

2005 Annual Update

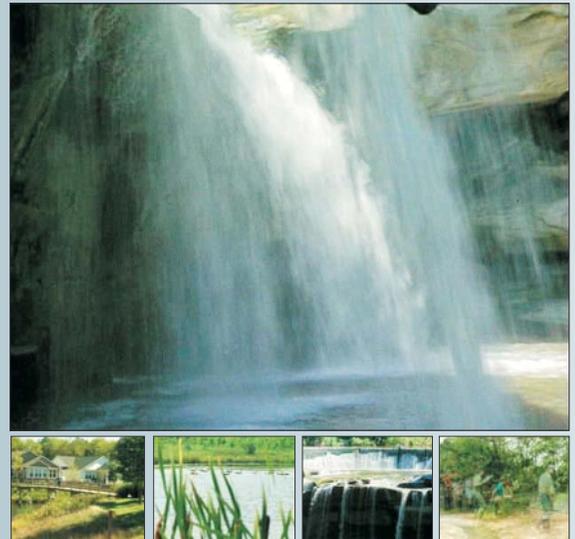
Black River

Remedial Action Plan



July 2006

The purpose of this Annual Report is to inform the watershed community on progress made by the Black River RAP in restoring Beneficial Use Impairments. 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 watershed stakeholders referenced on the back of this report.



Cover photos courtesy of
"A Hidden Treasure: Rediscovering the Black River"

BENEFICIAL USE IMPAIRMENTS (BUIs)

The Great Lakes Water Quality Agreement calls for Remedial Action Plans (RAPs) to restore and protect 14 beneficial uses in Areas of Concern. An impaired beneficial use means a change in the chemical, physical or biological integrity of the Great Lakes system sufficient to cause any of the following:

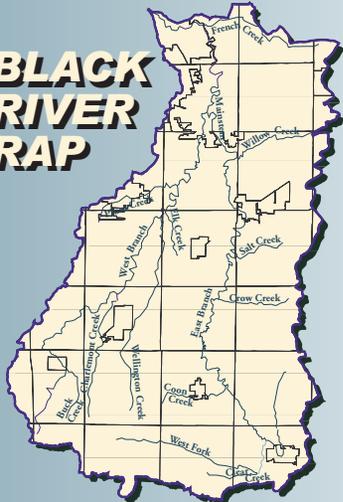
- 1. Restrictions on fish and wildlife consumption ***
- 2. Tainting of fish and wildlife flavor +**
- 3. Degradation of fish wildlife populations ***
- 4. Fish tumors or other deformities ***
- 5. Bird or animal deformities or reproduction problems ****
- 6. Degradation of benthos ***
- 7. Restrictions on dredging activities ***
- 8. Eutrophication or undesirable algae ***
- 9. Restrictions on drinking water consumption, or taste and odor problems +**
- 10. Beach closings ***
- 11. Degradation of aesthetics ***
- 12. Added costs to agriculture or industry +**
- 13. Degradation of phytoplankton and zooplankton populations ****
- 14. Loss of fish and wildlife habitat ***

+ *Not impaired*

* *Impaired in the Black River Area of Concern*

** *Unknown but impairment not specified*

BLACK RIVER RAP



Black River Remedial Action Plan
OUR RIVER, OUR
RESPONSIBILITY

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

Ken Pearce, Chair
Lorain County Health Commission

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2005 Annual Update

Black River Remedial Action Plan

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Message From The Chair



Ken Pearce

Chairman, Black River RAP
Coordinating Committee

Lorain County General Health
District Commissioner

The Black River RAP Coordinating Committee provides a forum that allows all of us to act cooperatively in protecting and restoring the Black River. This year's Annual Report contains more good news on the progress that is being made along the River. We have overcome some pretty significant water quality problems. It is no longer highly dangerous to touch the water in the lower part of the river.

Toxic materials that caused major fish tumor outbreaks have been removed from the river. Much of the sediments that need to be dredged from the navigation channel are now clean enough to dispose in the open lake rather than in expensive diked disposal areas. Aquatic organisms have made a full recovery in the lower East Branch thanks to sewage treatment improvements. The Black River is gradually becoming a proud resource once again for the community rather than the threat to Lake Erie that it was before the RAP was formed.

Challenges still remain, but the torch of progress is being passed to

watershed residents. The future progress in the watershed is going to come from the efforts of the watershed's residents to minimize the effects that their daily activities have on the river. Septic tank owners, urban gardeners, farmers, vehicle operators, developers, and homeowners are now the source of hope for the Black River. The Black River RAP will be increasingly involved with helping you help the river.

