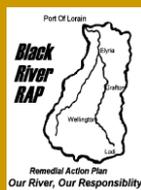


Living Along The West Branch

A User's Guide

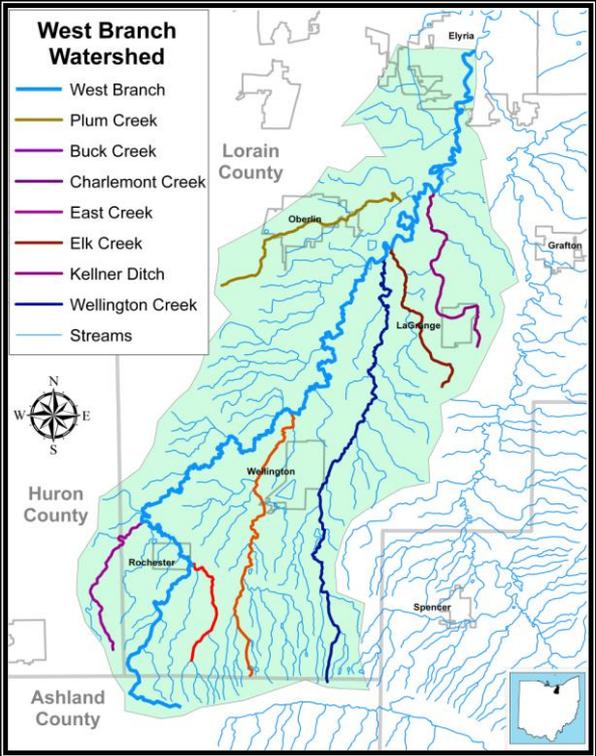
blackriver
WATERSHED



OhioEPA

The West Branch Watershed

Of the two main branches of the Black River, the West Branch, at slightly more than 175 square miles, is not quite as large or as developed as the East Branch. The West Branch remains a predominantly rural watershed and is an important natural resource for the region, but the watershed does suffer environmental degradation, much of it coming from its agricultural land uses.



The West Branch Watershed

The West Branch watershed is your watershed; please help enhance and protect it.

The Black River Watershed Coordinator and the Black River Remedial Action Plan Coordinating Committee developed this handbook in an effort to help you learn about the West Branch and its geology, history, wildlife and beauty. We hope this handbook will

help you better understand the watershed, become proud of its natural beauty and become excited about protecting it. At the end of this handbook, you will find ideas on how you, your neighbors and your community can help protect this valuable natural resource.

**"Unless someone like you cares a whole awful lot,
nothing is going to get better. It's not."**

Theodor Geisel (Dr. Seuss)

West Branch Facts

The West Branch watershed encompasses all or part of 16 townships in 4 counties.

Watershed Size	175.4 square miles
Streams	347 miles
Average Stream Gradient	9.9 feet per mile
Drainage Density	1.98 stream mile per square mile
Roads	425 miles
Railroad Lines	60 miles
Average Imperviousness of the land	2.35%
Precipitation	35 inches (rain) 42 inches (snow)

A stream or river flows from one place to another. You can see it flow from your neighbor's property to your property or from your town to the next town or village. Whatever happens to a river in one place is carried downstream to the next place.

Since very little of the water in the West Branch is spring fed, most of its stream flow arrives by way of rain or snowmelt. The streams are fed either directly from flow over the land (called runoff) or indirectly from one or more streams that join them. These joining streams are called **tributaries**. The system of smaller streams feeding larger ones is the basic concept of a watershed.

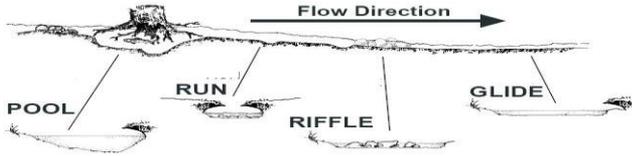
*We all live in a watershed.
We are always within a watershed.*

Watersheds are nature's flowing water boundaries. They collect the water in a particular area and transport it to another area. Watersheds include lakes, streams, rivers and wetlands. Most importantly, watersheds include the land area. You live, work and play in one watershed or another.

Sometimes extreme rainfall amounts overwhelm a stream's capacity to carry water, but healthy streams have a naturally built-in release mechanism. The low flat areas adjacent to the streams that can handle the larger flows are called **floodplains**. In the floodplains, the force of the water slows, allowing sediments to settle out. The slower flows also create less erosion. Often, the floodplains have **wetland** areas associated with them. Wetlands are important floodplain features, because they can store excess water and filter debris, sediment and other pollutants from the runoff. In addition, wetlands create exceptional habitat refuges for birds, small mammals, amphibians, young fish and insects.

