

**Did you know?**  
The commercial harvest of freshwater mussels is a multi-million dollar industry in North America. Shells are harvested and exported to Asia where they are made into nuclei for insertion into oysters to create cultured pearls.

Welcome to the first edition of the bi-annual Newsletter for Riparian Owners in the Rouge River Watershed!

Look for this newsletter two times per year. It will have tips and insights on the privileges and responsibilities that you have, as a landowner in a riparian area.

## The Mollusks Among Us

What are those little things that hide in the mud?

(Tracy Slintak, City of Troy Engineering Department, 248-524-3381)

Lurking in the watery depths of our local rivers and lakes are creatures so bizarre they may not be believed. These headless, arm and legless animals breathe and consume their food through a tube-like opening. They create tiny currents with the water that flows through them. They remove pollutants from the water and make their homes in the soft mud. They are the mollusks.



*The white heelsplitter - if you ever see an empty shell up close, you'll know how it got its name!*

Our very own headwaters of the Rouge River are home to six varieties of mollusks, three of which may be too large to be believed. The common floater, white heelsplitter, and the squawfoot vary between 4 inches (squawfoot) and 10 inches (white heelsplitter) in length. These fascinating, if simple, creatures survive in the sometimes-unpredictable waters of the Rouge. Dependant upon a constant supply of water, they are very sensitive to interruptions in flow, such as when water is pumped from the river for lawn irrigation.

The next time you go exploring by the waterside - look out for these mysterious bottom-dwellers. You may be surprised at what you find! ■

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## Annual River Day

(Brandy Bakita, Rouge Coordinator, City of Southfield, 248-354-5847)

The Rivers of Southeast Michigan have joined together to create River Day on the first Saturday in June of every year for clean-ups, nature hikes, canoe trips, and other river related activities. This is a great day for volunteers from local business, homeowners associations, school groups, service organizations, churches, and concerned citizens to work together and make a difference in their community. So come bring your family and friends and make new ones - the rivers of Southeast Michigan need your help. Please contact Friends of the Rouge at (313) 792-9900 for more information and locations in your community. You can make a difference! ■

## Living on the Edge (of the Rouge)

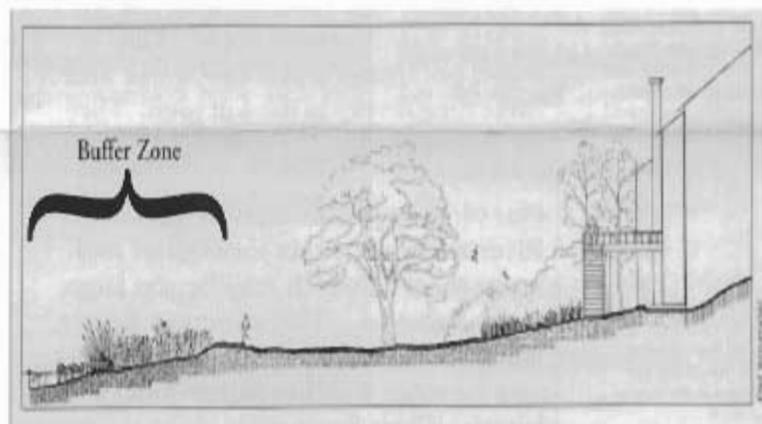
### Buffers are Better

(Lisa Zawaski, Bloomfield Township Water & Sewer Department, 248-433-7797)

If you live along a creek, stream, shoreline or wetland, you are a "riparian property owner". Your recreation, planting and landscaping maintenance activities directly impact the water quality in your yard and surrounding communities. A "buffer" is a strip of land that is adjacent to your water body. When it is treated with care, it will provide immense benefits by protecting that water body (think of it as a water body "right-of-way"). These buffers help to protect water quality by filtering pollutants, sediments and nutrients from runoff.

#### Buffer Bonuses:

1. Buffers help stabilize streambanks and reduce erosion. Roots hold the bank together while stems protect banks by deflecting the cutting action of waves, ice, boat wakes and storm runoff.
2. They improve water quality by removing sediment, fertilizers, pesticides and other potential contaminants from runoff.
3. Buffers can help deter geese! (Geese are attracted to well-manicured lawns much more than taller native plants and grasses along a shoreline - geese can't jump.)
4. Buffers enhance fish and wildlife habitat.
5. Buffers improve soil quality.