We look at the Year 2005 as one where we celebrate the end of the large-scale restoration. We look forward to the Year 2006 as the beginning of local action being taken to protect local streams.

News from Around the Watershed

Clean-ups can payoff: This is the kind of news that the Black River RAP loves to hear. The following note was received by Ted Conlin, Ohio EPA Black River RAP Coordinator, from Tom Emory of Columbia Gas:

“Our Columbia Gas Transmission Wellington Team has won the Environmental Innovation Award for 2005 within our company. Brad Will, our Environmental Specialist and I submitted last year’s river clean up as one of the entries for the award.

“If the RAP would permit, we would like to donate the \$500 award back to the river clean up cause. I would just need to know what name to have the check made out to.

“By the way, we are planning another clean up day soon.”

Thank you, Columbia Gas, both for the donation and for the clean-up assistance!

New Home Sewage Treatment Systems Rules are in the works:

New rules affecting home sewage treatment systems are being developed by the Ohio Department of Health (ODH). The new rules can be viewed on the ODH web link at <http://www.odh.ohio.gov/rules/pending.aspx>. Check for new rules 3701-29-01 to 3701-29-18.

The proposed new rules: 1) place emphasis on soil and site evaluation, and the identification of risk factors related to soil limiting conditions, drainage, and hydrogeology that may impact water resources and public health; 2) provide technical tools and solutions to allow the placing of systems on challenging sites; 3) establish NPDES compliance and limitations on discharging systems; 4) set performance standards for

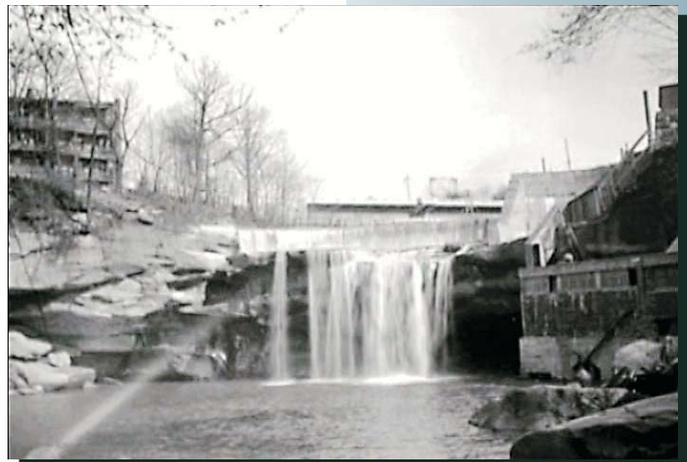
watertight tanks, pretreatment component standards, effluent quality, and land application of septage; 5) address basic designs for soil absorption, mound, and drip distribution systems, and allow for alternative system designs; 6) set standards for the design and installation of small flow onsite sewage treatment systems; promotes proper operation and maintenance of systems and education of system owners in accordance with statute; 7) establish competency standards for installers, service providers, and septage haulers; and 8) create ODH authority for oversight of local health district sewage treatment system programs through a uniform survey process.

History buffs, pay attention: Here is the web address for a NOAA site that provides access to old harbor charts:

<http://historicals.ncd.noaa.gov/historicals/histmap.asp>

It's interesting to see the older configurations of some of the harbors, and you can see how deep they've been dredged over the years. You can also see what some of the old riverside industries were.

You may have to download a special viewer to be able to actually use the maps, but you can view them, zoom in and out and by right-clicking, you can save the view.

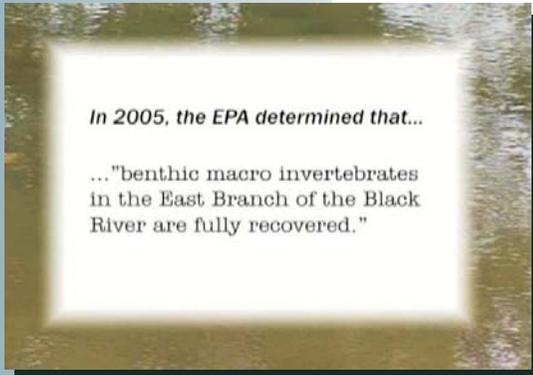


An Impairment in the

The Black River Watershed Continues

On Earth Day 2004, the Black River watershed was the first Area of Concern (AOC) in Ohio to show improvement in the remedial action plan process. The Fish Tumors and Other Deformities beneficial use impairment was re-designated, by the US EPA, from “Impaired” to “In Recovery Phase”. At the same time, the Ohio Department of Health lifted a 21-year advisory warning residents to not come into contact with the waters or sediment of the Black River.

