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The Ashtabula River restoration project is the largest project to be funded for cleanup under the Great Lakes Legacy Act. The implementation of the sediment removal and natural resource restoration process for the Ashtabula River is the culmination of nearly two decades of community-based environmental planning and represents a model of partnership and shared responsibility for restoring natural resources in industrial waterways, according to the authors of this article. They say the Ashtabula River project illustrates the technical innovation and interagency cooperation that is possible when the process for restoring aquatic resources and other ''mega sites'' is set free from the rigid and contentious framework of the Comprehensive Environmental Response, Compensation, and Liability Act. As such, they argue, the project can serve as a model for large-scale sediment removal and restoration projects and should be used to address sediment sites throughout the country.

Ashtabula River Restoration Project Establishes New Federal Funding Precedent

BY GREGORY BIBLER AND WAYNE REIBER

Hydraulic dredging began Sept. 12, 2006, to remove contaminated sediment and to restore natural resources in the Ashtabula River, a tributary to Lake Erie designated in 1985 as an area of concern under the *1978 Great Lakes Water Quality Agreement* between the United States and Canada. This is the latest of many milestones in a project that has established new precedents for cooperative planning, design, and funding for contaminated sediment projects.

The Ashtabula River project is the first in which private companies identified as potentially responsible parties under the Comprehensive Environmental Re-

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sponse, Compensation, and Liability Act[1] have partnered with a local sponsor to obtain funding for a cleanup under the Great Lakes Legacy Act (GLLA).[2] It is the largest project funded to date under GLLA, and the first project in the United States to target an entire area of concern. The project is the culmination of nearly two decades of public planning, under the auspices of the Ashtabula River Partnership, to design and fund a comprehensive restoration plan for the Ashtabula River. In 2002, the partnership was cited during congressional debates as the model for the public-private partnership approach adopted in the Great Lakes Legacy Act. The Ashtabula River project also became the catalyst for development of project selection and funding criteria, which the Environmental Protection Agency formally promulgated in 2006.[3]

The Ashtabula River project illustrates the level of technical innovation and interagency cooperation that is possible when the process for restoring aquatic resources and other ''mega sites'' is set free from the much more rigid and contentious superfund framework. During the GLLA project, nearly 600,000 cubic yards of sediment contaminated with polychlorinated biphenyls (PCBs), radionuclides, and other hazardous substances will be dredged, transported by pipeline, dewatered in geotubes, and permanently secured in a single-source containment facility. Upon completion of the GLLA portion of the project, the U.S. Army Corps of Engineers will conduct navigational and environmental dredging downstream, near the mouth of the Ashtabula River and in the harbor, using funding provided under the Water Resources Development Act of 1990 (WRDA 90).[4] Approximately 145,000 cubic yards of sediment from the WRDA project also will be placed in the containment facility, which then will close.

When completed, the project will restore natural resources throughout the lower two miles of the Ashtabula River. The entire project, from containment facility construction to closure, is expected to last three years and to cost in excess of $70 million.

Ashtabula River Partnership

The Ashtabula River project is the culmination of nearly two decades of community-based environmental planning. In 1988, the Ohio Environmental Protection Agency (Ohio EPA) established a volunteer-based group, the RAP Advisory Council, to define the boundaries of the Ashtabula River Area of Concern, and to develop a Remedial Action Plan (RAP) for the river.[5] The RAP Advisory Council represented stakeholders from local, regional, state, and federal agencies, including state and federal trustees of natural resources; local businesses and industries; and citizens from the Ashtabula community.

In January 1994, the RAP Advisory Council voted to expand and formalize this public-private partnership by creating the Ashtabula River Partnership. A key goal of partnership was to avoid designation and management of the Ashtabula River as a superfund site. The Ashtabula River Partnership concluded that proceeding as a partnership would ''expedite the remediation, address the commercial navigation goals which would not be addressed under CERCLA, and avoid litigation costs often associated with CERCLA.''[6] The partnership sought to reach consensus among all stakeholders for a more comprehensive environmental and navigational dredging project, and to obtain technical and financial support from the Corps of Engineers for that project.

Soon after formation of the Ashtabula River Partnership, it was agreed that the Corps of Engineers would act as project manager, but the comprehensive management plan and the environmental impact statement would be prepared as partnership documents, reflecting input from all of the members of the partnership.[7] Initial funding for technical, planning and engineering assistance—including modeling of three potential dredging scenarios for the River—was provided in 1995 under Section 401 of WRDA 90,[8] a funding authority for development of RAPs in Great Lakes areas of concern that has since been superseded by the more comprehensive authorities established in GLLA.[9] It was the first time such authority had ever been used at any area of concern.

