2003 Annual Update

Black River Remedial Action Plan

Turning The Corner

June 2004

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.

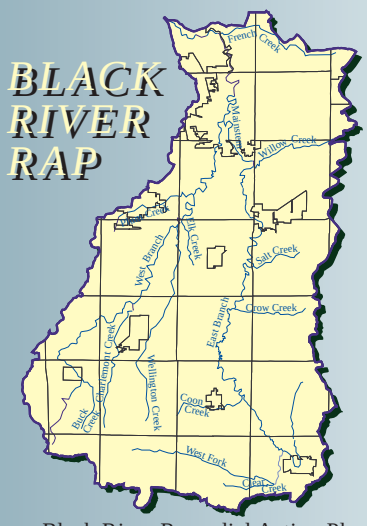
Photos courtesy of
Dr. Paul Baumann, USGS

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 Remedial Action Plan
OUR RIVER, OUR RESPONSIBILITY

Prepared by
Black River Remedial Action Plan
Coordinating Committee

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2003 Annual Update

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Message From The Chair

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

As a result of more than ten years of work, the Black River Remedial Action Plan Coordinating committee has seen many improvements throughout the watershed. Some improvements have been small, while others have proven to be remarkable; once the final data was reviewed. The Committee is pleased to present the success stories included in this annual report.

The Black River has truly "Turned a Corner." On April 22, 2004, Governor Bob Taft announced the lifting of a 21-year old contact advisory and the redesignation of one of the river's beneficial use impairments, Fish Tumors and Other Deformities, from Impaired to an "Area in Recovery." The improvements in the health and longevity of the Black River fish communities are illustrated in the Fish Tumors Decrease article. Other improvements are evident throughout this annual report.

But, additional work is needed. The Black River, like other watersheds throughout Ohio and the United States, are constantly being bombarded by nonpoint source pollution. The Black River, while recovering from the impacts of industrial and municipal point source pollution, is being impacted by storm water runoff, untreated wastewater from old, failing and malfunctioning sewage treatment systems, degradation of wetlands and the vegetation along riparian corridors. We may have solved two problems, but another ten have been added to our "to do" list.

Please help us work on our "to do" list. Get involved in your local subtributary to the Black River – If you live in the French Creek, help the Coordinating Committee establish a local French Creek watershed group. Live in the western portion of the watershed? Get involved with the Black River Watershed Project sponsored by the Delta Institute. Live in the East Branch? Stay tuned for the forming of a watershed group near you.

Turning the Corner

Improvements in the Black River AOC

Contributing Author: Ted Conlin, Ohio EPA

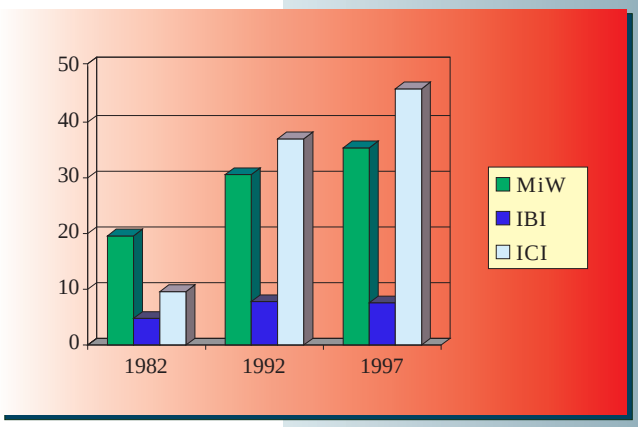
Within the Black River Area of Concern (AOC), improvements have been well documented. In the routine studies of watersheds around the state, the Ohio EPA uses biological monitoring as well as chemical monitoring. Four separate matrices for the assessment of aquatic biological communities are used. The Invertebrate Community Index (ICI) assesses the insect/crustacean communities of the waterbody. The Modified Index of Well-Being (MIWB) and the Index of Biological Integrity (IBI) assess the fish communities of the waterbody. The Qualitative Habitat Evaluation Index (QHEI) is used primarily for rivers and streams and evaluates the quality and complexity of the river's habitats.

In the charts presented here, note that the MIWB and IBI scores for the Black River mainstem have improved over the last twenty years, showing the fish communities are responding to improvements in the water and sediment quality. These improvements are the outcome of upgrades to treatment facilities and the removal of contaminated sediments. The ICI scores for the lower 5 miles of the Black River have not shown improvement, which is probably caused by a dissolved oxygen (DO) depletion problem in this stretch of the river. This DO problem has been under study by RAP members and a final report of the study should be available in 2004.

Black River sediment quality has been improving as well. Before the start of routine maintenance dredging of the shipping channel, the US Army Corps of Engineers (USACE) must analyze the contents of the river sediments. Over the past few years, the USACE has been noticing improvements in sediment quality. One dramatic outcome of the improvements to sediment quality has been long awaited by the Black River RAP Coordinating Committee.

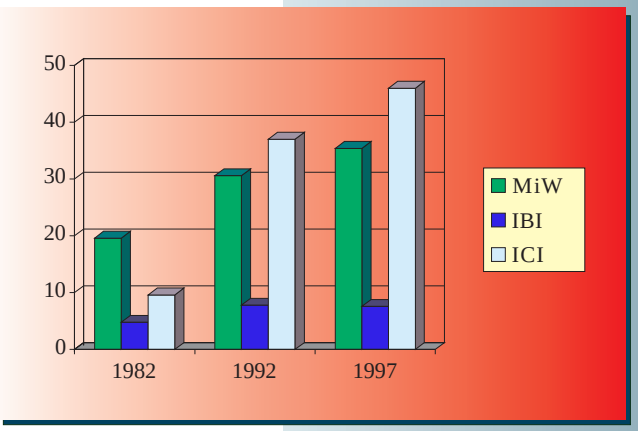
In 2003, the Coordinating Committee, after a thorough review of available data, decided the 1989-1990 remedial dredging of PAH contaminated sediments in the Black River mainstem was successful in removing a contaminant pathway to the Black River fish communities. The Committee voted unanimously that no additional remedial actions for this Beneficial Use Impairment (BUI) should be necessary and natural processes would finish the restoration. The Committee will be applying for a redesignation of the Fish Tumors and Other Deformities Beneficial Use Impairment, seeking a redesignation of "Area In Recovery."

The critically acclaimed fish habitat shelf at the new Black River Landing is proving to be very successful in luring a wide variety of beneficial fish species. Habitat improvements here, and at other sites in the Area of Concern, have been designed to increase habitat potentials, which should result in better aquatic life.