The naturally vegetated areas next to streams and rivers also serve important functions. These areas are called the **riparian** corridors. The roots of the trees and bushes along the stream are very effective at holding the stream banks in place. This woody vegetation also works to slow the flow of water over the land, further reducing erosion of the stream banks. Riparian areas filter out most of the sediments and excessive nutrients from runoff before they can get into the streams. The branches and leaves form a cover, or canopy, over the stream. This shades the stream, keeping the water cooler. Finally, the riparian areas also serve as important habitat sites and migration corridors for wildlife. Natural streams have definite features associated within them. **Riffles** are the white-water areas of the waterway, just like the rapids in larger rivers. With the water rushing over and around rocks, riffles serve to add needed oxygen to the water and also serve as habitat sites for the smaller creatures like insect larvae and crayfish, collectively known as aquatic macro invertebrates. Additionally, riffle areas are the primary habitat for many young and/or smaller fish. **Pools** are deeper, quieter waters and are good fishing spots. **Runs or glides** are faster-moving water, without riffles or noticeable 'white-water.' A

healthy stream will exhibit a regular pattern of riffle-pool-run habitats.



River Habitat Sequences (Courtesy of Ohio EPA)

The Natural History of the West Branch

Glaciation



Map of Glacier Extent in North America
(Courtesy of U.S.G.S.)

During the Ice Age, advancing glaciers covered northern Ohio, including the West Branch watershed. In the graphic on the left, you can see that glacial advances have covered much of Ohio.

The glaciers, towering more than 200 feet high, scraped the ground as they moved southward and brought with them a lot of material from far away.

As they melted, the land was blanketed with a 50-foot thick deposit of the material, which is called glacial till, a mixture of clay, sand, gravel and boulders. Many of the rocks and boulders mixed in with the soil of the West Branch watershed likely came with the glaciers from Canada. At the leading edges of the moving glaciers were moraines, or mounds of material, and where the glaciers stopped, the sand, stones, dirt and rocks were left as end moraines.

These end moraines constitute the rolling hills that make up the southern boundary of the West Branch watershed. They also make up a dividing line between the greater Lake Erie watershed and the

Ohio River watershed. This dividing line is a natural boundary called the continental divide. Surface drainage of the Black River, including the West Branch, and other Lake Erie river basins generally flows to the north and into Lake Erie and then over Niagara Falls and into Lake Ontario. The waters ultimately flow into the Atlantic Ocean through the St. Lawrence River. South of these river systems, surface drainage flows south to the Ohio River, then to the Mississippi River and ultimately into the Gulf of Mexico. Watersheds are indeed nature's boundaries.

Changes in our Lake Erie

Since the retreat of the last glacier, what is now known as Lake Erie has gone through some major changes in both size and shape. The early versions of Lake Erie were formed when glacial ice blocked flow to Lake Ontario or the St. Lawrence River. The water backed up, forming huge lakes with names like Lake Warren, Lake Whittlesey and Lake Maumee.

Lake Erie's present elevation is about 575 feet above sea level. Lake Warren was about 100 feet higher, Lake Whittesley was about 150 feet higher and Lake Maumee was up to 200 feet higher. Since the lakes were higher, their shorelines were many miles inland of where the Lake Erie shoreline is today. Just as with any large lake, wave action formed beaches along the shorelines. As the water levels changed, these ancient lake beaches remained as sandy ridges on the landscape. Early settlers found these ridges to be convenient travel routes as the sandy soils and slight elevations rarely flooded. Today, parts of these beach ridges remain and are still important roadways. You know them. They now carry names like Butternut Ridge Road, West Ridge Road and Murray Ridge Road.

The glacial till left by the glaciers and the silty bottoms of the ancient versions of Lake Erie are the predominant soil type for the region. These soils types are generally comprised of mostly clay and silt loams. These soils have a slow permeability, meaning the soils have a very limited ability to absorb water, resulting in a seasonally high water table and a ponding of runoff waters in level areas.

Wetlands

Typically, wetlands were located between the ancient beach ridges and the moraines left by the glaciers. In the 1850s, settlers to Ohio began draining the wetland areas to facilitate rural, urban and

industrial development as well as to make the land suitable for agriculture. Now, 90% of Ohio's wetlands have been lost, converted to other uses. While this conversion has provided many economic benefits, wetlands provide environmental benefits that include providing wildlife habitat and enhancing water quality by trapping and filtering nutrients and sediment.

