»

**Includes City Infrastructure  
and Natural Drainage**

«—————»

The City's MS4 program consists of:

### Five Themes

- Nutrient Management
- Erosion/Sediment Control
- Residential Stormwater Management
- Trash and Litter
- Illicit Discharges and Hazardous Waste Disposal

## Nutrient Management

Excess nutrients (nitrogen and phosphorus) are among the most prevalent cause of water quality impairment in the United States leading to such problems as harmful algal blooms, hypoxia, fish kills, terrestrial biodiversity changes and degradation of drinking source waters that require costly water treatment.

While progress is being made, nutrients continue to be released and discharged at concentrations that cause adverse impacts to human health and our local ecosystems. The City is working closely with local partners to develop a 'Source Water Protection Plan'. *Watch for details in our Spring 2019 issue.*

## How YOU can make a difference:

### Keep Leaves Off the Street *(and out of our streams)*

Raking leaves from the street is one of the best ways homeowners can help our water quality in the fall. Why? When left in the street, leaves make a phosphorus-rich tea that flows through storm sewers and directly into our rivers, contributing to harmful algal blooms and poor water quality. More info on leaves and yard care: [cleanlakesalliance.org/leaves](http://cleanlakesalliance.org/leaves)

### Rake Leaves to the Curb\* For City Collection

\* Just TO the curb please, not in the street—see above! See the pick-up schedule here: [cityofdefiance.com/2018-leaf-pick-up-schedule](http://cityofdefiance.com/2018-leaf-pick-up-schedule)

### Leave the Leaves (on your property)

Leaves can serve as beneficial natural mulch and provide benefits to wildlife and your garden. For more ideas and information on what to do with fallen leaves, visit: [blog.nwf.org/2014/11/what-to-do-with-fallen-leaves](http://blog.nwf.org/2014/11/what-to-do-with-fallen-leaves)

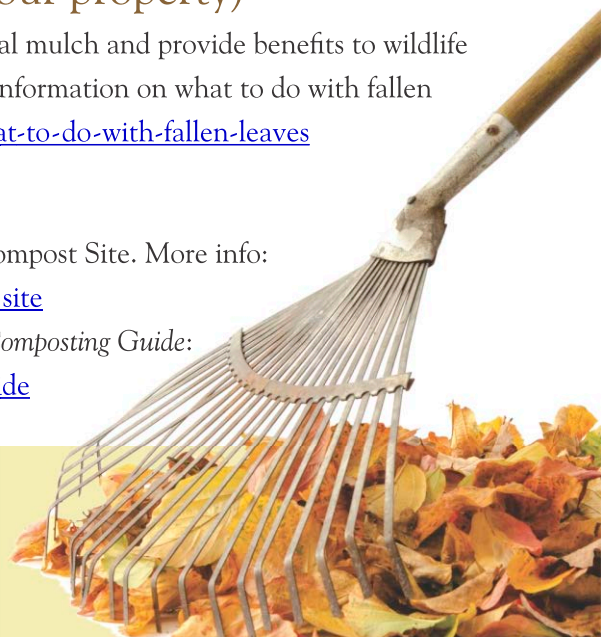
### Compost

Transport your leaves to the City Compost Site. More info: [cityofdefiance.com/divisions/compost-site](http://cityofdefiance.com/divisions/compost-site)

Compost at home. See our *Home Composting Guide*: [landtolake.com/home-composting-guide](http://landtolake.com/home-composting-guide)



*Autumn is a second spring when every leaf is a flower. —Albert Camus*





# What Do The 4Rs Mean For Me?

by Stephanie Singer, The Nature Conservancy

The 4R program is an easy way to remember the RIGHT way to make sure YOU are not contributing to the algal blooms in Lake Erie. The blooms are fueled by dissolved phosphorus leaving the land and traveling through small streams and ditches to the Maumee River and into the lake.

Where does dissolved phosphorus come from? Phosphorus is important to life. We are made of phosphorus and plants need it to survive. It can be found in animal waste from pets, livestock, humans, and wildlife. Phosphorus plays a role in fertilizing crops, gardens and lawns.

The 4Rs can help us make smart decisions when applying fertilizers containing phosphorus. We can also make sure the phosphorus in our pets' waste doesn't make it to the water by following some of these guidelines.