#### Building Your Buffer:

- Know where your water goes- Spend some time outside during a rainstorm and watch your property to see where the water flows. The buffer will work best if the water spreads out and does not flow straight to the water body. Regrade or use stones or landscape timbers to divert runoff to flatter areas where it can soak in. If your land receives stormwater from a road, an engineer's advice may be useful.
- If nothing else: **DO NOT fertilize** your lawn within 25-30 feet of a water course. Simply avoiding the placement of fertilizer in this area can have dramatic effects on the water quality- and it will save you time and money! Encourage your neighbors to do the same.
- Make sure your project complies with appropriate permitting agencies, ordinances and regulations.
- If possible, a width of 25-30 feet is recommended for your buffer area, however you may not have that much room to spare - even a 5-10 foot buffer will produce some benefits.
- If you desire an access to your water body, create a curved path in lieu of a straight path which can direct runoff right to the water body.
- Avoid pesticide use in the buffer zone.

#### In Our Next Issue!

- Suggested buffer plantings to hold your soil in place.
- Which watershed do you live in?

*Many lakeshore problems can be solved with the planting of a buffer zone!*

## Waterside Ownership - Riparian Responsibilities

(Jennifer Lawson, Hubbell, Roth & Clark, 248-454-6300)

**D**o you live in a riparian area, or near a riparian area? A RIPARIAN AREA is the shoreline of a lake or stream and the adjacent land. This can be private property, public property, parkland, beach or much more. Not only is your property value enhanced, but wildlife and fish habitat, recreation use & water quality, important to us all, are dependent upon this zone. Proper management of riparian areas can enhance the economic, social and cultural benefits for our communities.

Many riparian landowners may not be aware that inappropriate landscaping, improper use or disposal of lawn materials, and uncontrolled burning and dumping can cause erosion and poor water quality. As a riparian landowner, you may have a greater responsibility to the watercourse in your yard, as you are the direct connection to the water. What you put on your lawn, or what you physically do the riverbank will affect the river. There are many things that a riparian landowner must address when managing your riparian area.



A well-managed buffer zone can be a beautiful addition to your landscape, and also protect the health of the waterways that we all enjoy!

Things to consider:

1. **More is not better:** One of the largest problems in Michigan's waterways is the excess nutrients from the overuse and/or misapplication of fertilizers on lawns.
  - Follow the directions on the bag for application rates.
  - Do not fertilize plants near streambanks and shorelines
  - Do not dump excess fertilizer into the street or catch basins.
2. **No dumping allowed:** Streambank erosion can be worsened by leaves, grass clippings and other yard refuse placed along the stream banks. Existing vegetation and stabilizing roots are killed. Loss of land will eventually occur as more of the bank erodes.
  - Properly dispose of yard refuse.
  - Do not burn yard refuse on or near a streambank
- Try composting. It's easy and fun, as well as good for your garden
- Stockpile firewood and other materials away from the streambank. Logs and floatable debris contribute to logjams and possible flooding.
3. **Plant yourself some roots:** When ground and banks are left bare, soil washes off into nearby streams. An eroding bank makes it difficult to support vegetation and doesn't buffer other pollutants from entering the stream.
  - Establish vegetation on all bare areas.
  - Preserve a "buffer strip" of at least 10 feet of dense, preferably natural vegetation to grow along the water's edge and streambank. This allows pollutants to filter out and the bank to stabilize.
- \* 4. **Short grass doesn't cut it.**
  - Consider native grasses rather than Kentucky Bluegrass.
  - Never mow to the edge of a streambank or shoreline. Leave a buffer of at least several feet for root development
  - Never mow the grass shorter than 2.5 inches in height. The height allows larger and deeper root systems, which are a strong defense against weeds and drought.

By making a concerted effort to protect the water quality in your backyard, you are helping protect the water quality of everyone that lives, works and plays downstream of you.

### Fertilizer Use - Lessen the Impact (Why Should I Worry About It?)

(Kathy Fraser, Environmental Planner, Oakland County Drain Office, 248-858-0957)

Your community has a stake in the fertilizers that you use on your lawn! They are working to restore and maintain water quality, and part of the problems is linked to the nutrients in fertilizers.

