

2002 Annual Update

Black River Remedial Action Plan



June 2003

The purpose of this Annual Report is to inform the watershed community on progress of the Black River RAP. It provides background information on many of the projects being undertaken. If you would like more detailed information on any of these topics, feel free to contact the organizations referenced on the back of this report.



Cover Photos:

1. Alternative Ditch Management
2. Planning for Lorain County's Environmental Resources
3. One-sided Ditch Cleaning
4. Confined Disposal Facility (CDF)

Cover photos courtesy of

1. Karl Schneider, NRCS
2. Pamela Davis, NOACA
3. Karl Schneider, NRCS
4. Ted Conlin, Ohio EPA

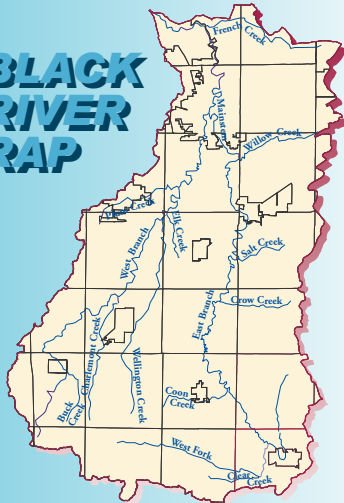
REMEDIAL ACTION PLANS (RAPs)

In an effort to clean up the most polluted areas in the Great Lakes, the United States and Canada, in Annex 2 of the Great Lakes Water Quality Agreement, committed to cooperate with State and Provincial Governments to ensure that Remedial Action Plans (RAPs) are developed and implemented for all designated Areas of Concern (AOCs) in the Great Lakes basin.

AREAS OF CONCERN (AOCs)

Forty-three AOCs have been identified: 26 located entirely within the United States; 12 located wholly within Canada; and five that are shared by both countries. RAPs are being developed for each of these AOCs to address impairments to any one of 14 beneficial uses (e.g., restrictions on fish and wildlife consumption, fish tumors and other deformities; or restrictions on drinking water.

BLACK RIVER RAP



Black River Remedial Action Plan
OUR RIVER, OUR RESPONSIBILITY

Prepared by
**Black River Remedial Action Plan
Coordinating Committee**

Black River RAP Secretariat
provided by
**Northeast Ohio Areawide
Coordinating Agency**
1299 Superior Avenue
Cleveland, Oh. 44114
www.noaca.org

Neil C. Hofstetter
Geauga County Board of Commissioners
2002 NOACA Governing Board President

Howard Maier
Executive Director, NOACA

John Beeker
Director of Environmental Planning
Project Manager, NOACA

Pamela L. Davis AICP
Writer/Editor, NOACA

Daniel Boyle
Graphic Design, NOACA

2002 Annual Update

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MESSAGE FROM THE CHAIR

After decades, even a century, of abuse, the Black River is showing tangible signs of improvement thanks to the partnership efforts of the Black River RAP Coordinating Committee Stakeholders. The Black River RAP has been working for the past eleven years to document water quality



Ken Pearce
Chairman, Black River RAP
Coordinating Committee
Lorain County General Health
District Commissioner

problems and educate the watershed community. The RAP has been active in remedial planning to address identified problems.

In 1991, point source pollution was a major contributor to water quality problems and the designation of the Black River as an Area of Concern

(AOC, 43 areas in the Great Lakes). Point source discharges from industry and wastewater treatment plants contributed immensely to the Black River's water quality problems. More stringent regulations and facility upgrades have shown dramatic improvements throughout the watershed, leaving the focus on nonpoint source pollution problems.

Nonpoint pollution comes from a variety of sources, not just one. The four major contributors to nonpoint source pollution in the Black River include storm water runoff, the disturbance of streamside vegetation, soil erosion, and failing sewage treatment systems. USEPA's Phase II National Pollutant Discharge Elimination Program (NPDES) will help to address storm water runoff. Under Phase II, urbanized communities throughout the United States and the Black River were

required to develop a storm water management plan for each community. A riparian setback ordinance is being recommended as part of a model for Storm Water Management Planning in Northeast Ohio.

The US Army Corps of Engineers has been working with the Lorain County General Health District and the Ohio EPA on addressing the Black River's soil erosion and failing sewage treatment system problems on a subwatershed-by-subwatershed basis. The Army Corps' work is being locally matched by in-kind work by the Health District, which is establishing a pilot Home Sewage Treatment System Management District.

Recent testing of sediments from the mouth of the river have indicated that future dredgings of the Outer Harbor area may not require that the sediments be disposed of in a confined disposal facility, but instead, can be disposed of in Lake Erie. In addition, the Ohio Department of Health is expected to review the Black River's contact advisory in 2003, which may lead to a delisting of that impairment.

It's taken the Black River RAP and the watershed community to get this far in ten years – Imagine how much improvement we can realize in the next ten years! Let's stay committed!

Ken Pearce

STATUS OF BENEFICIAL USE IMPAIRMENTS

By Ted Conlin, Ohio EPA RAP Coordinator

As a Remedial Action Plan for an Area of Concern, we are charged with the restoration of certain Beneficial Uses as outlined by the International Joint

Commission. The Black River impairment status for the fourteen listed Beneficial Uses are as follows:

Beneficial Use Impairment	Black River Status	RAP Activity to Help Restore Beneficial Use
Tainting of Fish & Wildlife Flavor	NOT IMPAIRED	Not Applicable
Added Costs to Agriculture or Industries	NOT IMPAIRED	Not Applicable
Restrictions on Drinking Water or Taste & Odor Problems	NOT IMPAIRED	Not Applicable
Bird or Animal Deformities or Reproductive Problems	UNKNOWN, BUT IMPAIRMENT NOT SUSPECTED	-Discussion beginning on choosing sentinel species for monitoring populations -No other RAP Initiatives to date
Degradation of Phytoplankton or Zooplankton Populations	UNKNOWN, BUT LIKELY IMPAIRED	-New study proposed utilizing USACE Funding for RAPs
Restrictions on Fish or Wildlife Consumption	IMPAIRED	-No Consumption Advisories listed for Wildlife -Consumption Advisories due to Methyl Mercury are likely caused from activities outside the Area of Concern -Consumption Advisories due to PCB; no RAP initiatives to date; guidance needed
Degradation of Fish & Wildlife Populations	IMPAIRED	-Discussion beginning on choosing sentinel species for monitoring populations -Fish Habitat Shelf -Riparian Corridor Resolution -Wetland Mitigation Banking with Lorain Metro Parks -Projects to restore streambanks - The Lower Black River Dissolved Oxygen Study
Fish Tumors or other Deformities	IMPAIRED	-AOC is likely approaching "area of recovery" stage. -Awaiting more data
Degradation of Benthos	IMPAIRED	-Sediment controls through RAP assistance on Phase II Regulations -Projects to restore streambanks -Riparian Corridor Resolution
Restrictions on Dredging Activities	IMPAIRED	-AOC is likely approaching "area of recovery" stage. -Awaiting more data
Eutrophication or Undesirable Algae	IMPAIRED	-Lower Black River Dissolved Oxygen Study -Other areas of the basin (besides Findley Lake) are recovering as treatment plants upgrade -Findley Lake area will likely improve as treatment plant for Findley State Park upgrades its facilities
Beach Closings	IMPAIRED	-RAP considers ODH Contact Advisory as the Impairment -ODH Contact Advisory still in effect -Awaiting final report from ODH on their 2002 Risk Assessment -Draft Report expected in 2003
Degradation of Aesthetics	IMPAIRED	-Stream Cleanups -Riparian Corridor Resolution -Public Outreach and Education
Loss of Fish & Wildlife Habitat	IMPAIRED	-Attempting to choose sentinel species for monitoring populations -Great Blue Heron Rookery Numbers (Up 6X since started counts) -Riparian Resolution -Grove Site Fish Shelf

BLACK RIVER FISH CONSUMPTION ADVISORIES

By Ted Conlin, Ohio EPA RAP Coordinator

Fish are nutritious and good to eat. Fish are low in fat, high in protein, and provide substantial health benefits when eaten in place of high-fat foods. Fish eaten often provide valuable vitamins, minerals and essential oils that are low in saturated fat. While most Ohio sport fish are of high quality, low levels of chemicals like polychlorinated biphenyls (PCBs), mercury and lead have been found in some fish in Ohio.

Polychlorinated biphenyls (PCBs) are man-made oils that were once used in carbonless copy paper and in

Bacteria in sediments convert mercury to methyl mercury, an organic compound. Methyl mercury builds up in fish through the food chain. Nearly all of the mercury found in fish is methyl mercury.

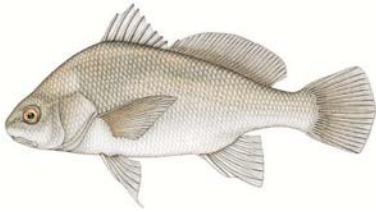
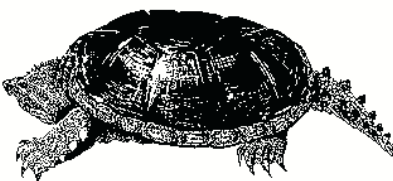
Long-lasting contaminants such as PCBs and mercury can build up in your body over time. It may take months or years of regularly eating contaminated fish to build up amounts that are a health concern. Health problems that may result from the contaminants in fish range from small, hard to detect health changes to birth

defects, such as mental and physical retardation in newborns. Mothers who eat highly contaminated fish for many years before becoming pregnant may have children who are slower to develop and learn. Therefore, women who plan to become

pregnant should follow the fish consumption advice given to pregnant and nursing women for several years before becoming pregnant. It takes up to six years or more for the body to get rid of PCBs, and up to one year to get rid of mercury.

As a result, the Ohio Department of Health has issued very specific fish consumption advisories for the Ohio's waters, including the Black River.

Eat Only One Meal Per Week

Location	Fish	Reason
31 st Street Bridge in the City of Lorain to the Mouth of the River (as of 6/30/97)	Freshwater Drum (Sheephead) 	Due to PCBs
All Waters from Confluence (where East and West Branches of Black River meet) to Mouth	Snapping Turtle 	Methyl Mercury

electrical equipment such as capacitors, transformers and fluorescent light ballasts. PCBs break down very slowly and tend to accumulate in sediments and build up in fish through the food chain.

Mercury is a metal that occurs in nature. It does not break down, but recycles between land, air and water. Mercury may be released into the atmosphere by active volcanoes, coal-burning power plants and the burning of industrial or household wastes.


Check out Ohio EPA's website on Fish Advisories at <http://www.epa.state.oh.us/dsw/fishadvisory/index.html>

BLACK RIVER DERMAL CONTACT ADVISORIES

By Contributing Author Ted Conlin, Ohio EPA RAP Coordinator

The Black River has the oldest Dermal (skin) Contact Advisory in the state of Ohio. Watershed residents should avoid swimming or wading in waters from the 31st Bridge in the City of Lorain to the mouth of the river. The Black River's historical industrial use has resulted in a legacy of problems associated with Polycyclic Aromatic Hydrocarbons (PAHs). PAHs are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil, gas, garbage or other organic substances like tobacco or charbroiled meats. Some PAH's are manufactured and exist as colorless,

white or pale yellow-green solids. PAHs are also found in mothballs, black top, and cigarette smoke and wood fires. Breathing smoke or coming into contact with



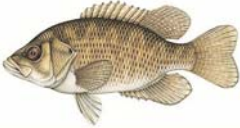

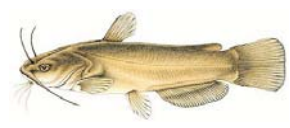
No Swimming or Wading		
Location		Reason
31 st Street Bridge in the City of Lorain to the Mouth of the River (as of 6/30/97)		Due to PAHs

contaminated soils exposes people to PAHs. These chemicals can be absorbed by the lungs and through skin and may cause cancer. These chemicals may also affect the eyes, kidneys and liver.

