



The purpose of this Annual Report is to inform the watershed community of the progress made by the Black River Remedial Action Plan (RAP) in its efforts to restore impairments to beneficial uses in the Black River watershed Area of Concern (AOC).

The Annual Report provides background information on many of the projects undertaken by the RAP and its members.

If you would like more information on any of the topics covered in this Annual Report or would like to join the effort to restore the Black River, please contact any of the RAP Coordinating Committee members referenced at the end of this report or go to [www.blackriverrap.com](http://www.blackriverrap.com).



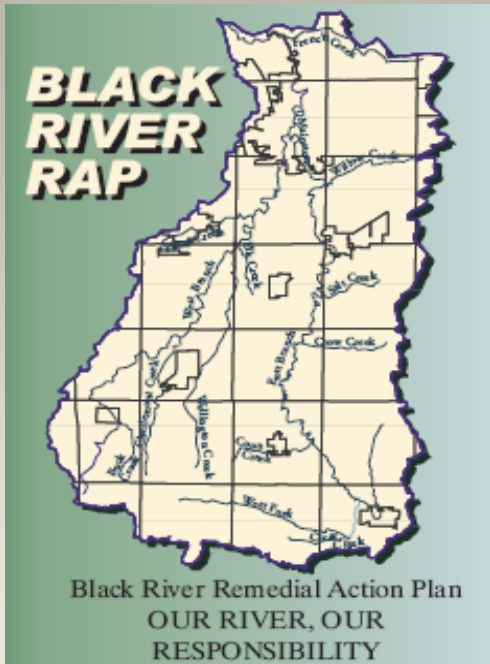
Figure 1 Monkey Island

### Beneficial Use Impairments (BUIs)

The Great Lakes Water Quality Agreement, as amended, calls for remedial action plans (RAPs) to be developed to restore and protect any of 14 beneficial uses in Areas of Concern (AOC). An impaired beneficial use means a change in the chemical, physical or biological integrity of the AOC sufficient to cause any of the following:

1. **Restrictions on fish and wildlife consumption**  
*(Impaired for fish consumption criteria only)*
2. Tainting of fish and wildlife flavor
3. **Degradation of fish or wildlife populations**  
*(Impaired for fish population criteria only)*
4. Fish tumors or other deformities
5. Bird or animal deformities or reproductive problems
6. **Degradation of benthos**  
*(Not Impaired in the East Branch sub-watershed)*
7. **Restrictions on dredging activities**
8. **Eutrophication or undesirable algae**
9. Restrictions of drinking water consumption or taste and odor problems
10. **Beach closings (recreational use)**
11. **Degradation of aesthetics**
12. Added costs to agriculture or industry
13. Degradation of phytoplankton or zooplankton populations
14. **Loss of fish and wildlife habitat**

**Bold** Impaired in the Black River AOC  
Underlined Impaired but In Recovery Phase



Prepared by:

**Black River Remedial Action Plan  
Coordinating Committee**

**Ken Pearce, Chair**  
Lorain County General Health  
District

**Lorain County General Health  
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Black River RAP Secretariat

**Anne Marie Vincent**  
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## Terms and Acronyms

As major restoration efforts are beginning in the AOC, unfamiliar scientific terms and acronyms will be used that may be unfamiliar. This will help you decipher the language being used.