Human History in the West Branch

The West Branch area has figured prominently in history, especially railroad history, and the area has a well-earned reputation for its commitment to social reform, especially with respect to temperance campaigns and abolition efforts.

In 1858, a fugitive slave was captured and a federal marshal attempted to return him to the South. Residents from Oberlin and Wellington helped the slave escape again, this time to Canada, in what became known as the Oberlin-Wellington Rescue case. Thirty-seven people were indicted for a violation of the Fugitive Slave Law of 1850. Of these 37, only two were convicted and served time in jail. Oberlin became an active end station for the Underground Railroad and as a symbol of that participation, a sculpture of a rail line emerging from the ground is located at Oberlin College. Oberlin became an important Underground Railroad terminus, in part, because of its proximity to the West Branch and easy access downstream to the Black River, then Lake Erie and on to freedom in Canada.

The Oberlin Heritage Center is part of the National Park Service's Underground Network to Freedom. Oberlin's Little Red Schoolhouse, built in 1836, was the City's first public school and was interracial from its beginning, even attended by a young girl who was onboard the infamous slave-trading ship, Amistad.

In 1893, prohibition advocates in Oberlin established the Ohio Anti-Saloon League which became a leader in a national reform effort. In 1945, Wellington, through great local effort, was selected as part of a new rail line for the Cleveland, Columbus and Cincinnati Rail Road Company. Wellington, it can be said, was built because of that rail line. The new rail line allowed easier access to the area for settlement and allowed local farmers an access to the larger markets in the bigger cities. To allow trains to pick up mail without having to slow down, the patented railway mail catcher was invented in Wellington and was used across the country. The rail

line allowed the Tripp Carriage Works to compete in a national market, even against competitors such as Studebaker Company. If you have never heard of Tripp Carriage Works, maybe you know the work of one of their employees. Young Archibald Willard was employed as a painter by Tripp Carriages. Later in life, Mr. Willard's painting skill made him famous, not for painting carriages, but for the most patriotic painting in American history. It was Mr. Willard who depicted three musicians, with a sergeant holding Old Glory in the background. Mr. Willard's best painting effort was originally called, "Yankee Doodle." You know it as "The Spirit of 76."



From AmericanRevolution.org

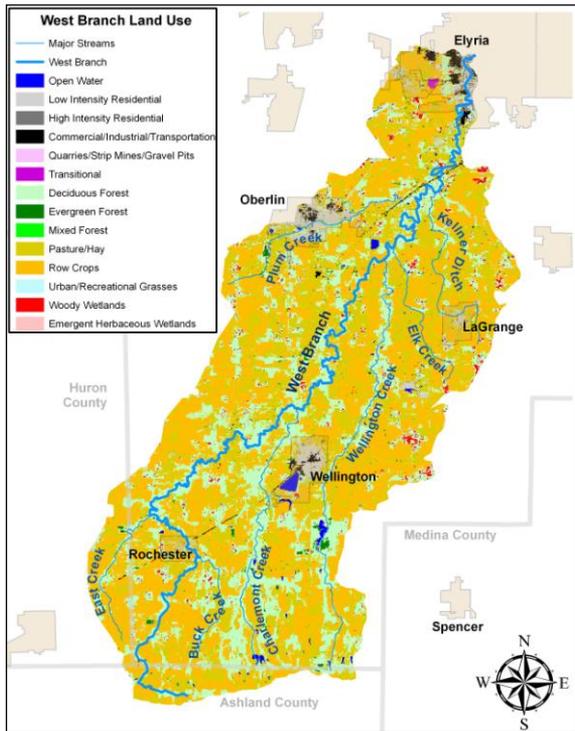
Excuse me, but do you know the correct time? If not, maybe you should "get on the ball." Knowing the correct time is important and was particularly important in Kipton in 1891. On April 19 of that year, a railroad engineer's incorrect time piece caused a train wreck that killed nine people. The engineer of a passenger train heading west from Cleveland probably should have stopped and waited in Oberlin for a fast mail train heading east, but the engineer thought he had enough time. The engineer's watch was four minutes slow and the two trains collided at the Kipton station. This led to the standardization of time throughout the country, termed Standard Time. W.C. Ball, a jeweler in Cleveland, investigated railroad time keeping and eventually became the Chief Time Inspector for numerous railroads. He even made watch manufacturers produce a more accurate timepiece. It was called the Ball Railroad Watch and led to the term, "get on the ball."