STATEWIDE/NATIONWIDE MERCURY ADVISORY FOR SENSITIVE POPULATIONS

Women of child-bearing age and young children (age 6 and under) are advised to eat no more than one meal per week of fish (any species) from any Ohio body of water.

These sensitive populations should **NOT** eat shark, swordfish, king mackerel or tilefish.

Eat Only One Meal Per Month		
Location	Fish	Reason
31 st Street Bridge in the City of Lorain to the Mouth of the River (as of 6/30/97)	Common Carp 	Due to PCBs
Findley Lake (all waters as of 2001)	Largemouth Bass 	Due to Methyl Mercury
East Branch (all waters)	Rock Bass  Smallmouth Bass  Yellow Bullhead Catfish 	Due to Methyl Mercury

THE BLACK RIVER RAP JOINS FORCES WITH THE US ARMY CORPS OF ENGINEERS

By Ted Conlin, Ohio EPA RAP Coordinator

The Black River Remedial Action Plan has formed an alliance with the US Army Corps of Engineers-Buffalo District (USACE) to look at the Black River. Under Section 401 of the Water Resource Development Act, the USACE is able to provide technical support to State and Local governments and non-profit agencies in the development and implementation of Remedial Action Plans for US Areas of Concern.

Utilizing this assistance opportunity, Black River RAP Coordinating Committee stakeholder agencies have been able to sign two agreements with the USACE and are working on a third. A 35% local funding match is required and some Black River RAP members have provided that match through local work.

The first agreement between the RAP and the USACE was designed as a two-fold approach to look at home sewage treatment systems (HSTS) and to study the French Creek subwatershed. Work being undertaken by the Lorain County General Health District on establishing HSTS Management Project is being used as the local match requirement.

As part of the agreement, the USACE surveyed the French Creek during the summer of 2002. The Corps plans to collect additional water quality data in 2003 and then present its findings to the RAP and local stakeholders. This project is intended to supply the French Creek subwatershed community with the necessary information to act as responsible stewards of their water resource.

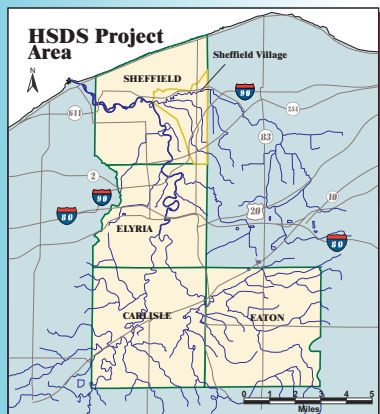
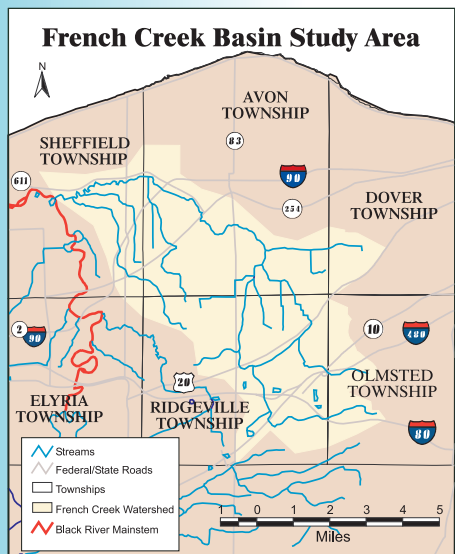
The second agreement, utilizing the local partnership with the Lorain County Community Development Department, will allow the USACE

to conduct a similar survey on the Upper East Branch of the Black River. The Lorain County Environmental Strategic Planning (ESP) effort is being used as the local match. The Upper East Branch of the Black River is second to French Creek, as the most eastern subwatershed to suffer from development pressures and changes in land use. The fieldwork for this project is planned for 2003.

Utilizing the development of the Black River Total Maximum Daily Load (TMDL) program, the Black River RAP is in negotiations with the USACE and the Ohio EPA to have a computer model developed for the Black River. Ohio EPA's work on the Black River TMDL would be used as the local match. On-going studies of the Black River, including a dissolved oxygen study of the mainstem and the USACE Sediment Transport Study, will also be developing separate and distinct computer models.

It is the hope of the Black River RAP that one comprehensive model or a model linkage mechanism can be developed for the entire Black River watershed. A single model or a linkage mechanism will facilitate the Black River RAP's assessment of potential remedial measures and would be especially useful in developing and implementing watershed management plans, which would qualify the Black River for Federal 319 Grants.

A comprehensive model could be used to properly plan for and better manage storm water, while also assisting in future Black River TMDLs. The development of a comprehensive model would assist the Black River Remedial Action Plan Coordinating Committee and watershed community to better understand the dynamics of its water resource, the Black River.



BLACK RIVER SEDIMENT SHOWS TANGIBLE SIGNS OF IMPROVEMENT

By Ted Conlin, Ohio EPA RAP Coordinator

The US Army Corps of Engineers (USACE) maintains a 27-foot depth in the harbor and shipping channel of the Black River through periodic dredging of the bottom sediments. The sediments arrive at the mouth of the river from runoff from nonpoint sources of pollution such as stream bank erosion; runoff from construction activities; agricultural, suburban and urban land uses.

In the 1970's, it was first determined that the sediments of the Black River were contaminated with metals and polynuclear aromatic hydrocarbons (PAH) to such a degree that disposal in Lake Erie, called open-lake disposal, could not be permitted. Over a century of industrial use and abuse, resulted in this contamination. As a result, these dredged sediments had to be disposed of in a Confined Disposal Facility (CDF).

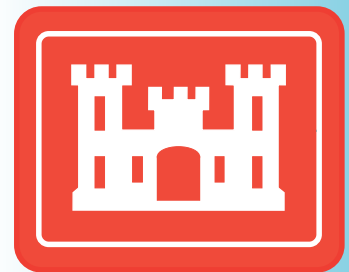
A Confined Disposal Facility (CDF) was constructed in the late 1970's. Every year or two, USACE has dredged 100,000 to 200,000 cubic yards of sediment. Before each dredging, the USACE collects and analyzes core samples of the sediments throughout the proposed dredging operations area. Until now, all the samples pulled up contaminated sediments that had to be disposed of in the CDF until recently.