The large amount of developed land in the Metro Detroit area, including along rivers and lakes, makes proper use of fertilizers even more important. Studies show that homeowners, on average, use 3 to 4 times the amount of fertilizers they actually need. Most professionals recommend that areas within 25-50 feet of water should not be fertilized. West Bloomfield Township has a Fertilizer Ordinance, restricting the timing and amounts of fertilizer. Bloomfield Township has a Fertilizer Use Resolution that strongly recommends certain fertilizer application rates and practices.

The communities within the Rouge watershed have also held numerous meetings with citizens, landscapers, and their own staff to assist in promoting sound Healthy Lawn & Garden Programs. To find out more, please contact Lillian Dean at SOCWA- 248-546-5818 or Kathy Fraser at Oakland County- 248-858-0957 or visit [healthylandscapes.org](http://healthylandscapes.org). ■

# Waterside Living



Rouge River Watershed

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# Waterside Living

Welcome to the second edition of the Waterside Living - a newsletter for Riparian landowners in the Rouge River Watershed. Here you will find tips and insights on the privileges and responsibilities of riparian lawnownership.



**Did you know?**

Toads can consume as many as 1,000 insects a day!! Encouraging frogs and toads in your backyard can help control unwanted pests.

Oakland Communities in the Rouge Watershed: Auburn Hills, Beverly Hills, Bingham Farms, Birmingham, Bloomfield Twp., Bloomfield Hills, Commerce Twp., Farmington, Farmington Hills, Franklin, Lathrup Village, Lyon Twp., Novi, Orchard Lake, Pontiac, Rochester Hills, Southfield, Troy, Walled Lake, West Bloomfield Twp., Wixom and Oakland County

## Frogs and Toads - Healthy Water Resource Indicators

Sally Petrella, Friends of The Rouge 313-792-9621 [picoordinator@therouge.org](mailto:picoordinator@therouge.org)

Spring in Michigan would never be complete without the musical trills and peeps of our local frogs and toads. As temperatures rise in the spring, these sensitive creatures make their way to ponds, lakes, swamps and marshes to find a mate. Enjoyable to listen to, frogs and toads play an important role in the food chain and help keep insect populations in check.

According to Friends of the Rouge (FOTR) Frog and Toad Survey, eight species of frogs and toads make their home in the headwaters of the Main Branch of the Rouge. The most common species is the American Toad, a welcome garden resident outside of the breeding season that consumes cutworms, potato beetles, slugs and other garden pests.

The survival of frogs and toads is dependent upon the availability of high quality wetlands and upland habitat. Much of their habitat has been lost and degraded as wetlands are drained and filled and as pond edges are mowed, fertilized, and treated with pesticides.

As riparian landowners, you can protect amphibian habitat by creating a buffer of native vegetation along your waterway, limiting your use of fertilizers and lawn chemicals, and leaving any seasonally wet areas that form in the spring. Spring ponds that dry up in the summer are crucial breeding areas for many species.

To find out more about how to volunteer or learn more about monitoring frog and toad populations, visit the FOTR website at [www.therouge.org](http://www.therouge.org) or contact Sally Petrella. ■

**ROUGE SPECIES**

- Wood Frogs
- Western Chorus Frogs
- Northern Spring Peepers
- American Toads
- Northern Leopard Frogs
- Gray Treefrogs
- Green Frogs
- Bullfrogs

## Managing for West Nile Virus/Mosquito Control

Tracy Slintak, Farmington Hills, 248-553-8580 [tslintak@ci.farmington-hills.mi.us](mailto:tslintak@ci.farmington-hills.mi.us)

As the weather turns warmer, concerns over West Nile Virus (WNV) are resurfacing. According to the Center for Disease Control, WNV is a preventable disease if simple precautions are taken. Oakland County Health Department offers some excellent tips for your protection and minimizing risk in outdoor areas- i.e., draining birdbaths, flowerpots, and gutters. More information on public health protection is available at [www.co.oakland.mi.us/health](http://www.co.oakland.mi.us/health).



If you live near a wetland or other source of water, there is no evidence that you are at a greater risk of contracting WNV. Not all mosquitoes carry WNV, and each species has certain life-cycle and breeding habits that determine which mosquito control methods to use. These natural wet areas actually provide habitat for mosquito predators, so disturbing these areas or using chemicals, might actually increase your risk. Many mosquito control products are available, but not all are safe for our waterways.