"Biological Monitoring Scores for the Black River mainstem (From River Mile 5.8 to Lake Erie)"

Since the time the Black River was designated an Area of Concern and identified as adversely impacting the water quality of Lake Erie, recent reports have noted the Black River is becoming a better friend to our great lake. According to the 1998 State of the Lake Report, only the Lake Erie Islands and Erie County scored higher for QHEI than the Lorain County shoreline. With a score of 55.6, the Lorain County score was higher than the Ohio Lake Erie shoreline average of 53.4. Lorain County also scored high in IBI as well with a 34.9. The average Ohio Lake Erie nearshore score was 32.6. Finally, the State of the Lake Report



"Biological Monitoring Scores for the Black River mainstem (Upstream of River Mile 5.8)"

showed improvements in the rivermouth IBI scores for the Black River. In 1982, the Black River's score was a dismal 23.3, but improved to 33.1 in 1998. In this matrix, only the Portage, Vermilion, Chagrin and Ashtabula Rivers scored higher. Again the Black River beat the average for Ohio Lake Erie rivermouths, which was 32.0.

What's Around the Corner?

The Committee feels the time is ripe to act on some of those improvements and redouble their efforts on others. In addition to seeking a redesignation of the Fish Tumors and Other Deformities Beneficial Use Impairment (BUIs), several initiatives have started to further lead the Black River AOC to recovery. In 2004, the RAP will attempt to assess the state of BUIs listed as 'Unknown' and take a new look at some BUIs that may have been restored.

In 2001, redesignations of Beneficial Use Impairments (BUI) on a stream segments or by subwatersheds were made possible by the US Policy Committee. It may no longer be necessary to have the entire AOC restored before a RAP Committee can apply for a redesignation of a BUI. This is an important consideration for Areas of Concern that encompass entire watersheds, like the Black River AOC, which covers almost 300,000 acres.

Situated along Lake Erie and next to the expanding Greater Cleveland area, the Black River Area of Concern exhibits a myriad of land uses and water quality problems. Most of the agricultural land is in the south and west, while the northern parts are definitely urban, rapidly developing suburban and industrial. The northern and northeastern tributaries are being impacted by extensive suburban developments. Each area influences the AOC in different ways. Impairments to beneficial uses can vary widely from north to south and from east to west, so each impairment must be looked at in a more localized scale.

Because of the new opportunity of dividing the AOC into smaller, more manageable pieces and with such an expansive AOC, the Black River RAP has been actively studying the greater Black River basin on a subwatershed-by-subwatershed basis. In these efforts, the RAP has been utilizing a RAP-assistance opportunity available from the U.S. Army Corps of Engineers-Buffalo District and through funding from the Lake Erie Binational Public Forum.
Other initiatives are designed to protect the environment and remove contaminant pathways. Lorain County is developing an Environmental Strategic Plan that promises to provide environmentally protective guidance to developing areas of the county, with special emphasis on the protection of the water resources.

With the help of the Delta Institute, a mercury reduction program, driven by new low mercury regulations, was started by the City of Elyria. This plan incorporates public education on the use and handling of mercury-containing compounds including proper disposal information. Even special collection and disposal days have been set up and advertised throughout the community. This mercury reduction program is timely for the Black River. The fish consumption advisory list for the Black River AOC recently grew to include new mercury-driven advisories for snapping turtle and four species of fish.

T In 2003, after a couple of unsuccessful nesting attempts, one nesting pair of Bald Eagles finally took up residence in the Black River watershed.

T Since 1993, the number of active nests in the Great Blue Heron rookery on the Black River mainstem has increased by a factor of six.

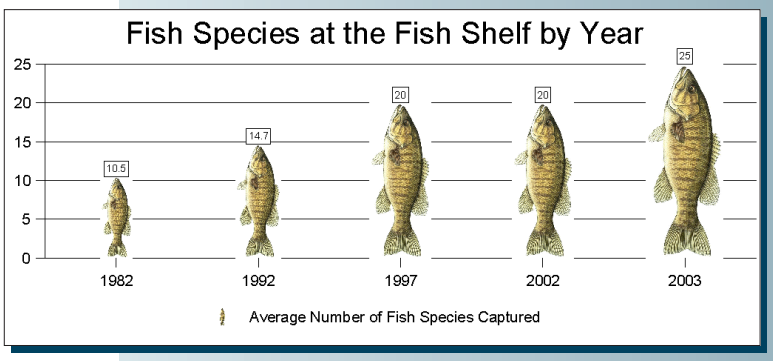
Black River Improvements Seen in Comparison to Lake Erie Tributaries

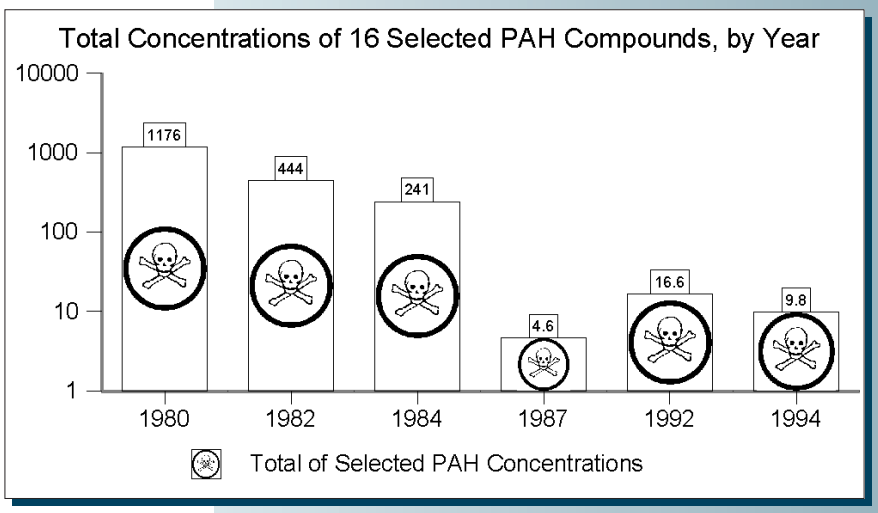
Contributing Author: Ted Conlin, Ohio EPA

The entire Black River Watershed was designated an Area of Concern (AOC) and identified as adversely impacting the water quality of Lake Erie, but recent reports have noted the Black River has become a better friend to our great lake. According to the 1998 State of the Lake Report, only the Lake Erie Islands and Erie County scored higher for QHEI than the Lorain County shoreline. With a score of 55.6, the Lorain County score was higher than the Ohio Lake Erie shoreline average of 53.4.

The Lorain County shoreline and the Black River lacustuary also made remarkable recoveries in IBI scores. The Black River basin-wide IBI improvements were not as dramatic and showed the need for more work. The Black River watershed did improve, however, from "Poor" to "Fair."

Improvements in lacustuary and basin IBI scores can be attributed to wastewater treatment facility upgrades, the remedial dredging of contaminated sediments and habitat improvements initiated throughout the basin. Temporal improvements to IBI scores at River Mile 0.9 in the Black River mainstem can bee seen in the following graphs.