The first draft of the comprehensive management plan was completed in 1997. Significantly, it was not until that point that EPA Region 5 and other members of the Ashtabula River Partnership asked PRPs to provide funding and to participate as stakeholders in the project. In December 1997, several PRPs formed the Ashtabula River Cooperation Group, through which they agreed to participate in the Ashtabula River Partnership process. That same month, EPA, the Corps of Engineers, the Ohio EPA, the Ashtabula River Cooperation Group, and many elected officials held a Leadership Endorsement Day in which all announced their commitment to the Ashtabula River Partnership.

Water Resources Development Act

From its inception, the Ashtabula River Partnership intended that WRDA serve as the legal and financial foundation for the Ashtabula River project. WRDA established a partnership model for initiating, planning and funding water resource projects. The underlying premise of WRDA is that major water resource projects should originate from the local community, and not be determined and imposed solely by the federal government. Under WRDA, ''non-federal sponsors'' propose projects eligible for mixed federal and local funding, and they work with the Corps of Engineers to scope and implement predesign, design, construction, disposal, and operation and maintenance activities.

The 1986 version of the Water Resources Development Act provided funding authority to the Corps of En-

[1] 42 U.S.C. § 9601 *et seq*.

[2] Pub. L. No. 107-303 Title I, 116 Stat. 2355 (2002), codified in part at 33 U.S.C. § 1268.

[3] 71 Fed. Reg. 25504 (5/1/06).

[4] Pub. L. No. 101-640, 104 Stat. 4604 (1990), codified at 33 U.S.C. § 1272, as amended.

[5] *Ashtabula River Area of Concern*, http://www.epa.gov/glnpo/aoc/ashtabula.html

[6] *Final Comprehensive Management Plan*, Volume 1: Main Report and Environmental Impact Statement (June 2001), at iv.

[7] *Ashtabula River Area of Concern*, http://www.epa.gov/glnpo/aoc/ashtabula.html

[8] Pub.L. 101-640, § 401, 104 Stat. 4640, 4644 (1990), codified at 33 U.S.C. § 1268 (superseded by Pub. L. 107-303 Title I, 116 Stat. 2355 (2002), codified in part at 33 U.S.C. § 1268).

[9] Pub. L. 107-303 Title I, 116 Stat. 2355 (2002), codified in part at 33 U.S.C. § 1268.

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gineers for navigation, flood control, and other water resources projects. Congress has reenacted WRDA several times since, each time reauthorizing or adding particular projects, and amending its eligibility and funding requirements. In 1990, Congress added a new provision to WRDA, entitled ''Environmental Dredging,'' to provide federal funding specifically for dredging and disposal of contaminated sediment.[10]

Section 312(a) of WRDA 90, as amended, authorizes the Corps of Engineers to remove contaminated sediment outside the federal channel, on a showing that the costs for such projects are economically justified based on savings in future costs to maintain the channel.[11] Section 312(b) of WRDA 90, as amended, provides for the removal of contaminated sediment solely for the purpose of environmental enhancement and water quality improvement.[12] Unlike Section 312(a), Section 312(b) applies to all navigable waterways regardless of the existence of a federal channel or navigational project and does not require any showing that contaminated sediment removal will reduce future maintenance costs. Section 312(e) of WRDA 90, as amended, specifically states that the statute shall not be construed to affect the rights and responsibilities of any person under CERCLA.[13] No WRDA provision, however, prohibits or conditions use of the Corps of Engineers' Section 312 authority at sites subject to EPA's enforcement authority under superfund.

Between 1997 and 2004, the Ashtabula River Partnership and the Corps of Engineers drafted, revised, and supplemented the comprehensive management plan and the environmental impact statement for the Ashtabula River. They incorporated information submitted and studies completed by its members, including the Ohio EPA, the Ashtabula River Cooperation Group, and the Corps of Engineers. Funding for that work was provided from government and private sources, including predesign appropriations under WRDA and contributions directly from the Ashtabula River Cooperation Group. The final comprehensive management plan and the environmental impact statement were submitted to the Army Corps of Engineers Lands and Rivers Division and Headquarters Aug. 3, 2004.[14]