As a river recognized as one of the most polluted river systems in the Great Lakes and widely known as the “river of fish tumors,” these two accomplishments confirmed the remarkable progress that has been achieved in the mainstem. The 2004 Annual Report provides more information on both of these improvements.



The Black River watershed continued to show improvement when, in 2005, the USEPA removed the impairment to the benthic community of organisms in the East Branch of the Black River. The East Branch of the Black River, and its tributary river systems, drains about 46% of the Black River Area of Concern. The benthic community, or benthos, refers to a community of small organisms, without backbones, that live all or part of their life cycles on the stream bottoms. Benthos includes the nymphs and larvae of some insects, like the stonefly and the mayfly, as well as organisms including freshwater clams and crayfish.

Benthic organisms are critical parts of the aquatic food chain, especially for fish. The benthic organisms feed on each other as well as algae, bacteria and leaves and other organic matter.

In turn, fish and larger animals prey upon them. Benthos is an important indicator of water and sediment quality. Since they are relatively unable to move around like fish, they are not as able to escape contamination of the water and sediments. Their moderately long life cycles enable environmentalists to monitor trends in environmental quality and even detect acute pollution events, such as spills and illegal dumping, long after these events have taken place.

Over time, the Ohio EPA using a method called the Invertebrate Community Index, or ICI, has monitored the health of the benthic community in the East Branch. The ICI data available to the Black River Remedial Action Plan Coordinating Committee at the time of the Stage 1 Report (1994) revealed the benthic macro-invertebrate communities were impaired in specific stretches of the East Branch of the Black River. These impairments were attributed to the adverse effects of discharges from the Grafton wastewater treatment facility and sewer overflows in the collection system of City of Elyria's wastewater facility.

In the stretch of the East Branch below Grafton, high levels of phosphorus in the effluent caused an impact to the biological communities immediately downstream of the discharge. Monitoring data in 1992 revealed the ICI values declined from “exceptional” (ICI=46) immediately upstream of the discharge location to “marginally good” (ICI=30) less than one half mile downstream of the discharge. The change in score was attributed to a decreased diversity in macro-invertebrates, an increase in pollution tolerant species and burned gills (associated with chlorine toxicity) on caddis flies. Grafton's wastewater treatment plant upgraded their treatment facility and since the

East Branch is Delisted

on the Road to Improvement

upgrade, the benthic macro-invertebrate communities have recovered.

The City of Elyria, a member of the Black River Remedial Action Plan Coordinating Committee, has been developing a long-term control plan for sewer overflows in their wastewater collection system. Improvements to the City's collection system have resulted in a dramatic recovery of the benthic macro-invertebrate communities in the lower reaches of the East Branch. In 1982, the river segment at River Mile 0.1 revealed an ICI value of 6. By 1997, the ICI values had improved to 46, (a value of more than 760% of the 1982

Committee applied for and received acceptance from the US EPA to remove the Benthos use impairment from the East Branch. The RAP Committee is proud of the recovery and is working to protect the improvements.

Typical land uses in the East Branch have been urban/suburban in the north and more rural/agricultural in the central and southern portions. Recently, the central and southern areas have been experiencing changing land uses as urban and suburban sprawl challenges the historic rural and agricultural landscape. Increases in impervious surfaces, through current

River Mile	1982	1992	1997	2002
0.1	6	42	46	--
3.00	--	42	44	--
5.20/5.40	--	48	48	--
6.00	--	38	46	54
10.8	--	30	44	--
11.2	Grafton	WWTP	Outfall	Location
11.3	--	46	48	46
18.9	--	46	44	--
32.4	--	42	44	--
40.4	--	50	48	--

value). This stretch now meets the attainment value for Exceptional Warmwater habitat sites.

The temporal improvements in ICI values along the East Branch of the Black River can be seen in the following table:

The benthic macro-invertebrate communities at all sampling sites in the East Branch now exceed the state's ICI criteria (ICI \geq 34) for Warmwater Habitat sites. In many reaches, the current ICI scores even exceed attainment values for Exceptional Warmwater Habitat sites (ICI \geq 40). In 2004, the Black River RAP

development practices, and encroachment on the protective riparian corridors could adversely impact water and habitat quality.