Location	Current IBI	Current Grade	Pre-1999 IBI	Pre-1999 Grade	IBI Change from 1999
Lake Erie Shoreline Average	37	Fair	29	Poor	+8
Lorain County	41	Fair	30	Poor	+11
Lacustuaries Average	27	Poor	24	Poor	+3
Black River	43	Good	28	Poor	+15
Lake Erie Basins Average	36	Fair	32	Fair	+4
Black River Basin	35	Fair	30	Poor	+5
IBI Legend	*<17 Very Poor*	*17-30 Poor*	*31-41 Fair*	*42-49 Good*	*> 50 Excellent*

Fish Tumors Decrease

How Much Has the Black River Improved? Enough to Become an "Area In Recovery?"

Contributing Author: Ted Conlin, Ohio EPA

In November 2003, the Black River RAP Coordinating Committee voted unanimously to apply for redesignation of the Fish Tumors of other Deformities

Beneficial Use Impairment status for the Black River Mainstem to an "Area in Recovery."

While the Cuyahoga River burned, fish in the Black River suffered from a legacy of industrial activities that contaminated river sediments. At one point, the river sediments were so contaminated that many of the fish that lived in the mainstem had some sort of deformity. The lower 5 miles of the Black River mainstem was considered the area of impairment.

As a result, the Ohio Department of Health advised against eating fish that had been caught in the mainstem. This early advisory was based solely on the excessive numbers of fish tumors found on fish. Although the fish advisory was later revised to only certain species, the fish abnormality problem remained.

The old US Steel coking operation, located along the Black River mainstem, has been linked to the sediment contamination that led to the fish tumors. The discharges from the coking plant contaminated the bottom sediments of the river with a toxic mix of organic chemicals called polynuclear aromatic hydrocarbons (PAH). These chemicals are known carcinogens.

Cancerous Fish Tumors Result in the Declaration of a Beneficial Use Impairment

The International Joint Commission's (IJC) Listing Criteria for the Fish Tumors and Other Deformities states the, "beneficial use shall be listed as impaired when incidence rates of fish tumors or other deformities exceed rates at un-impacted control sites or when survey data confirm the presence of neoplastic or preneoplastic liver tumors in bullheads or suckers."

The IJC criteria is twofold. In order to delist or redesignate, the Coordinating Committee must satisfy both the external "fish tumors and other deformities" section and the "neoplastic or preneoplastic liver tumors" section

Evidence of Improvement

The Data

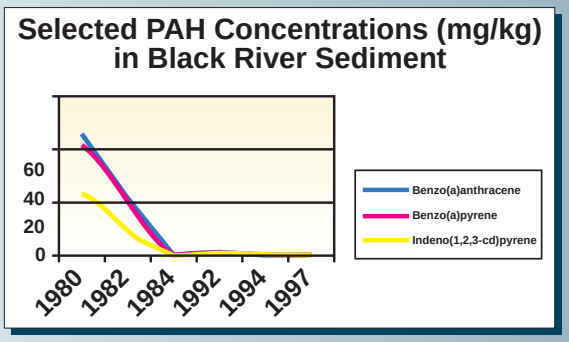
Fish tumors and abnormalities have been extensively studied over the years. The latest data now shows a frequency level nearing that of uncontaminated sites. Based on data collected over the last ten years, the Coordinating Committee voted unanimously to apply for a redesignation of this Beneficial Use Impairment.

The Committee feels sufficient improvements have been documented in both the concentrations of contaminants and in the improvements to the health of the fish communities to allow the listing to be changed from 'Impaired' to 'In Recovery Phase.'

A remedial dredging of the stretch of the river near the coking plan outfall was conducted in 1989-1990. The dredging operation was mandated by a Consent

Decree between the US EPA and the steel mill. Approximately 50,000 cubic yards of contaminated material were removed from the river.

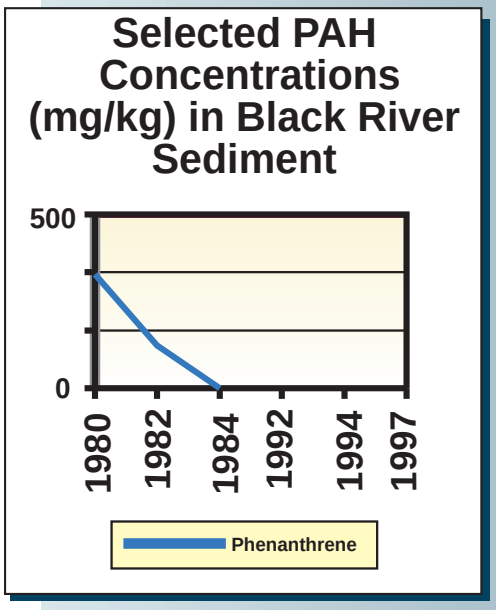
As a result of the remedial dredging of contaminated sediments and the blanketing effects of newer sediments covering any remaining contaminated sediments, the concentrations of PAH for each residues in fish tissue were significantly reduced. The improvement in the fish communities are well documented by the Ohio EPA and Dr. Paul Bauman, USGS. The charts found on this page illustrate the drastic decreases in the concentrations found in dredged sediments.



Ohio EPA's Index of Biological Integrity

One of the goals of the Clean Water Act is the restoration and maintenance of the physical, chemical and biological integrity of surface waters. To achieve this national goal, the Ohio EPA is required to assess the conditions of the waterbodies of the state. One of the indices used by Ohio EPA to assess fish communities in rivers and streams is the Index of Biological Integrity (IBI). The IBI incorporates three categories of evaluation: the richness and composition of types of species; trophic conditions (nutrient habitat); and the abundance of fish and their health condition.

The Deformities, Eroded fins, Lesions and Tumors (DELT) anomalies index is used in the assessment of the health conditions of fish communities. Ohio EPA uses the DELT index as part of its routine watershed surveys. Ohio EPA utilizes electrofishing techniques to sample river zones. All fish collected are examined for DELT anomalies and



data is collected individual fish and analyzed on a community level.

Ohio EPA has determined that DELT levels in Ohio should not exceed 0.5% or a DELT frequency of one anomaly in every 200 fish. This level is what the Ohio EPA would expect in an unimpacted river zone.

The Ohio EPA collected the first DELT data for the Black River in 1982, about 2 years after the closing of the coking plant. At that time, about one in every ten fish collected showed some type of external deformity, measured as a DELT anomaly. In 1982, fish surveys sometimes yielded catches where half of the fish collected showed some type of external deformity.