- **Benthos or Benthic Macroinvertebrates:** *Benthic macroinvertebrates (or Benthos) are insect larvae, mollusks, worms and crayfish that live on the bottoms of streams and rivers. They are important bellwethers for environmental degradation as they spend all or part of their lives in the water and are on the first rung of the food chain for the ecosystem*
- **BUI:** Beneficial Use Impairment
- **DELTS:** Deformities, Eroded fins, Lesions and Tumors: *An evaluation method used by Ohio EPA to assess fish health by documenting external abnormalities*
- **Fish Habitat Shelf:** *A man-made shallow water shelf designed for fish habitat, spawning and refuge*
- **GLRI:** Great Lakes Restoration Initiative: *The new federal funding authority designed to restore the Great Lakes*
- **IBI:** Index of Biological Integrity: *One evaluation method used by Ohio EPA to assess aquatic resource quality by assessing the populations of fish species*
- **ICI:** Invertebrate Community Index: *An evaluation method used by Ohio EPA to assess aquatic resource quality by assessing the populations of benthic macroinvertebrate species*
- **Lacustuary:** *Pertaining to the Lake Erie estuary (lake affected portion of the river), for the Black River, that is about six miles of the main stem*
- **LQHEI:** Lacustuary Quantitative Habitat Evaluation Index: *An evaluation method used by Ohio EPA to assess fish habitat quality in Lake Erie, Lake Erie nearshore areas and lacustuaries*
- **MIwb:** Modified Index of well-being: *Another evaluation method used by Ohio EPA to assess aquatic resource quality by assessing the populations of fish species. MIwb factors out some pollution tolerant species to avoid false high readings*
- **Non-Significant Departure:** *A value for some assessment methods that recognizes that a lower reading may be statistically not significantly different than the state's attainment value. The lower value is set as the delisting target for some BUIs*
- **QHEI:** Quantitative Habitat Evaluation Index: *An evaluation method used by Ohio EPA to assess fish habitat quality in free-flowing river sections*

## MESSAGE FROM THE CHAIR

By Ken Pearce,  
Chairman of the Black River RAP Coordinating Committee and Commissioner of the Lorain County  
General Health District

By the very nature of designating the entire Black River watershed as an Area of Concern (AOC) and a wide disparity in land uses throughout the watershed, no single remedial effort can be implemented to solve all of the problems. For this reason, the Black River RAP Coordinating Committee has turned to a multi-faceted approach.

Cultivated land in the lower main stem basin of the Black River, including the French Creek sub-basin, comprises approximately 37% of the total land area. In contrast, in the upper sections of AOC, namely the East Branch and West Branch basins, the percentage of cultivated land is almost double that of the lower main stem basin. Developed land, including the municipal and industrial centers of Elyria and Lorain, encompasses more than half of the land use in the lower main stem basin; however, the percentage of developed land is about five times lower in the upper sub-watersheds.

With the 1989-1990 remedial dredging of contaminated sediments in the main stem, the river has shown a dramatic recovery. This was highlighted in 2004 with the removal of the contact advisory by Ohio Department of Health and the re-designation of the fish tumor beneficial use impairment (BUI) to a phase of "In Recovery." Recently, the focus in the main stem has turned toward restoring the river and near shore habitat. In 2008, RAP members and other local stakeholders, including the City of Elyria, developed the Lower Black River Ecological Restoration Master Plan, followed by the Elyria Greenway and Trail Master Plan at the end of 2009. Since that time, the City of Lorain has taken the lead by securing millions of dollars from federal funding sources to conduct the following remediation efforts: removal of millions of cubic yards of slag from riverbanks, restoration of more than 50 acres of riparian habitat, and construction of thousands of feet of underwater habitat shelves. The work by the City of Lorain is truly remarkable, and the RAP Committee commends their efforts to restore the lower Black River.

In spite of losing the local watershed coordinator, Lorain County has maintained their commitment to produce Watershed Action Plans for the French Creek and West Branch sub-basins. Coinciding with the development of Watershed Action Plans is the development of local watershed groups who concentrate on restoring their own watershed. In the upper reaches of the Black River watershed AOC, the major focus is on non-point sources of pollution from agricultural and developing lands, as well as the effects from under-maintained and/or failing home sewage treatment systems (HSTS). In fact, a study released in 2010 by the Lorain County General Health District concluded there is a high rate of HSTS failures due to a lack of homeowner maintenance.

The Watershed Action Plans itemize the problems, priorities, and activities that each local watershed group would like to address. When completed at the end of 2011, the plans will serve as a guide for the local groups, and the Black River RAP Coordinating Committee remains committed to assisting these groups in any way possible.

The next few years will be exciting times for the restoration of the Black River and the RAP Coordinating Committee. The Committee and I look forward to monitoring the progress made by the Cities of Lorain and Elyria and the implementation phase of the Watershed Action Plans in the French Creek and West Branch sub-watersheds.