What does all this have to do with the West Branch? The West Branch provided an exploitable natural resource for the needs of early development. Early rail lines were laid out along flat areas with easy access to fresh water, which was a critical necessity for steam locomotives. The abundance of water from the West Branch filled that need.

Land Uses

The West Branch watershed is a rural and agriculturally based watershed. More than 60% of the land in the watershed is used for pasture and row crops. Although no-till farming has been on the increase, typical farmland is left un-vegetated for much of the year which leaves the land vulnerable to erosion and runoff.

Woodland areas cover another 22% of the watershed, but only 2% of the land remains as wetlands. Only about 10% of the land is being used for development.



The tributary stream system of the West Branch suffers from a lack of riparian corridors. This has allowed extreme loads of nutrients and sediment to quickly run off the land into the streams where they have impacted water and habitat quality. In a state-wide study of runoff, or nonpoint source pollution, conducted by Ohio EPA, one stretch of the West Branch was found to be “the most severe case of agricultural nonpoint source pollution ever recorded in Ohio.”

As noted previously, the West Branch is less developed than the East Branch. Typically, urban and suburban development has a severe impact on a water system when the amount land cover that is impervious to water reaches about 10% of the total land area. Overall, the West Branch watershed’s land cover is only about 4%,

but as development continues, the land uses will change quickly and the amount of imperviousness may increase.

Wildlife

Within the waters and along the banks of the West Branch watershed, a variety of plant and animal life can be discovered. Of course, ducks, teals, herons and geese are abundant. But lucky individuals can also spot pheasants, wild turkeys and a variety of hawks and owls. Deer, foxes and beavers can be found along the waterways, but one important species might be missing.

The River Otter was once common in Ohio until the pressures of habitat loss from the late 1800s to the early 1900s drove their numbers down. In 2007, a River Otter was spotted in French Creek, a watershed northeast of the West Branch. Otters have not been seen in the West Branch watershed for some time.



North American River Otter
(Courtesy of www.otternet.com)

From 1986 to 1993, the Ohio Department of Natural Resources reintroduced the species into the Grand River, Killbuck Creek, Little Muskingum River and Stillwater Creek. The bordering states of Indiana, Kentucky, Pennsylvania and West Virginia had River Otter reintroduction programs as well. The restocking has been so successful, River Otters have been spotted in 51 Ohio counties. To date, none have been seen in the West Branch watershed. The sighting of a River Otter in the West Branch would show a general improvement to habitat of the watershed and would be a celebrated event. If you spot a River Otter, please report it to Ohio Department of Natural Resources, Division of Wildlife, at 330-644-2293.

Recreational Opportunities

There is an ample supply of things to do in the West Branch watershed. Stretch your legs on one of the many nature paths in the local parks – maybe you can find one of the animals noted above. In the summer you can walk, bike or skate on the Inland Trail. On snowy winter days, the long flat trail is popular with cross country skiers. Any day, winter or summer, is a good day at the Lorain County Metroparks Splash Zone.

Recreational opportunities in the West Branch watershed include:

Lorain Metroparks

- Carlisle Reservation
- Caley Reservation
- Wellington Reservation
- Charlemont Reservation
- Brighton Reservation
- Kipton Reservation
- Splash Zone

Golf Courses

- Forest Hills GC
- Echo Valley GC
- Elyria Country Club
- Grey Hawk GC

Biking and Walking along the North Coast Inland Trail

Findley Lake State Park

Lorain County Fairgrounds

Historic Wellington Village

Many, many more

Living Along the West Branch

As you can see, the West Branch watershed is full of ecological, historical and recreational importance. The area has a small town feel with quiet communities but is close to both the Lake Erie north coast and the metropolitan areas of Elyria, Lorain and Cleveland. The West Branch watershed area has a strong historic background with beautiful vistas and peaceful green areas.

But the face of the West Branch watershed may soon be changing. In some areas, the rural landscape is changing to a more exurban one. **Exurban** areas are those developed areas lying outside areas that are normally called suburban areas or the suburbs. Exurban areas characteristically retain some of their rural or agricultural nature but increasingly dotted with pods of small residential developments. As open rural and agricultural lands are developed, the landscape can be covered with rooftops, roads, driveways and parking lots.

