

## **Black Lagoon Sediment Remediation in Trenton, MI – The First Project Completed With Funding From the Great Lakes Legacy Act M. Bohling, Michigan Sea Grant Extension**

### **Background:**

Black Lagoon is located in the City of Trenton along the Trenton Channel of the Detroit River, just offshore from Meyer-Ellias Memorial Park. It also lies within the Detroit River International Wildlife Refuge, the first international wildlife refuge in the FWS system. The Detroit River is a 32 mile long connecting channel linking Lake Erie to the upper Great Lakes and is one of 43 Areas of Concern in the Great Lakes due to a variety of beneficial use impairments, including fish consumption advisories stemming from contaminated sediments in areas such as the Black Lagoon.

Sediment in the Black Lagoon was contaminated with oil, grease, and heavy metals, including high levels of mercury and was therefore considered a major contaminated sediment "hot spot" in the river. This sediment contamination stems from a legacy of historical industrial inputs. In fact, it got its name when aerial photos from the 1960's exposed black plumes of oil and grease emanating near the McLouth Steel plant, immediately upstream of the lagoon.

This legacy of contamination has been equally detrimental to the environment and local communities. Detroit News Reporter, Jennifer Brooks described the impact as follows: *"For half a century, a toxic soup of heavy metals, mercury, PCBs, oil, grease and slag washed down the Detroit River to settle along a blighted stretch of shoreline that the locals call the Black Lagoon. Along this two-mile inlet outside Trenton, plants withered, fish died, wildlife fled — and the local economy ground to a halt at the water's edge. Nobody, but nobody, wanted to live or work near the Black Lagoon, filled as it was with toxins that can cause everything from cancer to birth defects."*

### **New Tools for Sediment Remediation:**

In 2002 Congress passed, and the President signed, the Great Lakes Legacy Act authorizing \$270 million over five years to fund cleanups of contaminated sediments in American Areas of Concern. After the first \$9.9 million in Legacy Act funding was appropriated in 2004, then EPA Administrator, Mike Leavitt visited the Black Lagoon to announce that it would be the first project to receive funding. In addition to funding from the Legacy Act appropriations, the State of Michigan contributed funds from the Dept. of Environmental Quality Clean Michigan Initiative. The Black Lagoon was chosen as the first Legacy Act project because the type, amount and extent of contaminants was well documented and known to be confined to a relatively small area, making it possible to positively impact the environment quickly.

### **Phase 1:**

Initial estimates showed that approximately 90,000 cubic yards of contaminated sediments would need to be removed at a cost of \$6.5 million. Site preparation began in

September 2004 with the installation of a silt curtain to prevent resuspended contaminated sediments from getting into the river. A month later dredging began the sledge was solidified and then transported by trucks and barges and deposited in the Pointe Mouillee Confined Disposal Facility.

According to EPA estimates 160 pounds of PCBs, 360 pounds of mercury, 38,000 pounds of lead, 140,000 pounds of zinc and 300,000 pounds of oil and grease were removed from the lagoon. Dredging was completed after thirteen months and the bottom of the lagoon was covered with 6 inches of sand and 3 inches of rock to protect fish and wildlife from any contaminants that remain in the river. Total cost of the sediment remediation removal project was \$9.3 million with costs being shared by the EPA Great Lakes Legacy Act (65%) and Michigan Dept. of Environmental Quality Clean Michigan Initiative (35%). With the sediment remediation phase of the project completed, the region is looking forward to completing subsequent phases.

Upon completion of Phase 1, Detroit News reporter Hugh McDiarmid Jr. wrote *“The removal of decades' worth of grease, lead, mercury and PCBs from the river bottom means cleaner water for waterfowl, fish, boaters, anglers and others who enjoy the river and the downstream waters of Lake Erie, federal cleanup officials said at a news conference on the riverfront Wednesday.*

*The \$9.3-million project cost nearly \$3 million more than original projections -- and required the removal of nearly twice as much sediment as scientists suggested a year ago when the cleanup started. The funding was primarily from federal Legacy Act dollars, with a contribution of more than \$2 million in Clean Michigan Initiative Bond money.*

*But Michigan Department of Environmental Quality Director Steve Chester warned that the bond money has run out -- leaving few options for state-sponsored cleanups, or matching money to attract federal cleanups.*

*Federal officials also acknowledged there are funding challenges, but lauded the Black Lagoon effort as a template for the future.*

*"You have really created a model cleanup, for others from throughout the Great Lakes to follow," Environmental Protection Agency regional Director Tom Skinner told state and local officials at the November 2005 gathering.*

*The federal Legacy Act authorizes \$270 million for Great Lakes cleanups, but Congress has appropriated only \$62 million during the past three years.”*

## **Phase 2:**

Recently, the City of Trenton received an additional \$113,000 from a Great Lakes Commission grant funding under its Great Lakes Basin Program for Soil Erosion

and Sediment Control. The Basin Program improves Great Lakes water quality by promoting erosion and sediment control and sound land-use practices through demonstration grants, technical assistance and information/education projects in the Great Lakes states. These additional resources will be utilized to softshore engineering techniques to create a naturalized shoreline. Native plants will replace the broken concrete riprap to reduce erosion and sedimentation, further enhancing the visitor experience at Meyer-Ellias Park.

### **Upcoming Phases:**

Future phases call for renaming the lagoon and further development of the surrounding areas, increasing economic development in the region. When asked by the Detroit Free Press to describe the impact of the Black Lagoon cleanup, Mayor Gerald Brown responded “We always knew that as long as it was contaminating the area, that area wasn’t going to do much. By cleaning up the Black Lagoon, we gain as a community and as a region”. He estimates that the cleanup could boost nearby property values by \$60 million or more. The city’s Downtown Development Authority dreams of riverside condominiums, restaurants and shops, riverwalks and a marina.

### **Conclusion:**

Funding from the Great Lakes Legacy Act was crucial to the success of the Black Lagoon Sediment Remediation Project. It was the catalyst for garnering financial resources from the Clean Michigan Initiative and the Great Lakes Commission as well as in-kind support from numerous partners who came together to make this proposed project a reality. The US EPA, US FWS, USGS-Great Lakes Science Center, US Army Corp of Engineers, MDEQ, the American Heritage Rivers Initiative of the Metropolitan Affairs Coalition, the City of Trenton and Michigan Sea Grant have all contributed to the success of the project.

The downside for others who would like to undertake similar cleanups is the lack of available funding. Thus far, Congress has only appropriated \$9.9 million in 2004, \$22.3 million in 2005 and \$30 million in 2006. Due to a continuing resolution, funding will likely be \$30 million again in 2007. Unfortunately, this is far short of the 5-year \$270 million commitment. According to MDEQ Director, Steve Chester, Clean Michigan Initiative “bond money has run out, leaving few options for state-sponsored cleanups, or matching money to attract federal cleanups”.

Further information on the Black Lagoon Project can be found at <http://www.epa.gov/glnpo/sediment/legacy/blklagoon/index.html> and the Great Lakes Legacy Act at <http://www.epa.gov/glnpo/sediment/legacy/index.html>