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# 2010 WATERSHED COORDINATOR'S REPORT

## Lower Black River Restoration Progress

As of October 2011, the City of Lorain has secured six grants to complete ecological restoration activities within the Area of Concern (AOC). An American Recovery and Reinvestment Act (ARRA) grant, awarded by the Ohio EPA, is approximately 90% complete and scheduled to be finished in late spring/summer 2012. This project involved the removal of over one million cubic yards of steel slag from floodplain and riparian areas. Following excavation the project resulted in the following: approximately 23 acres of floodplain restoration, 7 acres of upland riparian restoration, 640 linear feet of fish habitat shelves, 3,200 linear feet of bank restoration, 62 acres of riparian preservation, 3 acres of *Phragmites australis* removal, and installation of over 14,000 native trees and shrubs. A Great Lakes Restoration Initiative (GLRI) project, awarded by the National Oceanic and Atmospheric Administration (NOAA), was granted in 2010 and is currently under construction. This project, referred to as NOAA Phase I, will result in the construction of over 3,000 linear feet of fish habitat shelves, as well as the installation of rootwad revetments, boulder clusters, and other in-stream habitat features.

The Ohio EPA also awarded funds for a Supplemental Environmental Project (SEP), which is nearly complete. This project resulted in slag removal and riparian restoration within an additional 1-acre area. The U.S. Fish and Wildlife Service awarded a GLRI project that is currently under construction and will result in the removal of an abandoned bioremediation system within the riparian zone that contained elevated levels of petroleum products. This project will result in the restoration of approximately 2.7 acres of riparian area. Two additional GLRI projects have been awarded to the city from NOAA and are in the beginning phases. The first of these two projects, NOAA Phase II, will result in approximately 2,800 linear feet of fish habitat shelves, 1,600 linear feet of bank restoration, and 2.3 acres of slag removal and subsequent riparian restoration. The second project, NOAA Phase III, will fund design and assessment of a restoration project that, upon acquisition of funding, will result in the remediation and restoration of a 4-7 acre area of riparian zone, as well as installation of in-stream aquatic habitat features and bank restoration along approximately 1,200-1,600 linear feet of the river. Other partners assisting with these projects include the Lorain Port Authority, Lorain County Metro Parks, The Lorain Growth Corporation, and Lorain County.

Monitoring of habitat and biological communities (fish and macroinvertebrate) is being conducted before and after construction to track success of the projects and evaluate progress made with respect to beneficial use impairments. Some post-construction data has been collected; however, it has not yet been processed. The first monitoring report for the restoration projects is due at the end of 2012. Lorain County was recently awarded a "Challenge Grant" from US EPA, Sponsored by NOAA. The project will create 20 part-time jobs in Lorain County in 2012-2013 and will result in the removal of invasive species from the Black River, namely the mouth to river mile 6. Following the eradication of invasive species, native shrubs will be planted. Other project partners include the Lorain County Growth Partnership, Lorain County Metro Parks, City of Lorain, Sheffield Village, and the Lorain Port Authority.

## Black River Watershed Action Plan Progress

The Lorain County Community Development Department has contracted with Coldwater Consulting, LLC to complete the Black River Watershed Action Plan. All sections of the plan have been drafted and will soon be submitted to the Ohio EPA and Ohio Department of Natural Resources (DNR) for review. Ohio EPA and Ohio DNR must endorse the plan before it becomes official. The watershed action plan

includes a watershed inventory and detailed problem statements, goals, objectives, and actions that must be taken to improve the quality of water, habitat, and biological communities within the Black River and its tributaries. Endorsement of the plan will improve the eligibility of the Black River watershed for funding to complete a wide variety of projects. The plan is currently scheduled for completion by the end of 2011.

## THE BLACK RIVER RAP UPDATES ITS STAGE 2 REPORT

When the US EPA designated impaired Great Lakes water systems as Areas of Concern, the federal agency required the development of remedial action plans. The remedial action plan process was decided to be a three stage process.

- **Stage 1** was intended to identify and assess the degree of impairment to any of up to fourteen beneficial uses.
- **Stage 2** was the action document of the process and it was to consist of the actions and projects needed to restore any impaired beneficial use.
- Once all beneficial uses are restored, **Stage 3** was to provide scientific evidence that each impaired uses was restored.

The Black River RAP Coordinating Committee completed the Stage 1 assessment and produced the Stage 1 Report in 1994. In that report, the RAP Coordinating Committee determined the following.