Recent core samples have shown, for the first time since the construction of the CDF, that the Outer Harbor area may no longer contain sediments so contaminated as to require confinement in the CDF. Improvements in water treatment by industrial dischargers, plus remedial dredgings of the PAHs have resulted in cleaner bottom sediment.

Fish tumors and lesions, once so prevalent in the Black River, are on the decline. The community was once advised not to consume any fish caught in the lower Black River. These advisories were readdressed several years ago and reduced in scope. Although, advisories against swimming or wading in the lower Black River remain. In 2002, the Ohio Department of Health conducted a risk assessment of this advisory and a report is expected in 2003. More information on Ohio's Fish Consumption and Contact Advisories can be found on page 4 and 5 of this report.

Dredging of the Outer Harbor will not be needed in 2003 because sufficient depth remains in the area. Additional monitoring of sediment quality will be required before any future dredging operations. The Black River RAP hopes that future monitoring will continue to show improvement and when the Outer Harbor does need to be dredged, the sediments can be open-lake disposed.

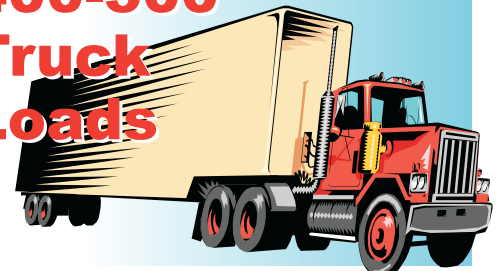
Having an area clean enough for possible open lake disposal is good news for the Black River community. It shows tangible signs of improvement in the Black River and comes at a time when the CDF is reaching its capacity and new facility construction could cost millions of dollars.



**US Army Corps
of Engineers**



**400-500
Truck
Loads**



LORAIN PORT AUTHORITY'S NEW LURES PEOPLE AND FISH, RECO

Contributing Author Ted Conli

Direct Access to the Black River in Downtown Lorain

The Grove Site, now home to the Lorain Port Authority's Black River Landing and Transportation Center, was once a forgotten and forsaken piece of industrial

The historical taconite mountains are gone, along with the "No Trespassing" signs. The Black River Landing & Transportation Center now provides a lure to bring people down to the water. The Center provides a great view of the new Harbor Walk development,

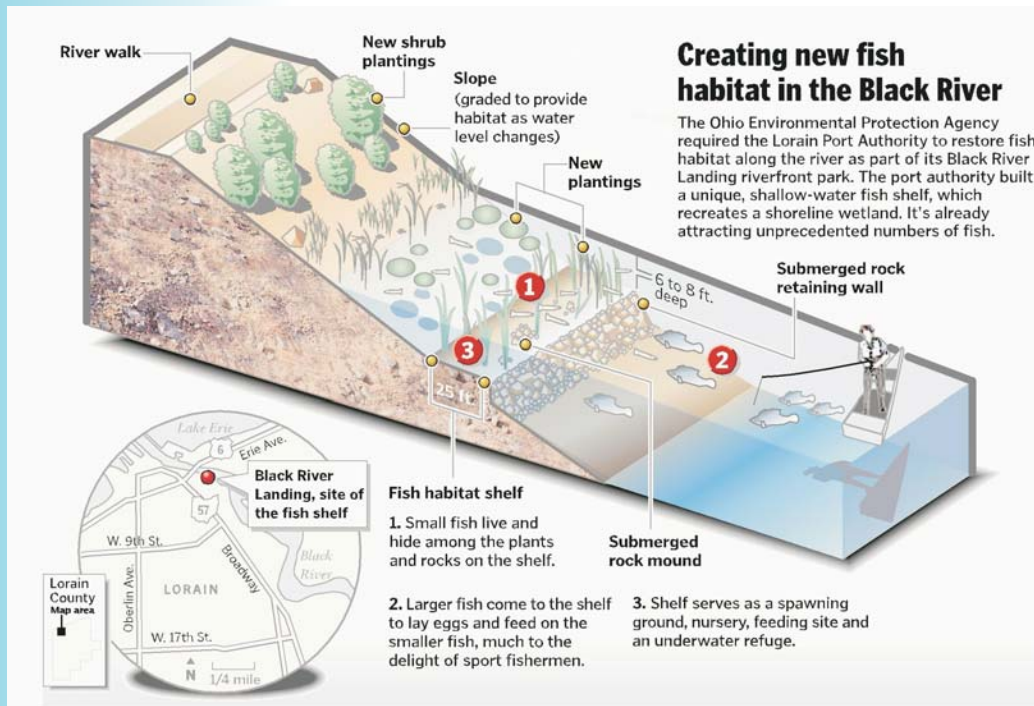
pedestrian walkways along the banks of the Black River, a new boat dockage area and a wonderful area for community celebrations such as the Lorain International Festival, the Ohio Tall Ships Festival, a National Rib Cookoff, etc.

A New Kind of Fish "Lure"

The Lorain Port Authority's redevelopment of the Grove Site enhanced the lives of other watershed residents as well, the local fish communities. The construction of the new dockage area came with a requirement from Ohio EPA to provide habitat enhancements. The Lorain Port

Authority committed to designing and installing 400 feet of riparian plantings as a means of streambank stabilization. The Black River RAP was able to offer comment on the Project's design, prior to implementation. The Lorain Port Authority was very open to suggestions from the RAP's stakeholder agencies. As a result, the Lorain Port Authority agreed to match the required 400 feet of required habitat enhancement with an additional 400 feet of voluntary habitat enhancement.