## Right Rate

Before you apply a fertilizer to your lawn, garden, or crops, it is *essential* that you use the right amount. Please pull soil tests and determine if you even need a fertilizer. If your soil test calls for phosphorus, make sure you DO NOT over apply. Soil tests are a fun and inexpensive way to make sure you are using the *right* rate. This seems like a simple step that everyone can do!



4Rs of Nutrient Stewardship

## Right Time

Please check the weather report before you apply any type of fertilizer. If rain is forecasted, please know that the rain will likely carry some of the fertilizer from the intended use to the nearby ditch, stream and river. Also research the plant you are trying to fertilize. When does it need nutrients? Pick a time to apply when the plant is most likely to use it. Be smart about the time you apply to make sure your money spent on fertilizer isn't washed to Lake Erie.

## Right Place

We know that fertilizer will be more likely to stay put if it is in contact with soil. If possible, inject or incorporate your fertilizer into the ground being careful not to disturb the important soil structure.

## Right Source

Fertilizer comes in many different forms, including livestock manure and commercial fertilizer. Make sure you are choosing the right fertilizer for the job you need done.

If each person acts responsibly with fertilizer, the Lake Erie algal blooms will decrease. If you are unsure if you are losing phosphorus, talk to a lawn service or crop consultant. Many retailers are becoming 4R certified facilities, which means they have completed a rigorous process to make sure they are making recommendations in line with the 4Rs. Ask your advisor if they are 4R certified. Ask farmers if they are following the 4Rs. Ask for lawn fertilizer that does not contain phosphorus. Ask yourself if there is anything else you can do to reduce phosphorus like cleaning pet waste, mulching leaves, and maintaining your septic system. Right now, there is just too much phosphorus escaping from a very large landscape. Every effort counts.



Stephanie Singer is the Outreach Education Specialist at the Western Lake Erie Basin Agriculture project office of The Nature Conservancy. She welcomes visitors at:

210 Clinton Street, Defiance, OH  
or feedback at 419-782-0652

[stephanie.singer@tnc.org](mailto:stephanie.singer@tnc.org)

*The mission of The Nature Conservancy is to protect the land and waters on which all life depends.*



DEFIANCE  
**Soil & Water**  
CONSERVATION DISTRICT

# 2019 Tree Seedling Sale

419-782-1794 | [defianceSWCD.org](http://defianceSWCD.org)

	Packets Ordered	# Per Packet	Packet Description	Price	Total
<b>Coniferous Trees</b>		10	American Arborvitae 8-14"	\$10.00	
		10	Bald Cypress 12-18"	\$10.00	
		10	Colorado Blue Spruce 9-15"	\$8.00	
		10	Eastern White Pine 8-12"	\$8.00	
		10	Norway Spruce 10-18"	\$8.00	
		10	Red Cedar 10-16"	\$10.00	
		10	White Spruce 10-18"	\$8.00	
<b>Deciduous Trees</b>		10	Bur Oak 12-18"	\$9.00	
		10	Hackberry 12-18"	\$9.00	
		10	Paw Paw 12-18"	\$13.00	
		10	Pin Oak 12-18"	\$9.00	
		10	Red Bud 12-18"	\$9.00	
		10	Red Maple 12-18"	\$9.00	
		10	Swamp White Oak 12-18"	\$9.00	
		10	Sycamore 12-18"	\$9.00	
<b>Deciduous Shrubs</b>		10	American Elderberry 12-18"	\$9.00	
		10	Buttonbush 12-18"	\$9.00	
		10	Highbush Cranberry 12-18"	\$9.00	
<b>Misc.</b>		1	4-Foot Tree Tube Kit Includes tree tube, oak stake, and mat	\$5.75	
		10	Marking Flags	\$1.00	

Name: \_\_\_\_\_

**Total**

Street Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Tree descriptions available at: [defianceSWCD.org](http://defianceSWCD.org)

Please make checks payable to: **Defiance SWCD**, 06879 Evansport Road, Suite C, Defiance, OH 43512. All orders must be paid in full. You will be notified in early April via postcard or email when your order will be available for pickup. The Defiance SWCD makes every effort to provide excellent quality stock, but we cannot provide any guarantees of survival or growth.

For Office Use Only:      Order # \_\_\_\_\_      Receipt # \_\_\_\_\_      Date Received \_\_\_\_\_

**Order Deadline**  
**March 15, 2019**