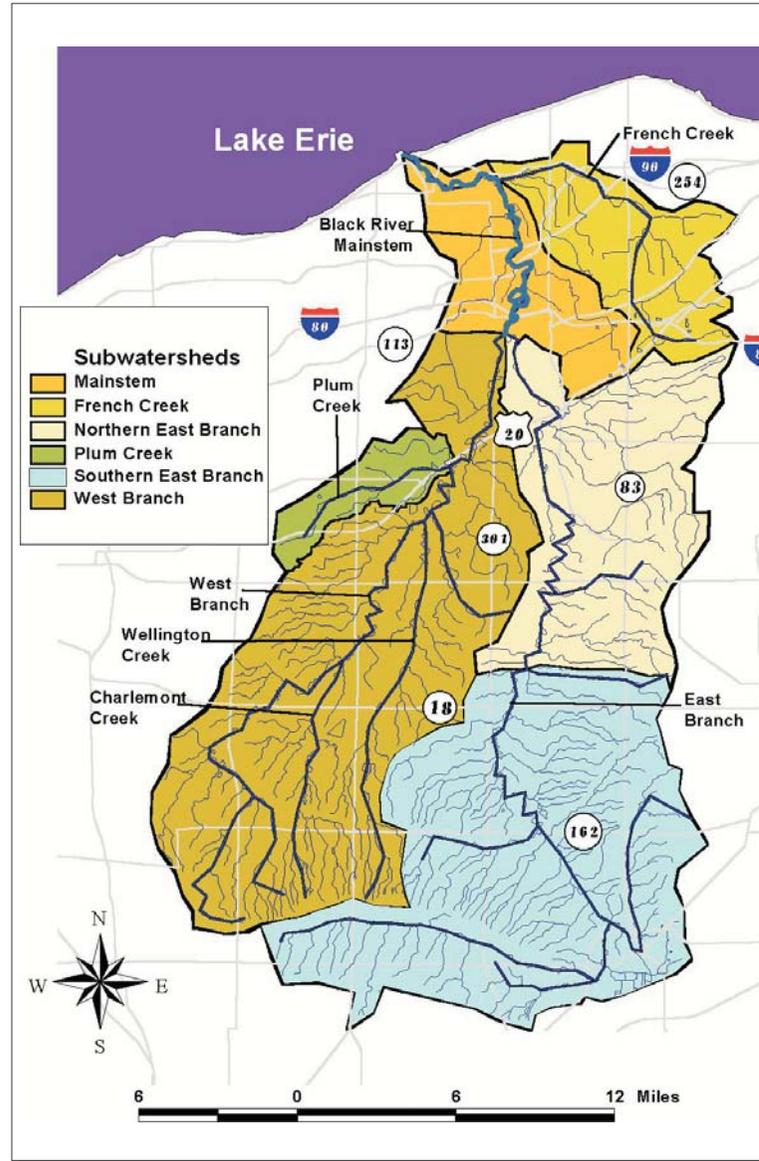
The Black River RAP is suggesting countywide riparian setback ordinances, and/or "no net gain" in impervious surfaces or no increased runoff ordinances in the watershed to protect the gains that have been made. These measures would be protective of the benthic macro-invertebrate communities as well as enhance the efforts to improve the water and habitat quality throughout the East Branch and the Black River Area of Concern.

The Black River RAP S

Remedial Action Plan Committees are charged with the restoration of up to 14 impairments to beneficial uses in their respective Areas of Concern (AOCs). The impairment categories are listed on the inside cover of this report. For AOCs that encompass entire watersheds, complete restoration of all impairments can be a daunting task. A recent change in federal policy for the restoration of Great Lakes Areas of Concern allows a RAP organization to ascertain impairments by stream segments or sub-watersheds. The change in policy will allow for the celebration of incremental improvements in the restoration process along specific stream segments or by sub-watersheds. The Black River RAP benefited from this new policy in 2005 when the East Branch of the Black River was de-listed for the impairment to Benthos. (See the companion article on the East Branch de-listing in this Annual Report.)

The Black River AOC is comprised of 470 square miles, which includes parts of 4 counties, 31 townships and 12 municipalities. As with any large watershed, impacts to water and habitat quality can come from a very diverse array of point and non-point sources, and the Black River AOC is no different. Over the years, impacts from municipal and industrial discharges throughout the Black River watershed have lessened, which has

allowed remarkable recovery in some areas of the basin. Now, many of the impacts to water and habitat quality are associated with how the land is