The Port Authority and their consultant, URS Corporation, worked with the Ohio EPA, to design streambank stabilization efforts that would also improve the local fish habitat. Funding from the United States EPA made the construction of the additional 400-foot section of the fish habitat shelf possible.



property, at least to most people and fish living in the Black River watershed. Little remains of the natural setting of the Grove Site. The grove of trees that gave the property its name, were lost as a result of the historical industrial steel-related uses of the property, such as a taconite (iron ore pellet) storage facility. As the steel industry fell on hard times, the Grove Site was left unused.

In 1995, the Lorain Port Authority acquired the Grove Site and began planning its transformation into an intermodal transportation center that would provide linkages between various modes of transportation; automobile, bus, boat services and commuter rail. With a financial contribution from the Lorain County Commissioners, a new access roadway was constructed, directly connecting downtown Lorain with access to the Black River for the first time.

PROJECT ON THE BLACK RIVER RECEIVES NATIONAL ATTENTION

n, Ohio EPA RAP Coordinator

The “Fish Habitat Shelf” as it has been called, is a shallow underwater ledge specifically constructed to act as a spawning area, nursery, and general aquatic habitat site in the mainstem of the Black River. Since its construction during the summer of 2002, the Fish Habitat Shelf has proven to be a remarkable success. In just a few months, the Fish Habitat Shelf saw an increase in almost all types of fish. Although more studies of the site are scheduled, Ohio EPA’s 2002 fish biology monitoring at the Black River Landing Site noted dramatic improvements in both the number of species and the fish community structures.

The success of the Fish Habitat Shelf was first reported in an article by the Cleveland Plain Dealer, which was then picked up by the Associated Press and the Great Lakes Daily News (Great Lakes Information Network).

What is a Fish Habitat Fish Shelf?

The combined 800-foot Fish Habitat Shelf (see graphic) incorporates the shallow underwater ledge or shelf with aquatic vegetation and rock piles. In the typically muddy waters of the Black River, this shallow shelf allows for sunlight to penetrate, facilitating the further growth of the rooted vegetation. The rock piles and the shallow water allow for fish spawning areas.

Biologists have long noted that where there is aquatic vegetation, there are fish, especially young-of-year fish that use the vegetation to hide from the larger predator fish. And where there are small fish, there is larger fish, much to the delight of anglers.

Shortly after the Fish Habitat Shelf was built, the Black River Landing stretch of stream received a 9.4 score on Ohio EPA’s Modified Index of Well Being (MIWB). This was first time that the stream stretch has attained Warm-Water Habitat Stream status (see box on Ohio’s Biological Indicators). In fact, this stretch was very near Exceptional Water-Water status. In 1982, the MIWB scores ranged between a low of 6.2 to a high of 7.3 for the site. Some improvement was seen in 1992’s MIWB monitoring,

ranging from 7.7 to 8.6. Additional limited monitoring conducted in 1997 revealed a low score of 8.4 to a high of 8.5.

The Index of Biological Integrity (IBI) scores showed similar improvement, where the score of 46 is well within the “Good” range. For comparison, the range of IBI scores in 1982 varied from a low of 17 to a high of 34. In 1992, the scores ranged between 25 and 39.

All aspects of the 2002 monitoring showed improvement, including the number of fish, the number of fish species and the number of top carnivores. The Ohio EPA plans to return to the Black River Landing shoreline to continue monitoring the fish shelf in 2003 and is expecting to see even more dramatic improvements.

The Lorain Port Authority plans to develop signs along the river, highlighting the river’s history, the development of the Black River Landing with its innovative Fish Habitat Shelf, and the future of the Black River.

Ohio’s Biological Indicators

Biological indicators are features of the aquatic ecosystem that demonstrate the health and variety of the ecosystem. There are two indices that Ohio EPA uses to assess the health of the fish communities and determine Aquatic Use Designations.

The Modified Index of Well Being (MIWB), based on the Index of Well Being is calculated of fish mass and density, but factors out 13 pollutant tolerant species of fish from certain calculations. This prevents false high reading on polluted streams, which have large populations of pollutant tolerant fish.

Warm-water habitat Stream > 8.7

Exceptional Warm-water habitat Streams > 9.6

The Index of Biological Integrity (IBI) is a measure of fish species diversity and species populations. For lacustraries (lake affected portions of rivers), the IBI is being developed, but at this time, Ohio EPA looks at the following rating/score descriptions:

Very Poor	< 17
Poor	17-30
Fair	41-41
Good	42-49
Excellent	> 50

LOW-IMPACT DITCHING:

By Karl Schneider,

The Lorain Soil and Water Conservation District completed the construction phase of its “environmentally friendly” ditch-cleaning program in 2002.



Photo courtesy of Karl Schneider, NRCS

between traditional ditch cleaning and an alternative “hands-off” approach. Traditional ditch cleaning involves the removal of all native vegetation and the straightening of channels to allow for easier farming and better drainage.

The “hands-off” approach is the “green” philosophy that ditches and riparian areas should be left undisturbed because of their environmental importance in terms of habitat and water quality. It was the intention of the Lorain SWCD to find some compromise, using techniques that might apply to both “schools of thought.”

Construction involved three “headwaters” streams in the West Branch of the Black River Watershed in Pittsfield

Township. A total of 7,841 feet of ditch improvement work was conducted in September-October, 2002. All work was subcontracted through the Lorain SWCD using Hanco Farms Inc.

The intensity of the work done on each stream varied from slight to moderate. Only a small percentage of traditional ditch cleaning was done in areas of rural homes, where a history of flooding was recorded.

A number of low-impact construction techniques were used on these projects and included:

- one-sided excavation;
- one-sided tree removal;
- selective tree removal;
- minimal bottom and side slope excavation;
- cutting trees at base (rather than digging stumps);



Photo courtesy of Karl Schneider, NRCS

The U.S. Environmental Protection Agency Region V office funded the program as a Regional Conservation Initiative. The purpose was to demonstrate low-impact ditch improvement techniques that could be used to facilitate flow, while also maintaining a certain degree of biological integrity in the riparian area along ditches. This initiative included work on three “headwater streams” encompassing less than one square mile of drainage area in primarily

agricultural areas in central Lorain County.