For more information on environmentally-friendly ways of combating mosquitoes, while protecting our water resources and natural areas, contact your local community stormwater manager. Many communities are undertaking a mosquito management program appropriate for local conditions. ■

*(FYI: Comparing the the risk of WNV and the flu -- In 2002, 3737 WNV infections were reported with 201 deaths, while the flu caused 28-56 million infections with 20,000 deaths.)*

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# Rouge River Watershed

## Using Native Plants in Landscaping/Buffers

Jennifer Lawson, Hubbell Roth & Clark, Inc. 248-454-6300 jlawson@hrc-engr.com

When most of us think of landscaping, we immediately think of lush lawns, cute ornamental trees and other cultivated flowers and plants that are neatly placed amongst patios and driveways. While this type of landscaping has a certain visual appeal, these materials do not always provide environmental benefits to the neighboring ecology. As scientists and horticulturists learn more about environmental impacts of certain plant materials, many acknowledge the value of incorporating native plant material into natural areas and home landscapes.

**What are Native Plants?** Native plants are those which have evolved in a particular region adapting to its geography, hydrology and climate. Different plants evolving in the same area form a varied community with each adapted to the others to become a community that has a variety of wildlife as well.

**What are Non-native Plants?** Non-native plants are those which have been introduced into an environment in which they did not evolve. Many of our agricultural landscape plants are non-native, having been brought to this country in the last 300 years. Most of these cause no harm, but a few have become invasive because they have no enemies/insects to feed on them and limit their spread. These will invade complex native plant communities and can choke out the natives, leaving a monoculture instead of a rich variety of species. This will reduce or eliminate wildlife and other creatures dependant upon these plants.



### **Why should you use native plants:**

- **Natives provide beautiful landscape** and once established, require less maintenance, reducing the cost and time for yard care.
- **Natives plants can prevent pollution**, because they do not require fertilizers or pesticides and they may have certain pest resistance.
- **Natives require less water and can help with drainage.** While turf grass roots only penetrate the soil about two inches, the roots of native plants can penetrate depths up to 17 inches and can hold soil in place and absorb and store water.
- **Natives provide shelter and food for wildlife and promote biodiversity.** The diverse community of plant materials can provide needed habitat for butterflies and birds.
- **Natives save money.** A study by Applied Ecological Services of Wisconsin of larger properties, estimates that over a 20-year period, the cumulative cost per acre of maintaining a prairie or wetland is \$3,000 versus \$20,000 for a non-native turfgrass.

### **Natives for Buffers:**

A sampling of native plants for riparian areas:

UPLAND PLANTS: New England Aster, Hairy Beard Tongue, Bee Balm, Rough Blazing Star, Black-eyed Susan, Boneset, Butterfly Milkweed, Cut-leaved Coneflower, Yellow Coneflower, showy Goldenrod, Wild Blue Lupine, Big Bluestem, Little Bluestem

WET SOILS/WATER EDGE PLANTS: Turtlehead, Cardinal Flower, Great Blue Lobelia, Joe-pye Weed, Blue Flag Iris, Marsh Marigold, Boneset, Swamp Milkweed, Blue Vervain, Spiderwort, Mountain Mint, Big Bluestem, Sedges & Rushes, Spike Rush, Prairie Cordgrass

In the U.S., approximately 20 million acres of lawn are cultivated and cover more land than any other single crop. By replacing turf grasses with native plants, we restore our natural heritage. Native landscaping is an opportunity to re-establish diversity and protect our environment and water resources. There are many places to find out more about native landscaping, from websites, to local nurseries, to your local stormwater program manager, just ask around and you'll find many resources and learning opportunities. ■

## The New Approach to Logjams--Woody Debris Management

by Matt Best, Wayne County Dept. of Environment 734-326-3936 mbest@co.wayne.mi.us

Until recently, logjams were thought to be a significant problem in rivers and when encountered were completely removed from stream channels. New studies have shown that logjams are an important part of the natural process of a river system and most should be left in place. The fallen trees, large limbs and branches provide significant benefits by reducing streambank erosion by moderating flows, and providing habitat for fish and wildlife.

In the Rouge River, many program managers and other volunteers have developed a process -Woody Debris Management (WDM)- to determine what to do with wood in the river channel. Techniques have been developed to provide guidance on how to manage a logjam in an urban/suburban watershed. WDM techniques preserve and enhance fish and wildlife habitat, reduce localized flooding, increase and maintain a river's aesthetic value and prevents the need for more costly restoration. These techniques range from removing trash in the logjam to opening the center of the logjam, allowing water to flow and utilizing logjam materials for habitat and bank stabilization.