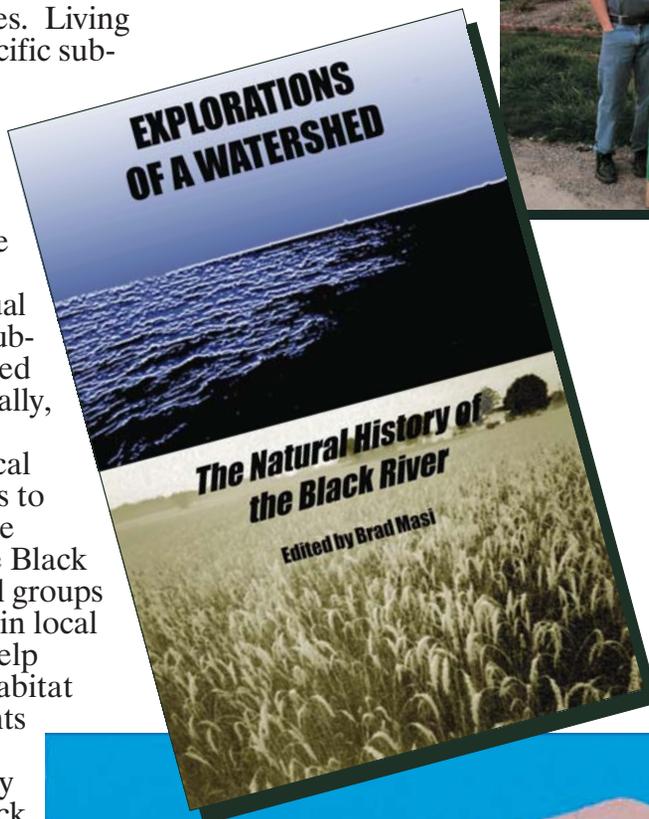
being used and developed. In the Black River AOC, land use can be loosely associated along sub-watershed boundaries. The northern sub-watersheds are mainly urban and industrial. The eastern sub-watersheds are rural and developing suburban. The western and southern sub-watersheds retain their rural and agricultural nature.

Sub-Watershed Initiative

A few years ago, the Black River RAP started an outreach strategy of trying to develop local stakeholder groups in each of the major sub-watersheds.

It was felt the local groups would be better able to affect ecologically sound changes at a local level, particularly with respect to planning and development practices. Living and working in a specific sub-watershed gives the stakeholders a unique perspective on local environmental concerns and resource management. They also give each individual a stake in how each sub-watershed is developed and maintained. Finally, land use policies are determined at the local level and any changes to those policies must be initiated locally. The Black River RAP feels local groups could affect changes in local policies that would help improve water and habitat quality. Improvements at the sub-watershed level would ultimately benefit the entire Black River AOC.

Kate Hoffmann with the Lorain County Community Development Department is the RAP's contact for sub-watershed initiatives. Kate is currently working on programs in the West Branch, the East Branch and French Creek. If you are looking for an opportunity to get involved at the local level, Kate is the person to talk to.



Black River Sediment Quality is Improving

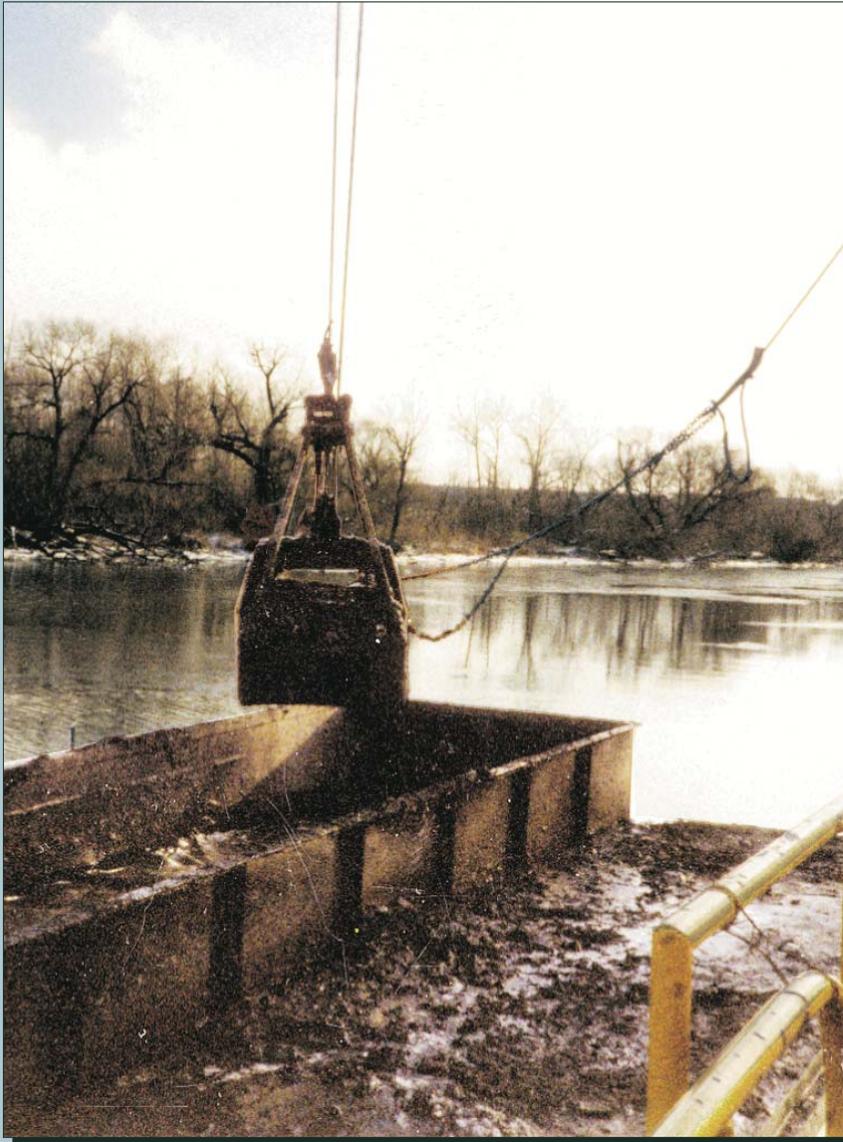
The dredging that is proposed for the summer of 2006 involves about 150,000 cubic yards of material. Since the construction of the confined disposal facility (CDF) in the late 1970s, all of the material dredged