A number of project alternatives were evaluated in the comprehensive management plan, including no action, a capping alternative, and several dredging alternatives. Three dredging scenarios were evaluated: (1) bank to bank to bedrock, (2) deep-dredging, and (3) shallow-dredging. The evaluation compared the scenarios based on a number of factors, including sediment volume, PCB mass, and volume of Toxic Substances Control Act sediments (i.e., greater than 50 parts per million (ppm)) removed; surface weighted average concentration of PCBs expected as a result of dredging; scour and release potential prior to dredging; beneficial uses addressed; and cost and feasibility. The Ashtabula River Partnership determined that the deep dredging scenario best fit the combined selection criteria. That scenario offered a similar degree of protectiveness and accomplished much of what the bank-to-bank-to-bedrock alternative would, at a significantly lower cost, and with substantially lower risk to the stability of stream banks and bulkheads. [15]

The comprehensive management plan divided the proposed project into two segments, upstream and downstream of the 5th Street Bridge, based on available funding authorities:[16]

- Navigational and associated environmental dredging, to be conducted in and beyond the limits of the federal channel downstream of the 5th Street Bridge, under funding authorities provided to [the U.S. Army Corps of Engineers] under § 1 of the River and Harbors Act, § 101 of WRDA 1986, as amended, and § 312(a) of WRDA 90, as amended; and

- Environmental dredging, to be conducted upstream of the 5th Street Bridge, based on the deep dredging scenario selected through the remedial alternatives analysis, under funding authorities provided to [the U.S. Army Corps of Engineers] under § 312(b) of WRDA 90, as amended.

On Sept. 22, 2004, the Ashtabula River project became the first and only environmental dredging project approved under Section 312 of WRDA 90, as amended. In his letter to the Director of the Office of Management and Budget (OMB), the assistant secretary of the army for civil works stated that the project was authorized under §§ 312(a) and (b) of WRDA 90, as amended, and he therefore requested that OMB state the ''Administration's position on budgeting for the Section 312(b) portion of the project.''[17] As grounds for his approval, the assistant secretary of the army, in part, ''[T]he project represents a consensus determination, which would not only result in the restoration of the Ashtabula River, but also greatly reduce the risk of exposure of the Federal Government to litigation relative to the presence of contaminants in the river.''[18]

That approval put the project squarely in the middle of a policy debate within the executive branch of federal government that began immediately upon enactment of Section 312 of WRDA 90—whether, and under what circumstances, the Corps of Engineers may exercise its statutory authority to fund environmental dredging projects, and when it should or must defer to EPA's enforcement authority under CERCLA? More specifically, in this instance, the question was whether and how the Corps of Engineers' ''polluter pays'' policy (that its Section 312 authority will not be employed to remove or remediate sediments contaminated with hazardous substances unless the cost recovery principles of superfund

[10] *See* Pub. L. No. 101-640 § 312,104 Stat. 4604, 4639-40 (1990), codified as amended at 33 U.S.C. § 1272.

[11] 33 U.S.C. § 1272(a); U.S. Army Corps of Engineers Policy Guidance Letter (PGL) No. 49, ¶ 4 (Jan. 28, 1998).

[12] 33 U.S.C. § 1272(b).

[13] 33 U.S.C. § 1272(e).

[14] *Final Comprehensive Management Plan* (CMP), Volume 1: Main Report and Environmental Impact Statement; Volume 2: Comprehensive Management Plan Technical Appendices; Ashtabula River Partnership (June 2001); supplemented by Ashtabula River Environmental Dredging, Ashtabula Ohio, CMP/EIS Report Summary and Addendum (July 2004).

[15] CMP Vol. 1 at 74-75.

[16] CMP Vol. 1 at 7-8.

[17] *Letter from John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works), to Hon. Joshua Bolten, Director, Office of Management and Budget* (Sept. 22, 2004).

[18] *Id.* As discussed in the ''Polluter Pays'' section of this article, the U.S. government is a significant PRP due to its past industrial, ship building, and ship scrapping activities at the site.

first have been met) should be applied to the Ashtabula River project.[19]

Great Lakes Legacy Act

While the Ashtabula River Partnership and the Ashtabula River Cooperation Group continued their attempts to secure approval and funding under WRDA for the Ashtabula River Project, senators and Members of Congress from Ohio and other Great Lakes states were working on a new streamlined program to fund environmental dredging projects in areas of concern. On Nov. 27, 2002, Congress enacted the Great Lakes Legacy Act.[20] GLLA is based largely on the partnership and funding provisions of WRDA, and includes a requirement that each eligible project originate from a ''non-federal sponsor.'' The legislative history makes clear that Congress considered the Ashtabula River Partnership process to be a model for the program it adopted in GLLA for the purpose of expediting restoration of areas of concern.[21]