The changing landscape becomes less able to absorb rainfall and snowmelt and more of the water runs off to the ditches, streams and rivers. This can cause erosion of stream banks and flooding. The excess runoff also carries silt, sediment, bacteria and a variety of chemicals.



Eroding Streambank

During these times, it is extremely important to get involved in enhancing and protecting your watershed.

"Uncontrolled growth and degradation of our natural resources will provide a few with immediate gain, but will ultimately cost the entire populace."

Lorain County Comprehensive Plan 2000

Living along the West Branch can remain a positive venture. By helping to protect the West Branch watershed, you, as a homeowner, may be helping yourself in the process. In studies that compared the value of residential properties, the appraised value of homes along *natural* streams is three times higher than a comparable home along a channelized stream. Most people enjoy natural settings and wildlife viewing and are willing to pay a higher price to enjoy these benefits. The closer the property is to a natural area, the higher the price prospective buyers are willing to pay.

The TMDL

In 2008, Ohio EPA will publish an important study of the Black River watershed, including the West Branch and its tributary system. The study is called the TMDL, which stands for **Total Maximum Daily Load**. The TMDL is a program that focuses on identifying and restoring impaired or polluted rivers, streams, lakes and other surface waterbodies. In 2004, 2006 and 2008, the West Branch watershed was identified by Ohio EPA as such an impaired river system and the TMDL study is required by federal Clean Water Act regulations. The East Branch and the Black River mainstem were also identified as impaired river systems. The Black River TMDL report is available at:
www.epa.state.oh.us/dsw/tmdl/BlackRiverTMDL.html

While past studies by Ohio EPA focused more on industrial and municipal discharges to the streams and rivers, the TMDL study looks at all contributing sources of pollution, including overland runoff or what is called **nonpoint sources**. The TMDL specifies the amount by which each pollutant needs to be reduced to meet water quality standards (WQS), allocates pollutant load reductions, and provides the basis for taking actions needed to restore a waterbody.

The TMDL and the West Branch

Beside the chemical data, the study of the West Branch included the following assessments:

The **Aquatic Life Use (ALU) Assessment** addresses the general health of the stream system for the myriad of fish and other stream animals. In the West Branch watershed, Ohio EPA found no sites along the West Branch mainstem to be attaining ALU criteria. In the tributary systems, only 36.5% of the sites attained ALU criteria. The **Fish Tissue Assessment** addresses the suitability of eating fish caught in the waters of the West Branch. There are two consumption advisory posted for the West Branch. Both have been posted because tissue studies have shown mercury above a level recommended for unrestricted consumption. One advisory is for white suckers caught between Parsons Road and Cascade Park and the second advisory is for largemouth bass caught in Findley Lake. The **Recreational Use Assessment** determines the suitability of the waters for swimming and wading. The West Branch sub-watershed suffers from elevated counts of bacteria in the

streams. These high levels are considered a risk for the recreational use of the streams.

So, what has caused the West Branch to not attain its water quality standards? The causes are a degradation of stream habitat from channelization, high levels of nutrients and sediments in the waters coupled with elevated bacteria levels and an enrichment of organic matter that can result in low dissolved oxygen. The excess nutrients and sediment can come from agricultural lands as well as runoff from home lots, construction sites, city streets and highways. The high organic matter and elevated bacteria levels are likely coming from sewer overflows; old, failed, failing or improperly maintained home sewage treatment systems; livestock access to streams; and possibly from manure spreading on agricultural lands.

The TMDL provides recommendations and specific actions necessary to alleviate these problems and return the West Branch, as well as the rest of the Black River, to attainment. Most of the recommendations and actions require active participation by local stakeholders. Many of the recommendations and actions are presented in this *Living Along the West Branch* brochure and the Lorain County Water Quality Guide. To find out what you can do, contact the Watershed Coordinator, your local Soil and Water Conservation District office or the county health department.

Restoration Recommendations

Several measures can be taken to encourage improvements in the habitat and water quality of the West Branch and its tributaries:

- **Improve enforcement of existing State and local storm water regulations.** All too often, construction sites do not appear to be in compliance. Silt fences and other measures effective against erosion and sedimentation often are not used regularly or where required along stream channels, etc. Local municipalities need to be educated on the regulations and held responsible for compliance.
- **Improve enforcement of existing Federal and State regulations (Clean Water Act Sections 401 and 404) concerning modifying stream channels.** Suggest that local officials be educated and held responsible for ensuring that compliance with these laws is obtained prior to, during, and after the construction of new residential subdivisions, commercial and industrial developments.