were determined to be suitable for open-lake disposal. This is what the Corps stated in their Section 404(b)91 Evaluation:

"Sediments proposed for dredging at Lorain Harbor contain a diverse suite of contaminants typical of urban industrialized harbors on the Great Lakes. The designated open-lake placement site was used for the placement of harbor sediments prior to the construction of the harbor's confined disposal facility. Consequently, as a result of improving sediment quality at the harbor, in-place bottom sediments at the site are generally more contaminated than those proposed for placement at the site. Therefore, dredging and placement activities would not introduce or increase any contaminants at the open-lake site, and may serve to partially cap more contaminated sediments at the site."

And,

"It is anticipated that the placement of progressively less polluted material over the relatively more contaminated bottom sediments at the open-lake site would generally help improve the quality of the habitat. It is expected to increase the diversity of the benthic community since its structure would not be limited to more pollution-tolerant species. Overall, no long term, adverse impacts to the aquatic ecosystem are anticipated to result from the use of the open-lake placement site."



from the Black River was found to be too contaminated for open-lake placement and had to be deposited in the CDF. With the recent analyses performed on the Black River sediments, the bottom sediments of the Lorain Outer Harbor (approximately 30,000 cubic yards or 20% of the entire dredging operation)



This is good news for the Black River and the soon to be filled CDF. It shows the river sediments are indeed getting cleaner. We may be getting too much sediment transported downstream, but at least the sediment appears to be cleaner.

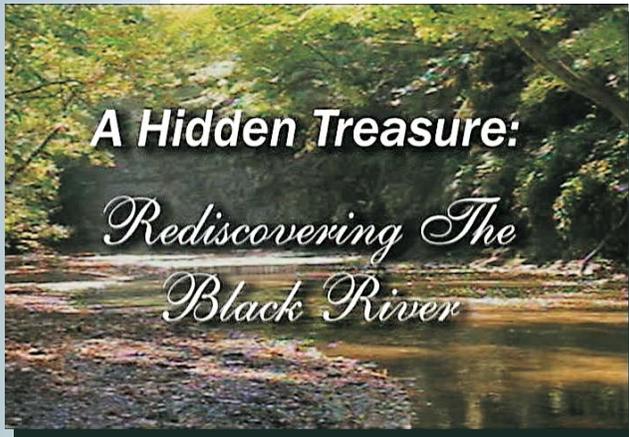
The Corps has also found the types of PAHs now seen in the Black River are more closely align with the family of PAHs seen coming from roadway runoff sources than from the legacy of contamination from the old coking plant. This is very good news for the organisms that inhabit the lower courses of the River.



A New Black River RAP Video

It has been about 15 years since the Black River RAP produced a video detailing the conditions in the Black River watershed. The video was titled ***The Black River: a Future as Dark as its Name***. As they say, a lot of water has gone under the bridges since that time. In 2005, the Black River RAP, through financial and logistical support from the Lorain County

information on what measures are now needed for the Black River watershed to continue toward restoration. Since the late 1980s and early 1990s, the problems associated with the Black River are no longer largely based on what is coming from the pipes of industries and wastewater treatment facilities. Many of those traditional sources of contamination have been cleaned up.