BUI Name	Stage 1 Findings and BUI Status	
Restrictions on Fish and Wildlife Consumption	Fish Consumption	Impaired for mainstem and nearshore areas Potential impairment for French Creek Low potential for remainder of AOC
	Wildlife Consumption	Potential impairment for mainstem and nearshore areas Low potential for remainder of AOC
Tainting of Fish and Wildlife Flavor	Unknown for all areas of AOC	
Degradation of Fish and Wildlife Populations	Fish Populations	Unknown for nearshore areas Impaired for remainder of AOC
	Wildlife Populations	Unknown for nearshore areas Potential impairment for mainstem Low potential for remainder of AOC
Fish Tumors and Other Deformities	Impaired for mainstem and nearshore areas Low potential for remainder of AOC	
Bird or Animal Deformities or Reproductive Problems	Unknown for mainstem and nearshore areas Low potential for remainder of AOC	
Degradation of Benthos	Unknown for nearshore areas Impaired for remainder of AOC	
Restrictions on Dredging Activities	Impaired for mainstem and nearshore areas Not applicable for remainder of AOC	
Eutrophication or Undesirable Algae	Low potential for nearshore areas Potential impairment for mainstem Impaired for Findley Lake and East Branch	
Restrictions on Drinking Water Consumption or Taste and Odor Problems	Low potential for nearshore areas Not applicable for mainstem Potential impairment for remainder of AOC	
Beach Closings and Recreational Contact Limitations	Occasionally impaired for nearshore areas Impaired for mainstem Occasionally impaired for remainder of AOC	
Degradation of Aesthetics	Impaired for all areas of AOC	
Added Costs to Agriculture or Industry	Low potential for all areas of AOC	
Degradation of Phytoplankton and Zooplankton Populations	Unknown for all areas of AOC	
Loss of fish and Wildlife Habitat	Impaired for all areas of AOC	

Since the inception of the RAP program, the status of numerous beneficial uses and proposed remedial actions necessary for restoration have changed in many of the Great Lakes AOCs. This is true for the Black River AOC and the current condition of the fourteen beneficial uses can be seen on Page 2 of this Annual report.

In addition, specific funding is now available to RAP organizations through funding mechanisms like the Great Lakes Restoration Initiative. To ensure that these funding mechanisms are addressing restoration of BUIs and AOCs, GLNPO required, in 2010, that all RAP organizations in the United States update their Stage 2 document. In many instances, availability of federal funding for any action or project will require the restoration project or action to be addressed in the updated Stage 2 report.

In 2010, the Black River RAP updated their Stage 2 Report and forwarded it to Ohio EPA for review and comment in the first quarter of 2011. When it is approved by Ohio EPA, the Stage 2 report will be posted on the Black River RAP web page.

## RESTORATION FUNDING UPDATE

Several new funding opportunities recently became available and stakeholders of the Black River have been very active in applying for and in many instances, obtaining funds and performing remedial actions.

The City of Elyria prepared an application for GLRI money to address the severely eroding riverbanks in Cascade Park. Erosion of riverbanks leads to excessive sediment loads and has long been a focus of the Black River RAP. In addition, restoring eroding stream banks and preserving natural stream function through channel and riparian corridor protection was identified in the 2008 Black River TMDL report as important restoration efforts that should be undertaken in the watershed.

The City of Lorain received more than \$7 million in economic stimulus money to remove 1.2 million cubic yards of slag, restore 52.2 acres of riparian habitat, 8,200 feet of stream bank, construct 2,700 feet of fish habitat shelves and install fish habitat structures, such as root wads and boulder structures. An additional \$100,000 was made available through a Supplemental Enforcement Project funding source through Ohio EPA and approved by the Black River RAP Coordinating Committee. In addition, the City has applied, through a NOAA funding mechanism, for an additional \$1.4 million to construct an additional 2,800 feet of fish habitat shelves, stabilize 1,570 feet of stream bank, remove of 45,000 cubic yards of slag and restore of 2 acres of riparian habitat.