- **Encourage (both voluntarily and with the use of incentives) the development of wooded buffers adjacent to the West Branch and its tributaries.** The development of buffers improves both habitat and water quality.
- **Create filtration wetlands in areas where severe erosion is adding to the sediment loads of the streams and tributaries.** Work to restore and/or enhance existing wetland areas. These wetlands serve the dual purpose of improving water quality by absorbing nutrients and filtering out sediment and limiting flood damage to adjacent structures.
- **Enforce local health department regulations in relation to residential septic systems.** Coordination with the Health Department and Ohio EPA is encouraged to rectify the discharge of raw sewage into the creeks.
- **Construct bioengineering erosion control projects where severe erosion is occurring along stream banks.**
- **Curtail discharge of stormwater runoff from urban areas directly into the West Branch and its tributaries.** Encourage the development and use of storm water detention basins (not retention basins).
- **Encourage (voluntarily or by use of incentives) the use of Best Management Practices (BMPs) in agricultural, livestock and lumber operations.**

What Can I Do In My Little Backyard?

Lawns and Landscaping

Many times, the things we do to improve our vistas or our lawns or increase the amount of land available for farming can disrupt the natural systems that are necessary for the health of the streams in our backyards. Removing natural vegetation along the stream banks or replacing it with lawns might look nice in the short run, but it will lead to an erosion of the stream bank. The roots of the trees and shrubs hold the stream banks in place; without them, there is nothing to slow the force of the moving waters. Pretty soon your pretty stream scenes will be replaced with an eroding riverbank and a loss of what could be sizeable portions of your land. Allow a little shrub/tree corridor between your lawn or field and the stream, don't

plant lawn or mow to the river's edge; you are just inviting the problems of erosion onto your property.

Don't over-fertilize. The fertilizers you use on your lawn or field can be too powerful for the stream. Always follow the manufacturer's recommended application rates. In addition to carefully following application directions, chose a lawn care fertilizer with no phosphorus added. Typically, lawn soils have enough phosphorus. Adding more unneeded phosphorus will increase the potential to wash phosphorus into the stream, especially if there is no natural shrub/tree corridor to absorb them, where it can cause environmental degradation. In a stream, the fertilizers can lead to unsightly blooms of algae, a decrease of available dissolved oxygen, and fish kills.

Don't dump lawn clippings into the stream. In addition to degrading the beauty of a stream, their decomposition can lead to a decrease in dissolved oxygen and fish kills. These clippings would never 'naturally' find their way into local streams. The better solution is to compost these clippings, away from the stream and floodplains, of course!

Use pesticides and herbicides according to the manufacturer's instructions. Excessively applied amounts of these chemicals can make their way to the streams and wreak havoc with the natural system. Proper disposal of these materials is critical. Contact the Lorain County Solid Waste Management District at 440-329-5440 for more information or collection days for these chemicals.

Plant only native species near the water's edge. Native plants are accustomed to the climate of your area and won't be affected by the extremes in Ohio's weather like some non-native species would be. Additionally, native plants do not require fertilization, so they are more stream-friendly and help decrease your work. Your local greenhouse, Watershed Coordinator or the Lorain Soil and Water Conservation District may be able to help you in selecting appropriate native plant species.

Consider installing a rain garden or a rain barrel or both! Rain gardens require little maintenance and their benefits are many:

- Help keep water clean by filtering storm water before it enters the West Branch
- Help alleviate problems associated with flooding and drainage.

- Enhance the beauty of your yard and community.
- Provide habitat and food for wildlife, including butterflies and birds.
- Help recharge the ground water supply.

You can get started by downloading a copy of the “Raingarden Manual for Homeowners,” a wonderful how-to guide, from the Black River Watershed Project Website:

www.blackriverwatershed.org/pub2.asp?Dept_ID=5&News_ID=78.

By following these simple suggestions, you will be rewarded with a more natural stream in your backyard, increasing numbers of wildlife species, and possibly increasing property values as well.

Decrease the Amount of Runoff

Slow the surface runoff from places like roofs, patios and driveways to minimize the amount of soil that can get to the streams. Excessive amounts of soil reaching the streams are a major problem throughout the entire Black River basin, including the West Branch and its tributary streams.

Look for and repair areas in your yard that show the signs of erosion. You should look for bare spots on your property and exposed tree roots. Small stones appearing on soil surface and the appearance of rills and gullies are other indications of erosion. The Lorain County Soil and Water Conservation District has developed a brochure called the *Lorain County Water Quality Guide* that will help you understand the problems of erosion and what to do about it on your property.

