

The DREDGE REPORT



Dredged sediment from Dike 10B near Burke Lakefront Airport being removed and transported to remediate a Cleveland Brownfield site.

Sediments dredged from the Cuyahoga River may have a second life as an innovative new tool for economic development and environmental restoration. The Dredge Task Force – a collaborative effort of local, state, federal and community stakeholders – is currently exploring such new uses.

Will Friedman, Port CEO and task force chair, said substantial progress is being made in finding an environmentally sustainable, economically justified and technically sound sediment solution. This edition of The Dredge Report will review some of the more progressive ideas to reduce the need for dredged material disposal and harvest river sediment as an economic asset.

“We are looking at beneficial and innovative uses of dredged material,” Friedman said. “We view dredged materials as a resource and not simply a disposal problem. By treating sediment as a bulk commodity, I believe we can make this a success story for the community.”

Dredging, which ensures safe and efficient navigation, is vital to northeast Ohio’s economy. Each year, maritime commerce along the Cuyahoga River results in more than \$800 million in payroll and contributes nearly \$88 million in local taxes.

New regulations and substantial cuts in federal resources available for dredging U.S. harbors has Ohio, like most Great Lakes Seaway System states, seeking solutions to a difficult and complex challenge.

Richard Worthington of Steinberg & Associates, a 40-year veteran of the U.S. Army Corps of Engineers and a nationally recognized expert on dredging, said that not so many years ago, dredging ports was a much simpler process. “Historically, most dredged material was just barged a few miles out and placed in designated areas in the ocean or, in this case, Lake Erie,” he said. Worthington was recently hired by the Port Authority to assist with the dredging issue.

But environmental regulations have made dredging more involved and costly and largely put an end to that simple disposal process.

PROJECT UNDERWAY TO RECYCLE RIVER SEDIMENT, TRANSFORMING LOCAL BROWNFIELD SITE INTO INDUSTRIAL PARK

An innovative use of dredged material is literally laying the foundation for a local job-creating effort, demonstrating the potential for other beneficial upland uses.

Dredged sediment is being removed from Confined Disposal Facility (CDF) 10B near Burke Lakefront Airport. The material will be used for a Brownfield redevelopment effort at a 58-acre site on Pershing Road near ArcelorMittal Steel. The result will be a ready-to-build 750,000 square foot industrial park – the Cuyahoga Valley Industrial Center.

The Ohio Environmental Protection Agency (OEPA) has approved the use of the dredged sediment.

About 300,000 cubic yards of dredged sediment will be removed from CDF 10B. This is about the same amount dredged from the river each year. As a result, about a year’s worth of capacity will be opened up at CDF 10B. The project is being done with \$7.25 million provided through the American Reinvestment and Recovery Act (ARRA).

Friedman said “such recycling concepts could lead to other long-term sustainable strategies that are more cost effective alternatives for dredged sediment than traditional and expensive disposal facilities built in the water.”

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NEW USES FOR DREDGED MATERIALS

The US Army Corps of Engineers is currently looking at a number of other upland locations where sediment could be used for a range of beneficial purposes such as habitat restoration, landfill cover, Brown-fields reclamation or recreational use.

Other upland placement options being explored include:

- Several parcels of land along the Cuyahoga River owned either by ArcelorMittal or others in the vicinity of the steel mill.
- Filling in gravel pits adjacent to a cemetery in Garfield Heights. Contact has been made with the Catholic Cemeteries which would like to see development of a wetland area adjacent to the cemetery.
- Covering portions of the Harvard Avenue Landfill and transforming the site into ball fields.
- Transforming the Silver Oaks landfill into a nature preserve and a beautiful addition to the adjacent Metro Parks property.

The Corps of Engineers is in the process of analyzing sediment to ensure suitability for these and other alternatives. Any placement options would also have to pass stringent OEPA guidelines.

LOOKING TO THE FUTURE: OHIO-BASED COMPANY PATENTS TECHNOLOGY TO COLLECT SEDIMENT UPSTREAM

Jim White, task force member and executive director of the Cuyahoga River Remedial Action Plan (RAP), has conducted preliminary tests on the potential to intercept sediment upstream with new technology.

“Our goal is to develop cost-effective and sustainable mechanisms to harvest the sediment for reuse in the regional aggregate and soils markets,” he said. “This process is meant to be substantially more energy and cost effective than traditional dig, haul and dump dredging practices.”

The patented technology relies on the natural energy of the river to self-harvest the sediment into collectors. The material is pumped on shore, where the sediments are graded out. Water is recycled to the river.

In support of task force efforts, the RAP compiled a team of Ohio companies to collaborate on innovative long-term strategies for managing sediment. The team deployed a sediment collector in the river and monitored the results. The collection technology is provided by Streamside Systems, based in Findlay.

Streamside Systems CEO John MacArthur said the technology can play a significant role in reducing the harmful environmental impacts of sediment, while positively enhancing aquatic habitats, improving the environment and providing valuable commercial products.

The river samples collected are well-suited for use in various concrete and building product formulas and soil formulations that could be blended with compost products to produce engineered reclamation soils.

Preliminary market analysis indicated local demand would exceed the supply which could be produced from the river.

“By taking a fresh approach using new technology, we think we can lower dredging requirements and costs at one end and produce an income stream on the other,” said White. The Task Force believes the concept has merit and a more comprehensive analysis will be the next step.

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