In 2010, Ohio EPA was awarded approximately \$115,000 from GLRI over the next 5 years to update the biology data across the whole AOC as well as for specific areas including:

- The historic algal and fish consumption problem in Findley Lake,
- Bacterial contamination in the headwaters of the East Branch sub-watershed.

In addition, the agency has applied for additional GLRI funding to develop a Data Management and Delisting System to review and map the conditions, determine delisting progress, and develop new projects. This data management system would evaluate analytical data against state delisting targets developed by Ohio EPA for Ohio Areas of Concern, provide specific criteria for monitoring progress for each of the BUIs and ultimately determine if a BUI can be delisted or identified as an “area in recovery.”

Finally, Ohio EPA has applied for more funds from GLRI to assess the current condition of the Fish Tumor and Other Deformities beneficial use impairment in the Black, Cuyahoga and Maumee Areas of Concern. In 2004, the Black River RAP Coordinating Committee re-designated the Fish Tumors beneficial use from Impaired to In Recovery Phase largely due to studies performed by Paul Baumann formerly of USGS. It has been many years since the fish tumor problem in the Black River mainstem was studied. In 2010, Mr. Baumann said that he fully expects a new tumor study in the Black River will lead to a delisting of the BUI.

RAP members and local watershed stakeholders have also been active in issues affecting the whole watershed as well. Lorain County hired a consultant to complete a Watershed Action Plan for the West Branch and French Creek watersheds. In 2010, the Black River RAP Coordinating Committee entered into negotiations with the US Army Corps of Engineers to conduct an assessment of the entire watershed with particular emphasis on both the current condition of the impaired beneficial uses and issues affecting the development of the Watershed Action Plan. In addition, the Corps will look to help the Coordinating Committee to develop wildlife habitat delisting targets and milestones that are more applicable to predominantly rural and agricultural areas such as within the Black River AOC.

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## The Black River



Figure 2 Picture taken during 2010 Boat Tour of the Black River courtesy of Lorain Port Authority.

**It is our river. It is our responsibility.**

# Black River RAP Coordinating Committee Members

## Local Jurisdictions

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

Lorain County Board of Commissioners  
**Commissioner Betty Blair**

Lorain County Community Development Dept.  
**Christina M. Znidarsic**, Watershed Coordinator (to December 2010)

City of North Ridgeville  
**Cathy Becker**

Lorain County Metro Parks  
**Dan Martin**

NOACA  
**Mary Wells**  
**Andy Vidra**

Lorain Soil & Water Conservation District  
**Nancy Funni**

Medina Soil & Water Conservation District  
**Jeff VanLoon**

City of Elyria  
**Terry Korzan**

City of Lorain  
**Hon. Tony Krasienko, Mayor**

## Citizen Representatives

**Cheryl Wolfe-Cragin**

**Charles "Eddie" Herdendorf**

**Brad Masi**

**Jennifer Scott-Wasilk**

## State/Federal Agencies

USDA/Natural Resources Conservation District  
**Karl Schneider**

U.S. EPA  
**Anne Marie Vincent**, RAP Liaison through 2010  
**Frank Anscombe**, RAP Liaison from 2011

Ohio EPA  
**Ted Conlin**, RAP Coordinator

OSU Sea Grant  
**David Kelch**

## Industry/Commercial Representatives

Lorain County Office of Sustainability  
GLIDE / Lorain County Growth Partnership  
**Michael Challender**

Lorain County Port Authority  
**Rick Novak**

Lorain County Farm Bureau

Lorain County Community Alliance  
**Virginia Haynes**

Columbia Gas Transmission  
**Tim Keslar**

National Gypsum  
**Matt May**

# Black River RAP Contacts

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Region V – Cleveland Office  
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Westlake, OH 44145  
440-250-1720 [www.epa.gov/glnpo/](http://www.epa.gov/glnpo/)

Ohio Environmental Protection Agency  
Northeast District Office  
2110 East Aurora Road  
Twinsburg, OH 44087  
330-963-1200 [www.epa.state.oh.us/](http://www.epa.state.oh.us/)

Northeast Ohio Areawide Coordinating Agency  
1299 Superior Avenue  
Cleveland, OH 44114  
216-241-2414 [www.noaca.org](http://www.noaca.org)

Lorain County General Health District  
9880 South Murray Ridge Road  
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