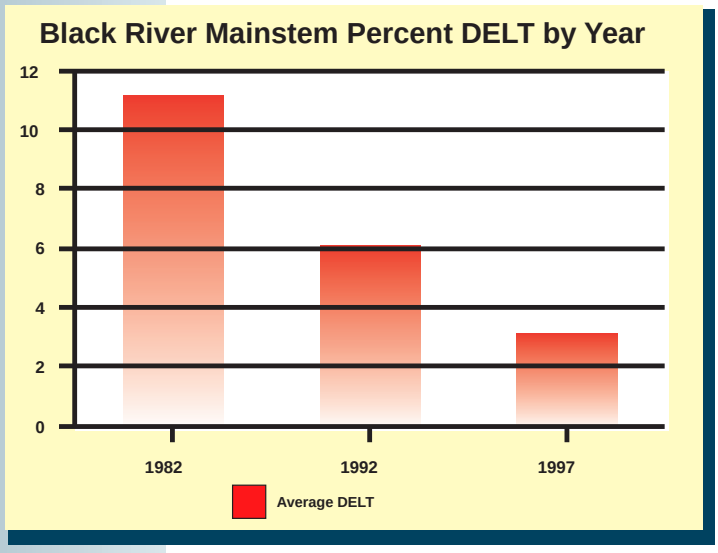
The highest DELT score was recorded at River Mile 4.8, where almost 55% of the fish collected had deformities. By 1997, DELT anomalies in that stretch of river had dropped to below 8% of the population.

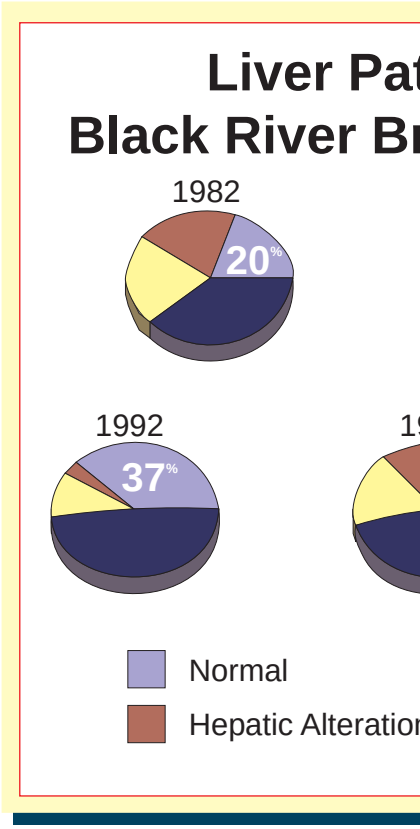
Yearly averages of the DELT data for the entire afflicted area can be seen in the figure to the left. In 1982, the entire lower river suffered with an average of 11.2% of the fish populations having DELT anomalies. In 1997, the lower river improved to only about 3.2% of the fish having external deformities. With the removal of the contaminated sediments, the lower Black River has seen a 71% decrease in DELT scores.

Liver Tumor Data

The IJC delisting or redesignation criteria is twofold. In order to delist or redesignate a BUI, the Coordinating Committee must satisfy both the "fish tumors and other deformities" section and the presence of "neoplastic or preneoplastic liver tumors" section.

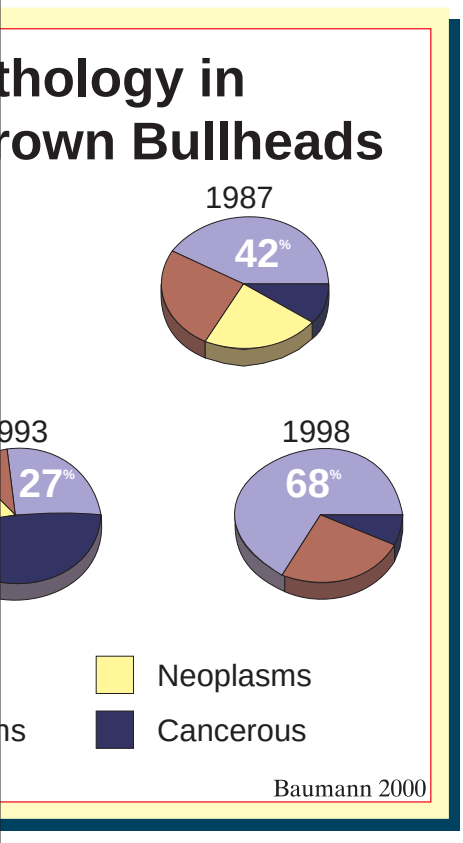
In the early 1980's, studies by Dr. Baumann's studies showed dramatic improvements the frequency of bullhead liver cancers. Since the early 1980s, normal bullhead livers have increased

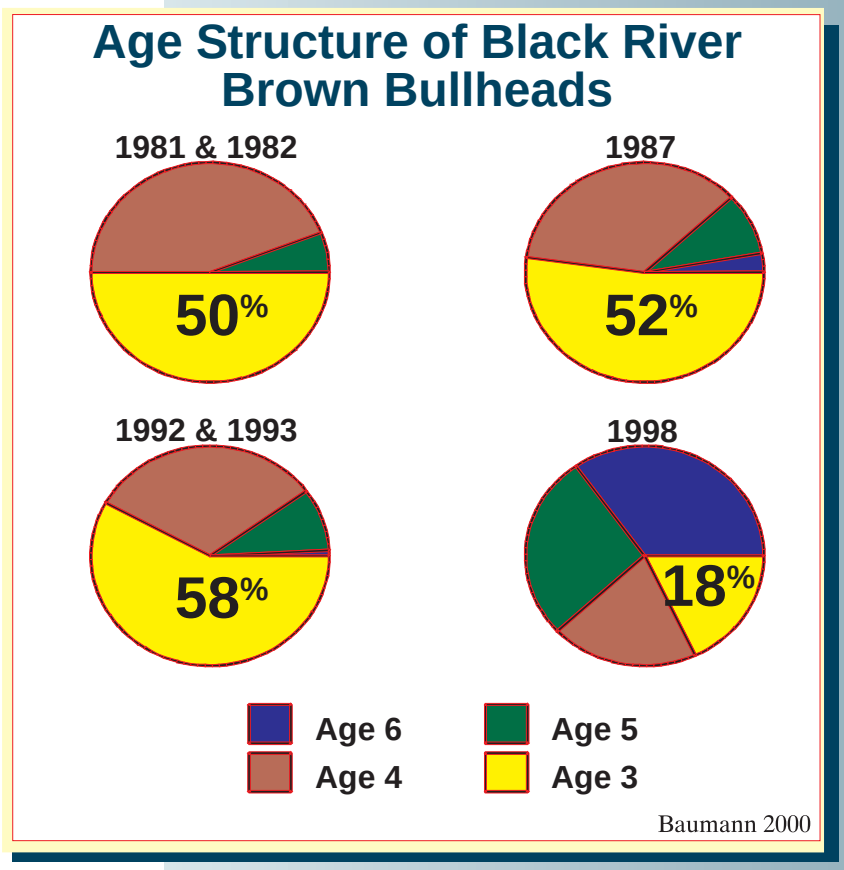




from 20.0% to 68%. Few brown bullhead catfish lived past the age of three due to the level of PAH contamination in the sediment.