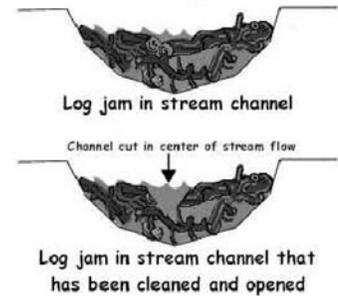
Keep in mind that this technique may not be appropriate in all situations, especially if there are possible impacts to property or buildings in close proximity to the stream. The WDM methods are just one tool in the Riparian Corridor Management Toolkit, including streambank stabilization, buffers, and others. For more information, please contact Matt Best at Wayne County at 734-326-3936 or Friends of the Rouge at 313-972-9621. ■

### Guided Tour of the Rouge Green Corridor

Within the middle of urbanized southern Oakland County, one would not think of finding a natural area with native plants and a host of wildlife, but the Corridor of the Rouge River does provide refuge for such plants and animals. This "green corridor" has recently become a focus for protecting and restoring this system as a ecological functioning area. With a focus beyond the well-traveled roads and many homes in the area, the Corridor reveals itself quietly.

As the Main Branch of the Rouge River flows into Birmingham at Quarton Lake and Booth Park the Corridor is evident. A trail in Booth Park follows the Rouge River flowing south to just above Maple Road, where it is joined by the flow from Quarton Lake. South of Maple, another chip trail along the river through Linden Park ends at a point just north of Lincoln Road. As you move into Beverly Hills, the Green Corridor continues through two nature preserves (Douglas Evans and Hidden Rivers) and Riverside Park. Moving into Southfield you will find the Corridor in Valley Woods Nature Preserve. A trail begins just south of I-696 and is more than a mile long. There are spots where nothing can be seen but woods, even with Telegraph Road just a few hundred feet away. Southfield's Bridge Street Preserve is north of Eight Mile Road, west of Telegraph. Southfield is also negotiating to purchase another 15 acre parcel where the Franklin Branch enters the Main Rouge River.

These Green Corridor spaces actually help protect and improve the quality of the river itself and their integrity is an important component of restoration efforts. Community leaders and other advocates are working diligently to protect the Rouge Green Corridor and have activities underway in the cities of Birmingham, Beverly Hills, and Southfield. To find out more call Lillian Dean at 248-288-5150. ■



### River Day Activities

Kathy Fraser, Oakland County Drain Office, 248-858-0957 [fraserk@co.oakland.mi.us](mailto:fraserk@co.oakland.mi.us)

As part of the efforts to address and educate the citizens of Southeast Michigan about water resources, regional river groups continue the efforts through an annual event on the first Saturday of June (this year -June 7, 2003). In the past, much of the attention was given to conducting in-stream clean-ups and debris removal. Today, there are a variety of activities, including hiking, plantings, invasive plant removal, and other events that promote and improve our water resources.

As a Rouge River Riparian, we hope that you will conduct your own stewardship and celebration activities all year long and come out to learn more about your river neighbors by contacting Friends of the Rouge (FOTR) at [www.therouge.org](http://www.therouge.org) or 313-792-9621. FO'TR coordinates all the local site efforts— including a t-shirt giveaway, or you can contact Oakland County at 248-858-0958 to find more about other river stewardship efforts in the region. ■

### Riparian Resources/Facts

- More than 7000 residential riparian landowners live along the Rouge River in Oakland County.
- The Rouge River Watershed drains into the Detroit River and stretches as far north as Rochester Hills, west into Washtenaw County and covers over 438 square miles.

Visit [www.rougeriver.com](http://www.rougeriver.com) for more information on the restoration efforts.