The primary objective of the grant was to find some common ground

Is There a More “Environmentally Friendly” Way?

National Resource Conservation Service

- maintaining stream pools;
- minimal armoring of eroding banks;
- construction of low flow stream channel;
- installation of water breaks; and
- seeding wildlife grass mix on streambanks and buffers areas.

The final construction costs were 15-20% lower than the average costs of traditional ditch cleaning in Lorain County.

In addition to construction, the Lorain SWCD also conducted a monitoring program that looked at flow, water chemistry and biological activity. Monitoring began six months prior to construction and will continue up to a year after. The idea was to develop baseline data and look at the impacts from construction and to determine the recovery period of the ditch habitat. Water quality specialists from Ohio EPA are helping with the analysis of the data.

Initial data indicates that channel capacity has been increased and flow has improved. Biology will be monitored twice in 2003. Inspection and repair will be completed in spring/summer 2003 and field tours will be conducted. A “how-to” brochure will also be published.

Final program results will be published in the Black River RAP 2003 Annual report.

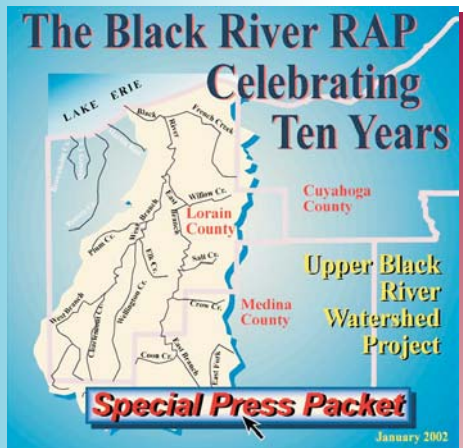


Photo courtesy of Karl Schneider, NRCS



Photo courtesy of Karl Schneider, NRCS

319 GRANT ACTIVITIES: TEN EVENTS TO CELEBRATE TEN YEARS



#1 Special Press Packet:

The Black River RAP Celebrating Ten Years

An interactive compact disc was developed to assist the local media in locating all of the relevant information that is available on the Black River.

#2 Want to Avoid Problems With EPA?

A Mini-Seminar on Construction Site Best Management Practices

Ohio EPA's Dan Bogoevski presented an overview of best management practices used to better manage sediment & erosion pollution controls on construction sites. The objective of the mini-seminar was to assist developers and builders in meeting the requirements of their NPDES permits. This presentation was accompanied by a summary report on current water quality problems impacting the Black River watershed.

#3 Home Sewage Disposal & Treatment Systems 101:

A Continuing Education Class for Realtors

A course was designed, developed and certified by the Ohio Association of Realtors to provide local realtors with information on home sewage systems to better assist their homeowner, buyer and seller clients. See page 14 of this report for more information.

#4 Streamside Vegetation:

Why Should I Consider Maintaining A Buffer Strip On My Farm?

A luncheon workshop was co-sponsored by the Black River RAP and the Lorain County Farm Bureau on the benefits that streamside vegetation provides on farms. Utilizing a membership list from the farm bureau, over 900 invitations were mailed to local Lorain County farmers. The meeting agenda included an overview of what is a riparian buffer strip, a brief summary of the Lorain County Farmland Retention Report; an overview of economic incentives related to buffer strips and a brief introduction to conservation efforts by local land conservancies.

#5 Presentation to Township Officials on Current Water Quality Problems

A presentation on current water quality problems was presented at the Lorain County Prosecutor's Township Seminar. This outreach effort also included an overview of the Black River 319 Grant and a brief description of the Ohio NEMO Nonpoint Pollution Education Program.

#6 A Virtual Tour of the Black River Watershed

A virtual tour of the Black River was created utilizing the technology of the world wide web. See page 13 for more detail.

#7 A Celebration Newsletter

A newsletter was developed to celebrate the Black River RAP's Tenth Anniversary and to announce upcoming public education and involvement events.

#8 Five Streamside Cleanups

As part of Lorain County's Annual Pride Day, five sites were planned for cleanup in the watershed and included Cascade Park; the Black River Boat Launch; the Lorain County Metro Parks Bike Trail (Kipton); streamside in the Lodi Community Park; and around the 36th Street Bridge in Lorain. Sponsors included the Lorain County Solid Waste Department, USEPA, Ohio EPA, Pepsi, Home Depot and many more.

#9 Providing Watershed Education As Part of Mother Earth Sing

The Black River RAP joined the City of Elyria and Lorain County in celebrating Earth Day and Arbor Day, April 2002. The RAP sponsored watershed educational activities as part of the activities planned for the day. Other activities included streamside hikes, tree plantings, horse rides, buggy rides, music and much more.

10 A Volunteer Celebration Picnic

A picnic was planned for June 2003 to celebrate all of the volunteers and sponsors involved throughout the 319 grant.



Virtual Tour of the Black River Watershed

<http://www.noaca.org/blktour.html>

VIRTUAL TOUR OF THE BLACK RIVER WATERSHED

By Pamela Davis, AICP, NOACA

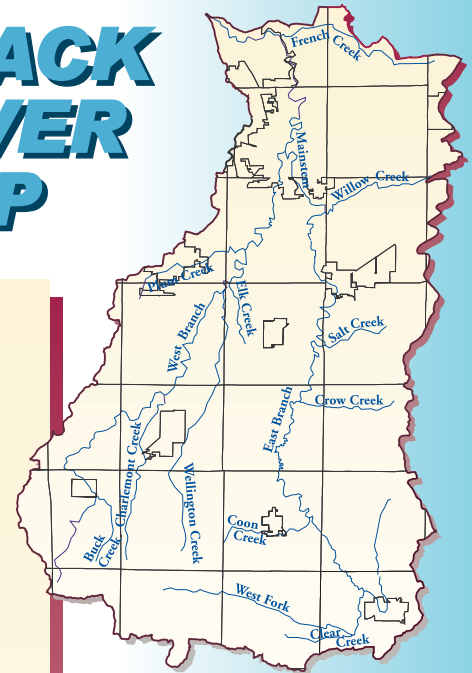
In September 2002, a computerized tour of the Black River watershed was launched on the world wide web. Utilizing a book edited by Brad Masi, Explorations of a Watershed: The Natural History of the Black River Watershed, a "Virtual Tour" of the Black River was designed and developed as part of a 319 Implementation Grant from Ohio EPA and USEPA.