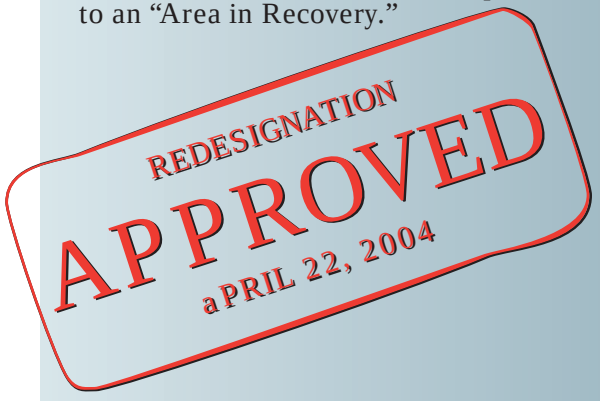
Once the source of contamination was removed through sediment dredging, the rates of liver tumors in these fish decreased. By 1997, the rate of liver tumors had dropped to only 7%. The improvements can be seen in the liver pathology graph. In 1981, only 50% of Brown Bullhead Catfish were living older than 3 years. By 1998, 82% of the fish were living longer than three years.





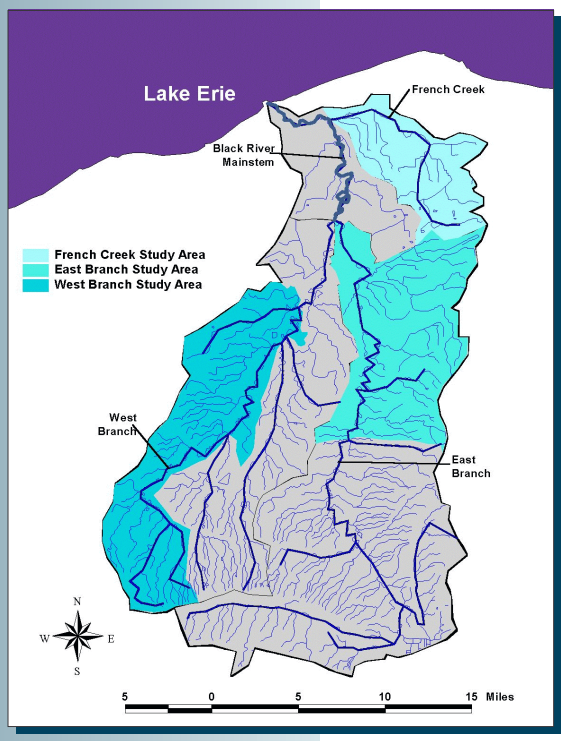
The Black River – An "Area In Recovery"

The Black River RAP Coordinating Committee's application will verify the level of improvements and request a redesignation of the Fish Tumors and Other Deformities BUI from "Impaired" to an "Area in Recovery."



Subwatershed Surveys & Initiatives

Contributing Author: Ted Conlin, Ohio EPA



In 2001, the United States Policy Committee outlined principles and guidelines for delisting United States Areas of Concern (AOC). The Policy Committee recognized that some AOCs, like the Black River AOC, are comprised of a number of subwatersheds, such as with our Black River AOC. It was understood that in these AOCs there may be some instances where all beneficial uses in a particular subwatershed are restored and the Committee offered a guideline whereby the restored subwatershed could be delisted.

The ability to designate stream segments or subwatersheds as 'Impaired' or 'Not Impaired' allows the Black River RAP to subdivide the AOC into more manageable pieces. In order to be able to ascertain environmental conditions with subwatersheds, the RAP started an initiative to conduct comprehensive surveys at the subwatershed level. During 2003, the Black River RAP had two sub-watersheds being studied and one more in the developmental stages.

Beginning in the summer of 2002, the U.S. Army Corps of Engineers-Buffalo District (USACE) teamed with the Black River RAP in conducting comprehensive surveys of subwatersheds in the Black River AOC. The USACE is able to provide assistance to RAPs under the Water Resources Development Act of 1990, as amended.

The purpose of the environmental surveys is to conduct a comprehensive evaluation on all streams and tributaries in a particular subwatershed. Besides being able to cut up the Black River AOC into more manageable pieces, the tributary streams that make up the subwatersheds are very important components to the overall AOC health.

The plan calls for using Ohio EPA's Qualitative Habitat Evaluation Index (QHEI) on larger streams and Headwater Habitat Evaluation Index (HHEI) on smaller streams (with less than one square mile drainage area). In addition, adjacent wetlands were evaluated using the Ohio Rapid Assessment Method (ORAM). QHEI and HHEI are used to assess the morphology of the streams, their substrates and the factors influencing the stream's health, such as land use and protective vegetative borders. ORAM categorizes wetlands into the type and the degree of habitat potential. By using the QHEI, HHEI and ORAM assessment methods, the USACE personnel are able to identify aspects of the subwatershed that can influence and determine the environmental health of the subwatershed.

These comprehensive 'walk-overs' of the streams, tributaries and wetlands are designed to develop baseline conditions of the subwatersheds. The surveys are being conducted to identify areas within the subwatersheds where conditions are good, but also to identify where conditions are becoming or currently are poor. These environmental surveys are designed to help identify problems with the following Beneficial Use Impairments:

- Degradation of Fish and Wildlife Populations
- Loss of Fish and Wildlife Habitat
- Degradation of Benthos
- Eutrophication of Undesirable Algae
- Degradation of Aesthetics

Prior to the fieldwork, aerial photographs, GIS databases and more traditional paper maps are used to identify sampling points and accessibility to survey sites along the streams. The information gathered from the environmental surveys are then assembled into subwatershed specific brochures that are designed to help property owners, businesses and decision-makers improve and protect the subwatershed in which they live and work. Recommendation measures are outlined to improve the overall condition of the subwatersheds and are included in the text of the brochures. These brochures are then mailed to property owners in the respective subwatersheds.

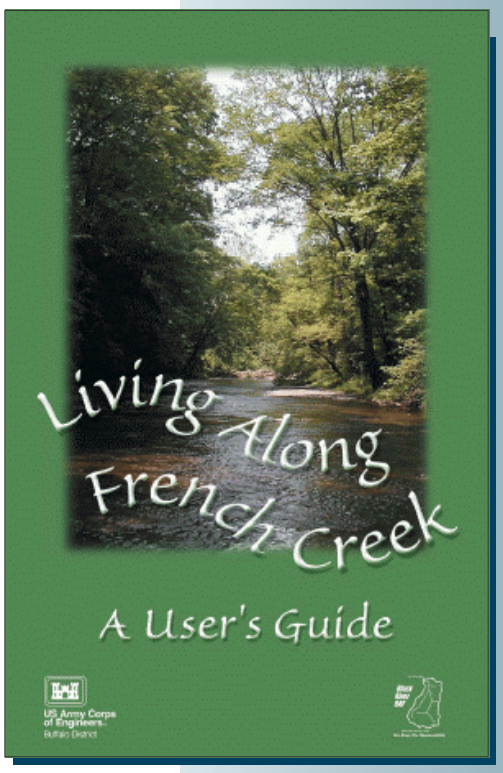
The first survey began in the summer of 2002 with fieldwork on the French Creek subwatershed. A local match for this work was provided by the Lorain County General Health District's work on a home sewage treatment systems (HSTS) operations and maintenance program. In the French Creek survey, assessments were made at more than fifty locations throughout the subwatershed in 2002. The fieldwork was extended into the summer of 2003, so that ambient water quality data could be incorporated into the survey.