Visit [www.therouge.org](http://www.therouge.org) to find out about stewardship and volunteer programs

### Spring Lawn Care Programming

With Spring at hand, there are many programs sponsored by the Southeast Oakland County Water Authority (SOCWA) related to lawn care-- such as **soil testing, slow-release fertilizer, mowing, and watering.** All these activities play a role in protecting and improving water quality and our environment. To find out more visit their website [www.socwa.org](http://www.socwa.org) or contact SOCWA at 248-288-5150 for a free lawn care package. ■



This newsletter is sponsored by the Rouge River National Wet Weather Demonstration Project and the Main 1-2 Subwatershed communities and Oakland County Drain Commissioner's Office



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### Rouge River Water Festival at Cranbrook Institute of Science

*Michele Arquette-Palermo, Cranbrook Institute of Science*

The Rouge River Water Festival at Cranbrook Institute of Science, held September 14-16, was a rousing success. Nearly 1,300 participants enjoyed a half-day of hands-on watershed ecology and awareness activities. Twenty-five schools from 10 different Oakland County Rouge communities attended the annual event. All Oakland County schools had live video feed of various presentations over the three-day event, while Cranbrook had a camera in one of the presentation spaces. This video feed was sent to the Oakland Intermediate School District (ISD), allowing any Oakland ISD classroom a glimpse of the festival. It is our hope to increase the number of virtual feeds for future festivals.



Presenters came from many organizations covering a multitude of water topics including: Affects of Acid Rain on pH, The Music and Magic of Water, The Trip of a Drip, Dirt Doctors, Frog and Toad Orchestra, Salmon Run, Ecosystems in a Cup, Ice Age Origin of the Rouge Watershed, Storm Water Action Team, Zebra Mussels, and Why Couldn't the Turtle Cross the Road. The final day of the event was a true water festival in that the water cycle was quite evident as water fell from

the sky in the form of rain! The rain plan was executed and the lesson of water prevailed. As they exited, many teachers requested a return trip next year. Cranbrook has applied for a grant to repeat the festival and expand it to include a public event for 2006.

This newsletter is sponsored by the Rouge River National Wet Weather Demonstration Project, the Main 1-2 Subwatershed Communities and the Oakland County Drain Commissioner's Office. Please call the Environmental Unit at (248) 858-0958 with questions or inquiries.

# Waterside Living

# Waterside Living

### Maintaining Your Septic System: Special Considerations for Riparian Properties

*Brandy Bakita, City of Southfield and Meghan Bonfiglio, Bloomfield Township*

The Main 1-2 Subwatershed lies within the headwaters of the Rouge River, where some of our residents are served by private septic systems. Septic systems collect and dispose of wastewater for residential property. When a septic system is properly located, adequately designed, carefully installed and properly managed, you will have a waste disposal system that is simple, economical, effective, safe, and environmentally sensitive.

A septic system is made up of both a septic tank and a drain field. The septic tank, usually made of reinforced concrete, is buried and watertight. Untreated household waste (human waste and gray water) is deposited into the tank. The septic liquid is distributed from the tank into the surrounding soil, which constitutes the drain field. Maintenance of private septic systems is the responsibility of the homeowner; therefore treatment and disposal of wastewater should be one of the primary concerns of any homeowner in an unsewered area.

Failing septic systems are a significant contributing source of pollution in our watersheds. Unfortunately, septic systems are often neglected and not routinely maintained after the initial installation. A malfunctioning system can contaminate our waterways and groundwater supply, which is especially important for riparian landowners due to their close proximity to the water. Poorly maintained and failing septic systems can cause serious problems. Sewage from overloaded systems can pond on the ground near the drain field or back up into buildings. Failing systems can contaminate ditches, creeks, lakes, and shallow drinking water supplies potentially endangering people and wildlife.

If you have further questions regarding your septic system please contact the Oakland County Health Division at (248) 858-1312.

### Rouge Creature Feature: Great Blue Heron

*Amy Ploof, Oakland County Drain Commissioner's Office*

Have you seen one of these lately? Great blue herons are the large grayish-blue heron seen wading in shallow water in streams, rivers, and lakes. Great blue herons are mainly active in the mornings and at dusk when fishing is best. They are solitary predators, preferring to hunt



and feed on fish, frogs, and other small animals. Herons nest in colonies, usually building their stick platform nests in trees in lowland hardwood swamps. Like many species in the Rouge River Watershed, it is sensitive to pesticides, herbicides, and changes in its environment. So remember, your actions impact the home of the Great Blue Heron and many other creatures.