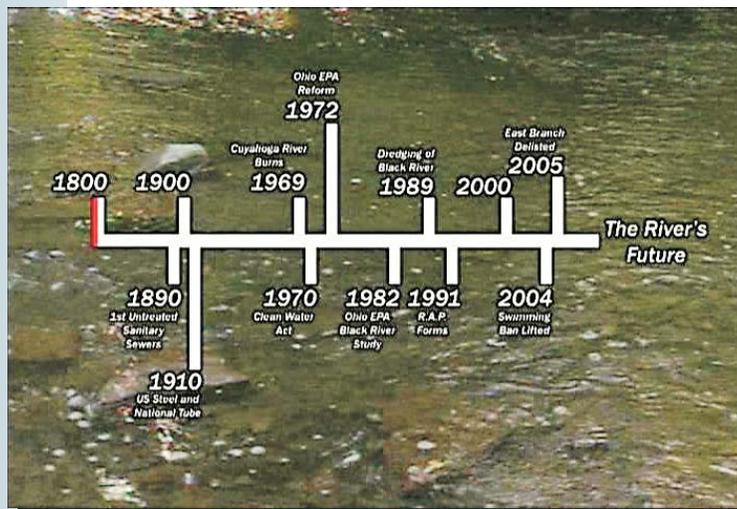


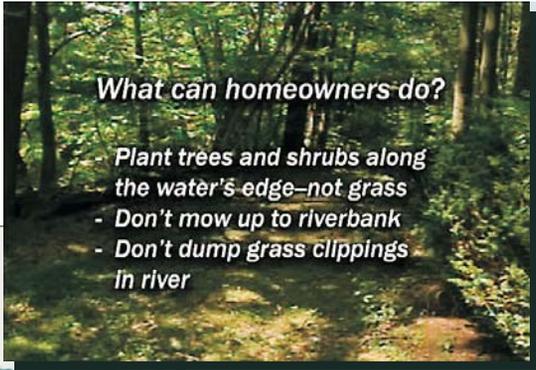
The viewer is shown that everyone now shares some responsibility for the problems with the Black River. As it has been said, if one looks to a river and wonders why the river is in bad shape, he only has to turn around and look at the land. From the land is where the problems start for the Black River. And the solutions have to come from everyone, from the way the land is being developed and farmed, to the way many households in the watershed get their wastewater treated.

General Health District started production on a new video, called ***A Hidden Treasure: Rediscovering the Black River***.

The ***Hidden Treasure*** video outlines the changes that have occurred since the beginning of the RAP (and the last video) and tries to provide

The new video has been seen on many local cable television stations and at numerous local meetings. Storm Water Phase II communities are using it on their cable access channels as part of the outreach and public education requirement of their storm water permit.





What can homeowners do?

- Plant trees and shrubs along the water's edge—not grass
- Don't mow up to riverbank
- Don't dump grass clippings in river



What can farmers do?

- Plant riparian borders
- Use methods of farming that reduce soil loss
- Use precision methods of applying fertilizer and pesticide



More houses, streets and parking lots...

...means less soil to absorb rain water



Riparian Border:

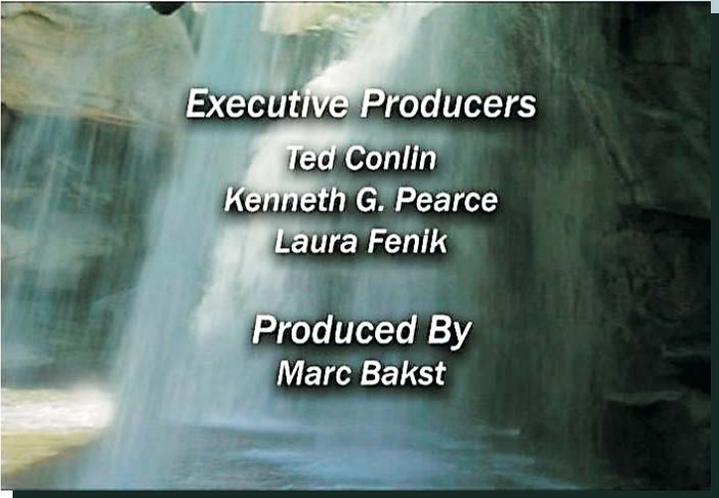
- Strip of plants along water's edge
- Holds soil in place
- Cleans water by filtering pollutants