The tour includes photographs and descriptions of significant environmental and human settlement

sites, information on natural history, geology, ecology, pre-recorded and recorded history, and an overview of current challenges to restoring water quality throughout the Black River watershed.

<http://www.noaca.org/blkrp.html>

BLACK RIVER RAP



Important Natural and Historical Sites Along the Mainstem include:

- The Mouth of the Black River and its Lighthouse;
- The industrial Steel Mills;
- The American Shipyard Brownfield;
- An expanding Heron Rookery;
- The French Creek subwatershed, the largest tributary of the Black River;
- An early settlement site, White Fort;
- Cascade Park, where the East and West Branches of the Black River meet; and
- A restored Native Prairie in the Black River Reservation

Sites Highlighted Along the East Branch Include:

- Flooding problems throughout Avon and North Ridgeville;
- A 40-acre patch of first growth Virgin Forest;
- The Lorain County Metro Parks Caley Mitigation Bank;
- A streambank restoration project in Lodi;
- The glacial End Moraines in Lodi; and
- The Muckland soils south of Lodi

Sites Profiled Along the West Branch Include:

- The Charlemont Wildlife and Swamp area;
- The McConnell Farm Wetlands; and
- The George Jones Farm, a conservation demonstration project



HOME SEWAGE TREATMENT & DISPOSAL SYSTEMS 101: A Continuing Education Class for Lorain County Realtors

By Pamela Davis, AICP, NOACA



A continuing education class was designed, developed and presented by the Lorain County General Health District, with assistance from NOACA and funding from an Ohio 319 Grant. This class was certified by the Ohio Realtors Association for three hours and co-sponsored by the Lorain County Realtors Association. The class was such a hit with local realtors that a second class had to be scheduled.

Over fifty realtors attended two separate classes in February 2002.

It was the objective of the course to provide realtors with basic knowledge related to home sewage treatment & disposal systems in Lorain County. The course was

designed to provide realtors with valuable information in regards to the proper operation & maintenance of individual systems, which can be directly passed onto their clients, home sellers and buyers. The class included an introduction to water quality issues and watershed planning; an overview of problems of failing and malfunctioning home sewage treatment systems throughout northeast Ohio and in Lorain County; and a basic presentation on the types of systems, how they work and signs of system problems.

Malfunctioning and failing sewage systems have environmental, economic and health impacts. Environmental impacts include discharge of excessive nutrients & bacteria that are harmful to plants, fish and animals; fish kills and unnatural algae blooms. Economic impacts include decreased property values, systems maintenance and replacement costs, and longer property listing times. Health impacts include contamination of drinking water, disease-causing bacteria & viruses such as dysentery, Fecal Coliform, E. Coli, recreational contact advisories, etc.

As part of a seven-county study in 2000, the Northeast Ohio Areawide Coordinating Agency (NOACA), in

partnership with county health departments, determined that:

- 16% of on-lot systems are failing; surfacing effluent can be found on the leaching tile field.
- 40% of off-lot discharging systems have malfunctioning mechanical components; broken, turned-off, or removed aerators.
- 26% of off-lot systems in northeast Ohio were found to be discharging unacceptable effluent that was cloudy, black and/or odorous effluents and
- 52 % of effluent samples collected exceeded the minimum regulations for fecal coliform concentrations.

More specifically, the seven-county study found that only 7% of Lorain County on-lot systems were failing with surfacing effluent; proof that the Lorain County General Health District's policies of not allowing systems to be installed in severe soils, works. In addition, 73% of the County's off-lot systems had observable mechanical component problems. By comparison, only 25 % of off-lot systems in Cuyahoga County had problems. Cuyahoga County has a mandatory

inspection program.



Additionally, the seven-county study confirmed the results of the Health District's evaluation efforts from 1988-1996 where 644 systems were evaluated and 43% of the systems were found to be working improperly.

LORAIN COUNTY'S ENVIRONMENTAL STRATEGIC PLAN

By Karen Johnston, Lorain County Community Development Department

In October 2002, the Lorain County Board of Commissioners awarded a \$134,900 contract to Camp, Dresser & McKee for the completion of a countywide Environmental Strategic Plan (ESP) the first environmental plan in Lorain County's history.

The kick-off meeting was held on December 10, 2002 and was attended by representatives from various Lorain County communities and offices, as well as Lorain County citizens.

This planning effort, which is scheduled to be completed within 18 months, will focus on four (4) strategic environmental issues that Lorain County will face during the next 20 years. Based on recent planning efforts, the four (4) strategic areas to be discussed will include:

- Waste Water issues;
- Storm Water issues;
- Methods of identification and remediation of Brownfields; and
- Stewardship of Natural Resources,

The fourth and final issue, will be interwoven throughout the three (3) discussion areas. An environmental inventory of Lorain County, which was completed by Davey Resource Group in 1998, will provide critical ESP baseline information.

In addition, the investment by the Commissioners in the ESP allowed Lorain County and the Black River watershed to be eligible for matching services from the USACE. The Corps will be working on developing subwatersheds studies throughout the identified Area of Concern (AOC), which encompasses the entire watershed.

The Black River watershed comprises approximately 60% of Lorain County and qualifies Lorain County for matching services from the USACE in

the amount of \$164,084. The USACE will be completing the following tasks as funding allows:

- Identifying areas that are contributing to the sediment loads coming from the East and West Branches;
- Taking inventory of the East Branch subbasin of the Black River in order to better restore and protect this



- developing area;
- Addressing known non-point source problem areas within the AOC; and
- Developing general plans to address areas of severe streambank erosion so that they may be prioritized and available when funding situations arise.