According to the data collected by the USACE personnel, French Creek is a valuable natural resource, but one that is rapidly changing. The pressures of suburban sprawl are causing the streams, tributaries and wetlands to suffer. The farther east in the watershed, the lower the habitat scores. This is due, in part, to the development as Greater Cleveland expands westward and in part to the resource protection offered to the western portions of the French Creek sub-watershed by the French Creek Metropark and James Day Park. Throughout much of the French Creek basin, the problem situations encountered include considerable development and construction impacts, stream modifications/relocation, lack of riparian buffers, and run-off/sedimentation.

These findings are presented in the French Creek brochure, "Living Along French Creek - A User's Guide," which also includes some general recommendations for the protection and rehabilitation of the subwatershed. These recommendations include increased use of best management practices at construction sites (including oversight of proper installation and applicability), the construction of bioengineering erosion control projects, and the encouragement of the use of storm water detention basins. Detention basins are necessary so that storm water runoff from urban/suburban areas do not run directly into French Creek streams and tributaries where the increased flows would add to erosion problems and exacerbate the NPS pollution loads.

USACE personnel noted the single best measure that should be used to improve the quality of the French Creek subwatershed would be the development of wooded buffers adjacent to the streams and waterways. Stream buffers help improve water quality and protect aquatic habitats by slowing runoff, which allows a settling of silts and absorbing excess nutrients before they can get to the streams. In addition, the canopy of trees shades the streams, keeping the waters cool during the hot summer months. The brochure recommends riparian protection ordinances be established to establish stream setbacks and control the development and land use within a selected distance from stream channels. Insert margin notes on how riparian borders protect streams

A second environmental survey was started in 2003 and focused on the northern part of the East Branch and one particular site on the West Branch. In this study, a local match was provided by the Lorain County Community Development Department with their work on a countywide Environmental Strategic Plan. Just south of the French Creek Subwatershed, the northern East Branch is also beginning to feel the effects of suburban sprawl. The one site on the West Branch was added for study as this site was noted in the Ohio EPA's 1994 study of the Black River as the "most severe case of an agricultural nonpoint source impact ever recorded in Ohio." Work on the northern section of the East Branch and the one West branch site will continue in 2004. For all the subwatershed environmental surveys, the Black River RAP intends to hold public meetings where the results of the USACE fieldwork on both sub-watersheds may be openly discussed.



The planning of a third subwatershed project began in 2003. Set up a little different from the previous studies, this is a collaborative effort of the Black River watershed community, the Lake Erie Binational Public Forum, the Delta Institute and a "sister watershed" in Canada. The Kettle Creek watershed in Ontario is similar to the Black River. The new project will focus of the development of some subwatershed strategies for the West Branch of the Black River and the Kettle Creek watershed. Prioritized subwatershed issues in both the Black River and Kettle Creek will be developed and specific actions to address those issues will be identified. It is hoped a comparison between Kettle Creek's issues and actions and the Black River's issues and actions will offer valuable insights into watershed management. At the request of the Black River RAP, subwatershed project coordinators for each watershed will be hired to facilitate the process.

All three of these studies promise to provide valuable information about individual subwatersheds but also could be an impetus for the establishment of "subwatershed friendly" groups. Any subwatershed groups that are formed will become a strong partner with the RAP in restoring the greater Black River Area of Concern.

Black River Day Celebrates Watershed Heroes

September 6, 2003 was celebrated as Black River Day. Community efforts, specifically individuals efforts, to restore the Black River from its headwaters to Lake Erie were the focal point of the celebration. Although much work remains to be done, the Black River Day celebration was an opportunity to highlight current efforts and to build a better relationship between the community and the watershed.

Lorain County Commissioner Betty Blair presented the 2003 Heroes of the Black River Awards at the celebration. These awards recognized those individuals who have gone "above and beyond" what is expected or required in their actions to protect or improve the Black River Watershed. This year's Heroes all believe that every individual in the watershed can have an impact on the health of the ecosystem, and that people upriver, downriver, and throughout the watershed are all connected.

Many people were nominated, representing individuals, government entities, non-profit organizations, real estate developers, educators, farmers, or businesses. The Black River RAP is proud to recognize the eight heroes who were selected.

Ted Conlin, Ohio EPA, Black River RAP Coordinator

Ted has been the Black River RAP coordinator for Ohio EPA for over 4 years. He has gone above and beyond his position as RAP coordinator to secure assistance from Army Corps of Engineers and local matching funds, for work on Home Sewage Treatment Systems and the French Creek subwatershed.

In addition, Ted is on the steering committee for the Lorain County Environmental Plan, is the Black River TMDL Team Leader, and is on the Task Force for renovation of the Black River Confined Disposal Facility. He championed the Black River Landing Site for the fish habitat shelf work. Ted is "proud of the corners that have been turned" with regard to clean up and restoration of the Black River watershed.

David Conrad, Farmer

David owns a farm in the southern part of Lorain County, with cows, corn, and soybeans. The river runs through the middle of his farmland. He is also a Supervisor for the Lorain County Soil & Water Conservation District.

Dave has always believed in good farm management practice. He says, "water's just important to farming." He has done important riverbank and floodplain work along the river. He installed two manure lagoons, and 10 acres of buffer strips, and constructed covered feedlots. He has left 10 to 30 feet of trees along the river. He says, "with today's environmental issues, farmers are under more and more scrutiny." He wants to do his part to show he does care – that farmers do care. Dave "wants to be a good neighbor" to the Black River.

Sheila Lewicki, High School Teacher

Sheila teaches science at Elyria High School. She tries to take her students to areas within their watershed (Sandy Ridge wetlands, George Jones organic farm, Cascade Park), in order to increase awareness of their local environment and to study general ecological relationships. She usually takes students at least once a year to conduct river/park clean ups.

Over the years, Sheila's been involved with several organizations that support environmental education (Adopt a Watershed, Izzac Walton, Earthday Coalition, Seventh Generation). She and her students have established paper recycling at the high school and are just beginning to recycle plastics.

Sheila says that as her experiences with the outdoors and outdoor education increase, so does her enthusiasm to pass on this love and appreciation to her students. For these reasons, we are proud to recognize Sheila as a 2003 Hero of the Black River Watershed.