The video would not have been possible without the efforts of the Lorain County Health Department and especially Laura Fenik and Health Commissioner Ken Pearce. Ken's vision to celebrate the successes in the Black River through this outreach effort is getting the word out to the citizens and encouraging others to join the Black River RAP to restore our hidden treasure. The project would not have been possible without Laura's tireless management of the partners in this video and their schedules. Gay Eyerman wrote an exceptional script that presents the target message in an entertaining manner. The video department of the Lorain County Community College roamed almost the entire 425 square miles of the watershed in order to capture images that told the story.

the video would not have seen the success it has enjoyed without the many citizens, scientists, and local stakeholders who allowed

us to incorporate their thoughts and views into the final product. To each and everyone, the Black River RAP extends its thanks and appreciation.

To obtain a copy, please contact the Lorain County Health Department.



Executive Producers

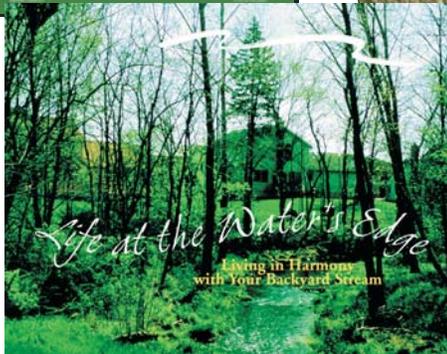
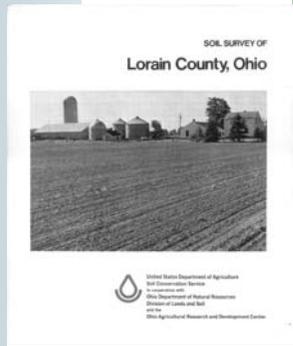
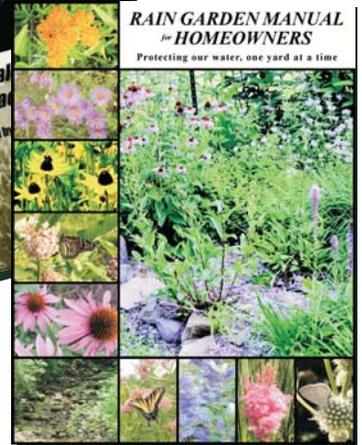
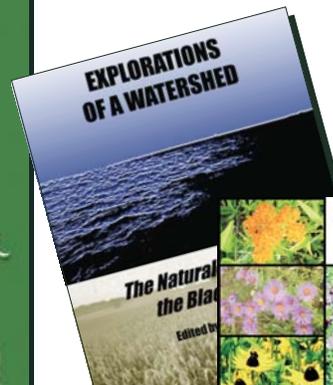
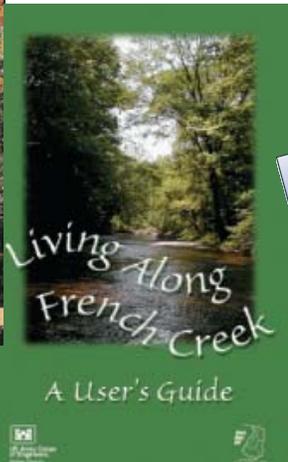
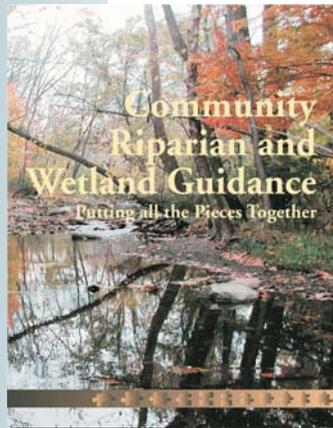
Ted Conlin
Kenneth G. Pearce
Laura Fenik

Produced By
Marc Bakst

**Don't let your opportunity
fade away...**

**The Black River
is waiting for you!**

The Black River RAP has the resources
to help you help the Black River.
You just need to ask!



2005 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 Soil and Water
Conservation District
Robert Ternes

USDA/Natural Resource
Conservation Service (NRCS)
Karl Schneider

Lorain County Metro Parks
Daniel Martin

NOACA
Andy Vidra, Secretary

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Ted Conlin

ODNR
Jeff VanLoon

OSU Sea Grant
David Kelch

U.S. EPA
Anne Marie Vincent

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Lorain Chamber of Commerce
Michael Challenger

Lorain County Port Authority
Rick Novak

Lorain County Farm Bureau
Julie Hruby

Lorain County Community
Alliance
Rebecca Gray

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Lorain Soil & Water Conservation District

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Lorain County Community Alliance, Public Services Institute

Lorain County Community College
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