Maintain Your Septic Tank System

Properly locate and maintain your septic tank and leach bed system for effective treatment of household wastes. For this type of system (called a Home Sewage Treatment System or HSTS) to work effectively, it must be located in proper soil types and not within an area of extremely sloping ground. It is the soil and bacteria in the soil that

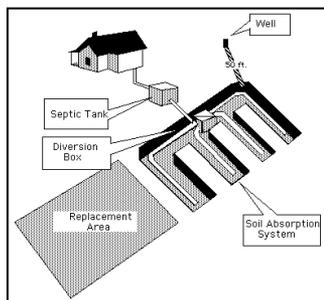
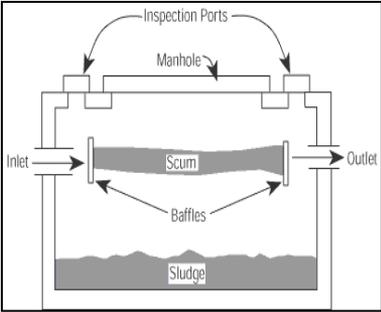


Diagram of a Septic System
(Courtesy of OSU Extension)

actually treat the wastes. A system located on a severely sloping ground can cause a rapid runoff of the liquid wastes thereby not allowing for the time necessary for bacteria to treat the wastes.



Cross section of a septic tank
(Courtesy of OSU Extension)

Improperly located, installed or maintained systems can severely degrade the streams and can allow bacteria and viruses to potentially cause serious health problems.

An HSTS is not a "set and forget" system and must be periodically inspected by qualified personnel to ensure that it is operating properly. In addition, the septic tank must be routinely pumped of accumulated solids and scum.

Information on these systems can be obtained through The Ohio State University Extension Office or the Lorain County General Health District. Some fact sheets and additional information can be found on the Web at:

- Lorain County General Health District:
www.loraincountyhealth.com/programs/environmental.shtml
- Ohio State University Extension:
<http://ohioline.osu.edu/aex-fact/0740.html>
<http://ohioline.osu.edu/aex-fact/0741.html>
<http://ohioline.osu.edu/aex-fact/0742.html>



Through funding made available by Ohio EPA, an informational DVD about home sewage treatment was produced by the Lorain County General Health District and the Black River RAP. This educational video is presented to every HSTS owner in Lorain County at the time of health department inspection of the HSTS system. Contact the Lorain County General Health District to obtain a copy.

Other Suggestions to Help Preserve the West Branch Watershed

Don't dump anything into streams or storm sewers. Storm sewers will deliver the wastes to the streams without treatment. Follow the mantra of today's more ecologically sound lifestyles, "Reduce - Reuse - Recycle."

Use alternative products instead of hazardous household materials. A list of alternative products can be found in the "Lorain County Water Quality Guide." When you must use a potentially hazardous material, read the label and follow the directions carefully. Do not flush these chemicals down the drain into either a public sewer system or a home sewage treatment system. The Lorain County Solid Waste District has set up collection dates and times for household hazardous wastes.

Properly dispose of old fluorescent light tubes, thermostats and mercury thermometers. They can contain considerable amounts of mercury. In a river system, that mercury can be transformed into a more toxic type of mercury, called methyl mercury. These items can be turned in at approved collection facilities. The Lorain County Solid Waste District has set up collection dates and times for fluorescent tubes and ballasts.

For additional information or for a schedule of upcoming collection days call the Lorain County Solid Waste District at 440-329-5440. Or you may access them on the Web at: <http://www.loraincounty.us/solidwaste>

Learn about and be able to recognize potentially troublesome invasive species such as Purple Loosestrife, Phragmites and Japanese Knotweed. The proliferation of these invaders is a severe problem throughout the Great Lakes because they replace native species and clog waterways. Learn the best method of controlling the spread of these plants.

Keep your car in good working order. Most of your travels throughout the West Branch watershed will start and end by

automobile. Oil and gasoline dripping onto driveways, parking lots and streets find their way to the water system by way of ditches and storm sewers.

Don't dump used or unwanted oil into a storm sewer. Take it to a recycling center. Many auto parts stores now accept used motor oil for recycling.

What can my community and I do together?

Ensure that Best Management Practices are used during and after construction of new developments. These practices have been designed to keep exposed soils from getting into the streams.