Brad Masi, Project Coordinator, Environmental Studies Program, Oberlin College

Brad grew up in Colorado and was raised with a sense of environmental awareness. He graduated from Oberlin College in 1993, and returned in 1995 to help to bridge Oberlin College with the local community. He realized the Black River was an invaluable resource to the local area. In 2000, Brad, along with help from Oberlin students, published a book on the natural history of the Black River.

He works with local teachers and classrooms to integrate the Black River watershed into lesson plans, using his book to reference local issues and provide one source for all of the available information on the Black River.

In 2001, Brad formed the non-profit Ecological Design Innovation Center at

Oberlin, to manage a university-owned farmstead and use it as model for sustainable land use; recognizing the importance of illustrating the connection between land use and water quality.

Fred McConnell, Landowner & Farmer

Fred owns a farm on the banks of the West Branch of the Black River, near Wellington where he grew soybeans and corn. He originally bought the farm, which had been in the family for over fifty years, from a great uncle in 1971.

Fred's land stewardship included protecting the wetlands on his farm by working to halt erosion along the banks of the river. His stewardship extended to his farming practices where he practiced farming techniques to prevent run-off and erosion. He practiced selective cutting of the woodland along his stream corridor to protect the riparian floodplain area.

Fred says, "he has always been motivated by the fact that his land is God's land and that he never wanted to do anything that hurts that balance of nature." He believes that the wetlands on his land have been there "since time began." He also believes that good farmers always coexist with the land and the environment.

Rick Novak, Executive Director of the Lorain Port Authority

Rick has served as the Executive Director of the Lorain Port Authority since 1987.

During his tenure, Lorain has seen major waterfront development including Spitzer Lakeside Marina, Lakeside Landing, Riverside Park, restoration of Lorain's Historic Lighthouse, the Black River Boat Launch Ramp, and the new Black River Landing. These projects and more have promoted waterborne commerce, provided economic development opportunities, and enhanced public access to our waterways in Lorain.

Rick helped complete the Fish Shelf at the mouth of the Black River, which has already demonstrated results from this habitat restoration.

He was nominated as a Hero for his leadership of the Port Authority, and for engaging the RAP Committee throughout the design process for the Black River Landing, which resulted in the establishment of fish shelf that has received national acclaim.

Ken Pearce, Lorain County Health Commissioner

Ken has served as County Health Commissioner since 1982. During his time as Health Commissioner, the Health Department has provided education to the public on the operations of the home sewage treatment systems, including a video on the operation and maintenance of the home systems. Ken has spearheaded this outreach and scores of other activities directed toward home sewage treatment systems, all of which has helped to provide direct improvements to the Black River watershed over the years.

In addition, Ken has served as chair of the Black River RAP Coordinating Committee since 1991. He feels there has been an "evolution" toward improved management of watershed resources and land use policy, and he continues to strive toward a sustainable approach toward water quality and watershed stewardship.

Ken was nominated as a Hero for his leadership on the Black River RAP Committee, for his leadership on environmental issues in general; and for his many years of dedication to water quality issues and public health.

Cheryl Wolfe-Cragin, Oberlin College

Cheryl is lecturer and facilities manager for Environmental Studies program at Oberlin College. In 1991, she started Friends of the Black River, an advocacy group for the river. This group was a stimulus for the Black River RAP; they convinced US EPA there was public interest in the water quality of the Black River.

Over the last ten years, Cheryl has developed a Black River watershed and land use curriculum for grades K-12. She continues to focus on professional development for teachers, running workshops for teachers on environmental curriculum. She is a tireless worker and supporter of improved water quality; including her work on the Friends of the Black River group, Seventh Generation, and on the Black River RAP committee.

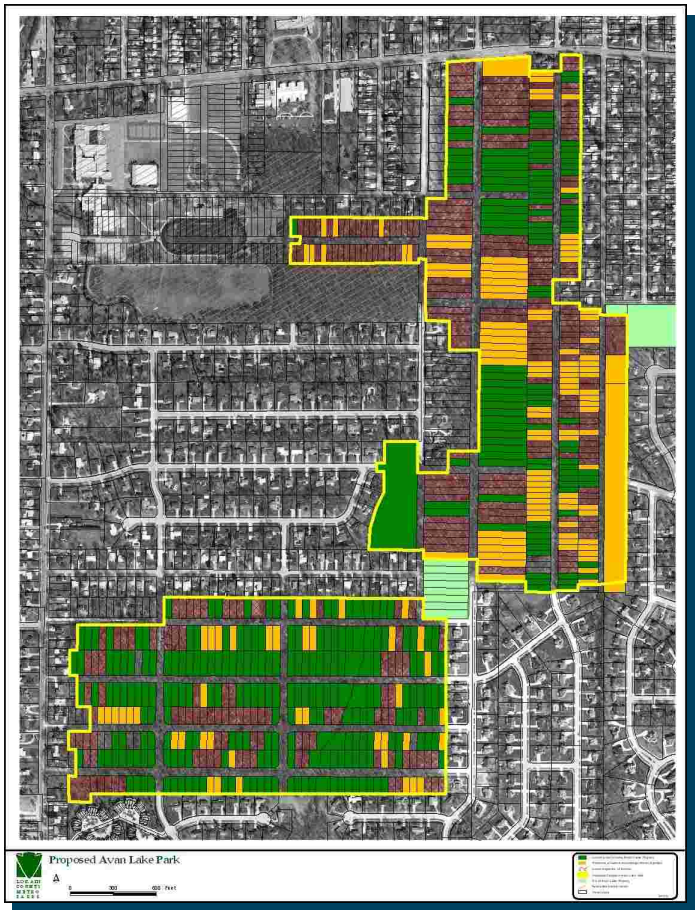
Back Row:
Karl Schneider
Mary McConnell
Fred McConnell
Cheryl Wolfe-Cragin
Brad Masi
Sheila Lewicki
Commissioner Betty Blair
Front Row:
Ted Conlin
Ken Pearce

Lorain County Metro Parks Preserves Over 1000 Acres

Contributing author: Dan Martin, LCMP

Wellington Reservation

The park district formed a partnership with the City of Wellington to preserve the "old reservoir" on Jones Road. The City leased 313 acres along Charlemont Creek and Jones Road to the district for 50 years to be developed into a park. The park board purchased an additional 220 acres to form the new 533-acre park. The park district also plans to restore about 180 acres of floodplain.