Ted Conlin, the Ohio EPA Black River RAP Coordinator, was instrumental in developing the request for USACE assistance. These studies, which will be completed throughout the next year, will be instrumental in addressing existing environmental concerns and planning for Lorain County's environmental health in the face of future growth.

If you have a question related to the ESP, please contact the Lorain County Community Development Department by e-mail at chrisdunnesp@hotmail.com.

CLEAN OHIO FUND GREEN SPACE CONSERVATION PROGRAM

Projects Funded by the District 9 Natural Resources Assistance Council

Throughout 2002 and three rounds of applications, the District 9 Natural Resources Assistance Council (serving Huron, Lorain and Medina Counties) awarded 1.7 million dollars to Green Space projects. The Black River watershed will benefit from an open space acquisition of



parkland adjacent to the Indian Hollow Reservation and a restoration/conservation project along French Creek.

The Lorain County Metro Parks requested and was awarded \$55,000 to match \$45,000 to acquire a 5.4 acre parcel that provides a critical link in the Indian Hollow park master plan by connecting

various parcels. The site includes native forest species and a grass meadow area. The Park District plans to encourage the growth of forest species, while controlling invasive species. This area

will allow public access for fishing along the East Branch of the Black River. Through active management, the Park District hopes to improve water quality runoff and preserve existing wetland areas.

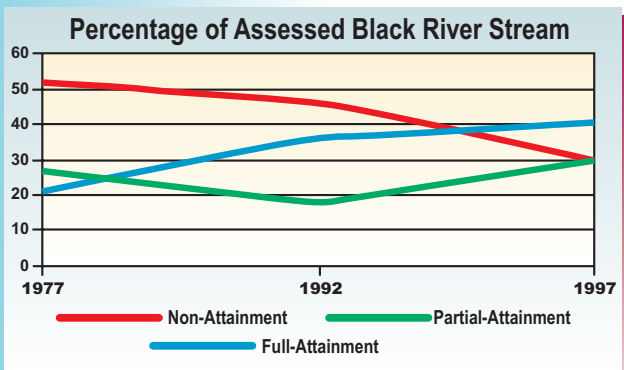
The City of Avon was awarded \$226,348 for the restoration of the French Creek riparian corridor, including a Conservation Easement on 27 acres. The French Creek watershed is a very urbanized watershed, and the project will preserve 6 acres of forested wetlands and reverse some of the effects of historic flooding problems due to channelization.

Other funded projects include:

- three projects that will benefit the Vermilion River
- one project that will benefit the Chippewa Lake watershed, which drains into the Cuyahoga River
- one that will benefit the Plum Creek, a tributary of the Rocky River
- one that will benefit the Hudson River Watershed.

USE ATTAINMENT STATUS

Ohio EPA uses environmental indicators to evaluate water quality.



Ohio's Water Quality Standards are based on whether a water body is fulfilling its Use Attainment designation. Using biological criteria, Ohio EPA evaluates multiple biological indices

including the Modified Index of Well-Being (MiwB) and Index of Biotic Integrity (IBI). See page 9 for more information on these indicators. Ohio

EPA also evaluates the macro-invertebrate (bug) communities using the Invertebrate Community Index (ICI).

Using these indices, Water Quality Attainment Status can be determined at sampling sites. A site can be found to be in Full Attainment; in Partial Attainment or in Non-Attainment. Full Attainment means that all the applicable indices meets Ohio EPA's biocriteria. Partial attainment means that one or more of the applicable indices fail to meet the biocriteria. Non-attainment means that none of the applicable indices meet the biocriteria or one of the fish/bug groups are poorly performing.

2002 BLACK RIVER RAP COORDINATING COMMITTEE MEMBERS

Local Jurisdictions

Lorain County General Health
District
Chairman, Black River RAP
Coordinating Committee
Ken Pearce

Lorain County Board of
Commissioners
Commissioner Betty Blair

Lorain County Community
Development Department
Ron Twining

City of Lorain
Mayor Craig Foltin

City of Elyria
Greg Worcester

Lorain County Municipalities
North Ridgeville
Mayor Deanna Hill

Lorain County Townships
Mary Beth Derikito

Lorain County Soil and Water
Conservation District
Timothy Abraham

USDA/Natural Resource
Conservation Service (NRCS)
Karl Schneider

Lorain County Metro Parks
Daniel Martin

NOACA

Pamela Davis, Secretary

Medina County Board of
Commissioners
John Hocker

State/Federal Agencies

Ohio EPA
Ted Conlin

ODNR
Jeff VanLoon

OSU Sea Grant
David Kelch

U.S. EPA
Anne Marie Vincent

Industry/Commercial

Lorain Chamber of Commerce
Michael Challender

LTV Steel
Larry Szuhay

Lorain County Port Authority
Rick Novak

Lorain County Farm Bureau
Julie Hruby

Lorain County Community
Alliance
Rebecca Gray

Community Representatives

Cheryl Wolfe
Lillian McPherson
Brad Masi

BLACK RIVER RAP CONTACTS

Lorain County Community Development Department

226 Middle Avenue
Elyria, Ohio 44035
440-328-2322

Lorain County General Health District

9880 South Murray Ridge Road
Elyria, Ohio 44035
440-322-6367

Lorain County Metro Parks

12882 Diagonal Road
LaGrange, Ohio 44050
440-458-5121

Lorain County Soil & Water Conservation District

42110 Russia Road
Elyria, Ohio 44035
440-326-5800

Lorain County Community Alliance, Public Services Institute

Lorain County Community College
1005 North Abbe Road
Elyria, Ohio 44035
440-366-4160

Medina County Soil & Water Conservation District

803 E. Washington Street
Medina, Ohio 44256
330-722-2628

Northeast Ohio Areawide Coordinating Agency

1299 Superior Avenue
Cleveland, Ohio 44114
216-241-2414

Ohio Environmental Protection Agency

Northeast District Office

2100 Aurora Road
Twinsburg, Ohio 44087
330-963-1200

United States Environmental Protection Agency

Region V - Cleveland Office

25089 Center Ridge Road
Westlake, Ohio 44145
440-250-1720



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