Encourage and support a wetland design of new storm water retention basins in new subdivisions. The new designs will create new habitat for wildlife and will reduce the amount of soil and sediments washing into the West Branch river system.

Develop and support an initiative to control the spread of invasive species such as Purple Loosestrife, Phragmites and Japanese Knotweed. Incorporate the best methods of controlling the spread of these plants in small and large-scale infestations.

Develop local setback ordinances. Many communities now understand the importance of native streamside vegetation and its ability to reinforce the stream banks and to decrease the amount of sediment, nutrients, pesticides and herbicides that can enter the stream. These communities are developing setback ordinances to help protect these riparian areas.

Adopt, support and enforce stream protection ordinances, especially those designed to protect riparian areas and wetlands. These ordinances not only protect your property from flooding and erosion, they help your downstream neighbors as well.

Identify areas of the watershed that could be protected, improved or rehabilitated, like eroded stream banks and wetland areas. Support efforts to repair, enhance and preserve these areas. The county's Watershed Coordinator, the local Soil and Water Conservation District or the Black River RAP Coordinating

Committee may be able to assist you in seeking funds for these projects.

Encourage programs that deal with the handling, storage, and proper use and disposal of hazardous wastes. Develop cleanup days that provide for drop-off locations of these products.

And Finally...

Talk to your neighbors, friends, community officials and organizations about the importance of everyone pitching in to protect their valuable water resource. A good idea might be joining the West Branch Watershed Committee or forming a watershed stewardship program. The Watershed Coordinator or the Black River RAP would be happy to help you form such a group. Suggested members of the group would be interested homeowners, businesses and local government officials.

Resources

Publications:

Explorations of a Watershed, The Natural History of the Black River, Edited by Brad Masi, Oberlin College, Oberlin Ohio

Common Groundwork, A Practical Guide to Protecting Rural and Urban Land, Third Edition, Joseph H. and Mary M. Chadbourne, 2000, Chadbourne & Chadbourne

Engineers for the Public Good, A History of the Buffalo District U.S. Army Corps of Engineers, Nuala Drescher, U. S. Army Corps of Engineers

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www.american-lawns.com/grasses/phosphorus.html

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Black River RAP



Remedial Action Plan
Our River, Our Responsibility

About the Black River Remedial Action Plan:

The Black River Remedial Action Plan Coordinating Committee is a group of watershed stakeholders, representing local public agencies, state and federal agencies, industries and private commercial groups and citizen representatives that have been working together to restore the Black River watershed. The Black River watershed, which includes the West Branch, is the only Area of Concern in Ohio that encompasses an entire watershed.

About the Black River Watershed Project & West Branch Watershed Committee:



In January 2004, Lorain County implemented the Black River Watershed Project to address water quality issues. The project received a Coastal Management Grant (CMAG) in 2005 to address nonpoint source pollution control measures in three sub-watersheds: The French Creek, the East Branch of the Black River, and the West Branch of the Black River. Nonpoint source pollution is any pollution that cannot be attributed to a specific source. The purpose of the project is to organize a way to manage nonpoint source pollution whether from failing home septic treatment systems, agricultural runoff, or contaminated urban runoff. Program planning began in January 2006 and brought together county, city, and township employees, as well as county residents in order to shape the outcome of the plans which were completed that same year.

In mid-2006, the County secured a four-year Watershed Coordinator

Grant funded by the Clean Water Act Section 319 program that addresses nonpoint source related pollution. This grant affords Lorain County the opportunity to complete the Watershed Action Plans necessary to improve water quality and bring needed mitigation funding into the county. The four year Black River watershed grant will support a watershed coordinator position, as well as outreach programs to develop and implement watershed action plans for the West Branch and French Creek. Currently there are two committees dedicated to assisting in the development and implementation of the Watershed Action Plans. These groups meet with the Watershed Coordinator and other assistance staff to lend expertise and aid in the community involvement efforts.

With the help of local community members and a Black River Watershed summer intern, water samples were collected from the West Branch Black River, Black River tributaries, and French Creek during summer 2006. These samples were tested for elevated levels of E. coli bacteria as well as for levels of suspended sediment. The data collected from these samples will be compiled and included in the inventory section of the Watershed Action Plan.

In the coming years, the Black River Watershed Project aims to secure further grant funding to continue working toward water quality attainment and environmental management. The project will continue working with county planning officials on recommendations for subdivision Review, implementation of setback ordinances within County jurisdictions, and educating county residents on best management practices and the importance of environmental quality.

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