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Rouge River Watershed

Rouge Main 1-2 Subwatershed Partners: Auburn Hills, Beverly Hills, Bingham Farms, Birmingham Hills, Bloomfield Hills, Bloomfield Twp., Farmington, Farmington Hills, Franklin, Lathrup Village, Lyon Twp., Novi, Oak Park, Orchard Lake, Pontiac, Rochester Hills, Southfield, Troy, Walled Lake, West Bloomfield Twp., Wixom and Oakland County Drain Commissioner's Office

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## Water Conservation: Every Drop Counts

*Laura Comment of Hubbell, Roth, & Clark*

Residents can take voluntary actions to help prevent pollution in the Rouge River Watershed by taking steps to conserve water both in and outside the home. Water conservation is a good practice and will help the Rouge River and its tributaries by monitoring water use and controlling where it goes. Follow these simple tips below to reduce water use at your home:

### Outdoors

- **Disconnect Downspouts** – Downspout disconnection causes a reduction in storm water peak discharge, a reduction in runoff volume, and the removal of storm water pollutants. Contact your local Department of Public Works or Department of Public Services for more information.
- **Install a Rain Barrel** – A rain barrel collects water from your roof and stores it until you decide to use it to your garden, lawn or landscaping. Rain barrels help reduce water pollution by reducing storm water runoff which can contain pollutants such as oil, grease, bacteria, nutrients, and chemicals.
- **Be Creative** – Plan and establish a landscape that has less lawn and requires less maintenance. Consider plant groupings that include drought-tolerant species and organic mulches that help keep the soil moist. This fall and winter is a great time to start thinking about your landscaping for next spring!
- **Mow High** – Maintain a mowing height of at least 3 inches to help protect the roots from heat stress and reduce the loss of moisture to evaporation.



### Indoors

- **Make Smart Purchases** – Buy dishwashers and laundry machines with water and energy saving options.
- **Repair Leaky Faucets** – Repair dripping faucets by replacing washers, or replacing old faucets with new water-efficient models.
- **Turn the Water Off** – Don't let the water run while shaving, washing your face, or brushing your teeth.

**Water costs money . . . Don't waste it!  
A dripping faucet can waste 3 gallons a day.**

## How to Have a Green, Healthy Lawn

*Karen Tauriainen, Oakland County Drain Commissioner's Office, through a presentation by Tom Smith of the Michigan Turfgrass Foundation*

*Want to know how to have a beautiful lawn? Then, ask the experts at the Michigan Turfgrass Foundation. They are conducting research at the Michigan State Hancock Center on 60 acres of turf. Here's what they recommend:*

### Watering Advice:

- Water lightly (1/10 of an inch) once per day, during mid-day
- Provide additional water if rainfall is severely lacking

### Why is this effective?

Grass is stressed in the summer months due to the heat. The grass goes dormant (turns brown) when it becomes stressed from the heat. Sparingly watering the lawn daily around mid-day actually cools it off, with the water evaporating during the hot afternoon, cooling the grass. This reduces heat stress and allows the lawn to stay green and healthy.

### Other benefits?

- Reduced water usage – only 7/10 of an inch per week
- Reduced insect damage, due to reduced stress on grass

### Mowing Advice:

- Set mower blades at a minimum of 3 inches, the closer to 4 inches you can get, the better
- Mulch tree leaves and grass clippings into turf

### Why is this effective?

High cutting height improves drought tolerance and results in a lawn that is less stressed.

### Other benefits?

- High cutting height reduces weed competition
- High cutting height increases beneficial insects which may help reduce pest insect damage
- Mulching leaves and clippings into the lawn returns nutrients and organic matter to the soil and eliminates disposal of these yard wastes

### Fertilizing Advice:

- Fertilize twice in the fall: early fall and late fall
- Leave an unfertilized buffer area near water and wetlands to protect water quality
- Soil test to see if Phosphorus (P) and Potassium (K) are necessary

### Why is this effective?

*During the spring,* lawn grass naturally grows as rapidly as possible in a race to produce seeds. Fertilizing during this time encourages the plant to grow faster, larger, and produce more seeds. This does nothing to promote a healthier lawn.

*During the summer,* the grass is often in a dormant state. Fertilizing at this time does not promote a healthier lawn.

*During the fall,* the grass moves into a self-preservation mode, putting energy into root growth, and storing starches in the roots to be ready for winter. Fertilizing during this time will encourage the lawn to establish a healthy root systems, which will result in a healthier lawn the following spring.

### Other benefits?

- Reduce fertilizer costs by reducing applications per year
- Reduce impact on water quality by soil testing