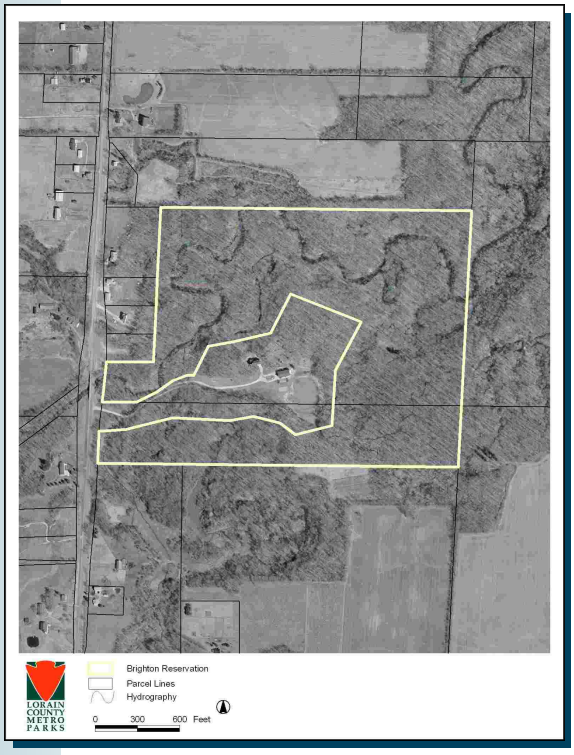


Brighton Township

The park district purchased 2 miles of the west branch of the Black River (80 acres) with stream mitigation funds. This site is a mature floodplain forest.

Avon Lake

In partnership with the "Save the Woods" citizens committee and the City of Avon Lake, the park district purchased phase one (65 acres) of a 165-acre wood in Avon Lake as a preservation site. This projected was funded through the Clean Ohio fund and a combination of City and Park District funds.



Vermilion River

The park district was able to acquire over 100 acres along the Vermilion River watershed. These sites include numerous endangered species.

Elyria Works to Reduce Mercury Pollution

Contributing author: Terry Korzan, Elyria WWTP

The City of Elyria and its Wastewater Treatment Plants, working in conjunction with the Delta Institute, began a countywide mercury reduction program in October 2002. The Lorain County Mercury Reduction Collaboration (LCMRC) program was developed in response to new permitting limitations for wastewater treatment plant in the Black River Watershed and the lack of public awareness regarding the toxic health effects of mercury.

Many people can remember playing with mercury when they were children. It was a common component of most science kits. Its silvery white shimmer was entrancing, and the ability of its glistening mass to split and come back together again was magical. Mercury can also be found in older thermometers and in amalgam dental fillings. Other sources of mercury include batteries, barometers and fluorescent lamps.

Mercury is a bioaccumulative, persistent, toxic substance that threatens the health of humans and wildlife throughout North America. Fish consumption advisories due to mercury are issued for five fish in the Black River watershed – Largemouth Bass in Findley Lake; Rock Bass, Smallmouth Bass, and the Yellow Bullhead Catfish in the East Branch; and the Snapping Turtle for the entire watershed.

The USEPA, Environment Canada and the International Joint Commission have identified mercury as one of the most critical pollutants in the Great Lakes. Mercury is one of the most critical pollutants requiring significant elimination and reduction.

One goal of the LCMRC program is to educate the watershed community regarding the toxic effects of mercury. A second goal is to lessen or eliminate potential sources of mercury pollution that may otherwise end up "down the drain." Mercury round-ups (collections) in the community have been a successful way to achieve both goals of the program. Hopefully these efforts will result in a significantly reduced amount of mercury that the Elyira Wastewater Treatment Plants have to process.

The LCMRC program includes working with communities in the watershed to hold mercury collection days and to survey businesses to identify and recycle sources of mercury that are no longer useful. To date, 536 thermometers, 13 thermostats, 18 blood pressure manometers, 2 barometers and 17 containers of liquid mercury have been collected. In addition, a local refrigeration contractor has recycled over 200 thermostats.

How to Properly Recycle Mercury

- X Never pour it down the sink or toilet
- X Don't handle any mercury with your bare hands
- ü Do take it to a local Mercury Roundup – contact the Elyria Wastewater Treatment Plant regarding the next roundup
- ü Double bag all items when transporting to collection site
- ü Got a Jar of mercury? – call the Elyria Wastewater Treatment Plant to arrange pick-up

Lorain County Mercury Reduction Collaboration

Ohio EPA, US EPA

Delta Institute

Bowling Green State University

Lorain County Solid Waste District

Lorain County Emergency Management Agency

Lorain County General Health District

City of Elyria

Chronicle-Telegram

EMH Regional Medical Center

Invacare Corporation

Vectron Incorporated

Refrigeration Sales Corporation

Geisel Heating, Air Conditioning & Plumbing

Neighbors Protecting our Environment

Chemtron Corporation

Ohio Environmental Council

Harbor Front News

Lakefront Plan

The City of Lorain unveiled its conceptual master plan for approximately 30 acres of lakefront land on November 13, 2003 before an audience of 50 people. The plan will be used to guide the City in redeveloping this key parcel on the waterfront. Key features include public access to the water with approximately 10 acres of green space, high density buildings varying in story heights from 3-4 story buildings to the potential of an 8-10 story building on the water. This plan was made possible in part from a $30,000 grant from the Ohio Coastal Management Assistance Grant Program.

The City is awaiting results from its Phase 2 environmental assessment before going forward with a nation wide RFQ to solicit development proposals from developers across the country. A State of Ohio Clean Ohio Grant award of $260,000 funded the Phase 2.

STE. Claire Makes Her Home on the Black River

The Ste. Claire brings with her a long history of service on the Great Lakes. The 197-foot long, propeller-driven ferry was built in 1910 at the Toledo

Shipbuilding yard in Ohio for the Detroit, Windsor & Bell Isle Ferry Company. The Ste. Claire, along with her sister ship, the Columbia, were designed as "ocean-going" excursion vessels used to carry passengers back and forth, across the Detroit River, to the Bob-Lo Island Amusement Park. Both the Columbia and the Ste. Claire were entered on the National Register of Historic Places in 1979 and granted national landmark status in 1992.

Husband-and-wife owners Diane Evon and John Belko bought the Ste. Claire from the city of Detroit on September 10, 2001. The couple has since spent the last three years trying to renovate the ship – a rotted deck has been replaced and recanvased, lots of structural work and ongoing cosmetic improvement. In the fall of 2002, the vessel was moored on the Toledo waterfront as a haunted Halloween attraction to raise funds to continue the restoration work.

Currently, the Ste. Claire will remain a moored attraction along the Black River. Her hull will be re-evaluated for reclassification as an excursion ship in 2006 by the US Coast Guard.

Visit www.boblobloat.com for more information on the Ste. Claire and her current events or opportunities to volunteer. More information on Bob-Lo Island can be found at www.boblosteamers.com

2003 BLACK RIVER RAP COORDINATING COMMITTEE MEMBERS

Local Jurisdictions

Lorain County General Health District
Ken Pearce

Coordinating Committee

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
Robert Ternes Jr.

USDA/Natural Resource Conservation Service (NRCS)
Karl Schneider

Lorain County Metro Parks
Daniel Martin

NOACA
Pamela Davis
BRRAP Secretary

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

Lorain County Port Authority
Rick Novak

Lorain County Farm Bureau
Julie Hruby

Lorain County Community Alliance
Rebecca Gray

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Charles “Eddie” Herdendorf
Brad Masi
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