GLLA provides federal matching funds for *up to* 65 percent of total costs, exclusive of operation and maintenance costs, for ''eligible projects.''[22] Eligible projects must be located in an area of concern, and must include plans to monitor, evaluate, remediate, or prevent further or renewed sediment contamination. A project for which a remedial action plan already has been submitted and is ready to be implemented generally will be given funding priority. The statute prohibits conducting a sediment remediation project unless continuing sources that may cause re-contamination of sediment have been eliminated. A further prerequisite is the completion of a remedial alternatives analysis, including a review of short-term and long-term effects of each alternative on human health and the environment.[23]

GLLA does not mandate that procedures applicable to cleanups under superfund be followed, and does not specify that any particular cleanup criteria must be achieved. Unlike Section 312(e) of WRDA 90, as amended, GLLA contains no provision preserving ''rights and responsibilities'' under CERCLA, nor does it state or imply that the polluter pays principles of CERCLA must be satisfied as part of its eligibility or cost-sharing criteria. Indeed, GLLA expressly contemplates that projects will be funded in areas in which EPA already has exercised its superfund authority.[24] Unlike WRDA, GLLA charges EPA's Great Lakes National Program Office (GLNPO), rather than the Corps of Engineers, with implementing the Act.[25] It also focuses on restoration and delisting of areas of concern as its sole priority.

Just as the Corps of Engineers was nearing approval for the entire WRDA project for the Ashtabula River, GLNPO was proceeding on a parallel path toward approval of the upstream portion of the project under GLLA. GLLA authorized appropriations for eligible projects for fiscal years 2004 through 2008.[26] GLNPO issued its first Request for Projects in January 2004. In March 2004, the Ashtabula County Port Authority, working with the Ashtabula River Cooperation Group, submitted an application as the non-federal sponsor seeking project funding under GLLA.

The Port Authority proposed to implement the upstream portion of the WRDA project, essentially as drawn up in the comprehensive management plan, and to rely on the Corps of Engineers to complete its work downstream of the 5th Street Bridge. Because the Ashtabula River Partnership already had completed all necessary investigations, feasibility studies, evaluations of project alternatives, and pre-design studies, the Ashtabula River project was eligible and ready to implement. Furthermore, the project already had widespread support among local, state, and federal regulators (including EPA Region 5, where GLNPO is headquartered), because all were members of the Ashtabula River Partnership.

GLNPO's Technical Review Committee completed its evaluation of the project and met with representatives of the Port Authority and the Ashtabula River Cooperation Group to discuss questions, comments, and potential refinements to the proposed project. The review committee gave preliminary approval for the project to proceed to negotiation of a project agreement, including the percentage of federal funding to be provided, definition of project scope and objectives, and allocation of work between GLNPO and the non-federal sponsor. As negotiations continued, however, GLNPO referred to EPA headquarters a policy issue similar to the one that the Corps of Engineers had raised—whether, and under what circumstances, federal matching funds should be appropriated to undertake projects at sites for which private and government parties have been identified as PRPs under superfund.

Polluter Pays Principles

In the fall of 2004, the question whether to proceed with the Ashtabula project under WRDA, GLLA, or neither, ultimately was referred to EPA for review.

Since 2001, it has been the Corps of Engineers' general policy that it will not employ its environmental dredging authority under WRDA to address sediments contaminated with ''hazardous substances'' as defined under CERCLA unless: (1) it ''obtains reasonable protection from liabilities, which may arise as the result of the removal or remediation;'' and (2) cost recovery or other appropriate actions have been taken against all PRPs that can be identified at the site ''to assure the 'polluter pays' principles of CERCLA are achieved.''[27]

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[19] *See* the U.S. Army Corps of Engineers *Implementation Guidance for Section 312 of the Water Resources Development Act of 1990 (WRDA 90), Environmental Dredging, as amended by Section 224 of the Water Resources Development Act of 1999 (WRDA 99)* (April 25, 2001) (''Implementation Guidance for § 312'') ¶ 3.

[20] Pub. L. No. 107-303 Title I, 116 Stat. 2355 (2002), codified in part at 33 U.S.C. § 1268.

[21] H.R. Rep. No. 107-587 (Part I) at 6, *reprinted in* 2002 U.S.C.C.A.N. 1467, 1471.

[22] 33 U.S.C. § 1268(c)(12)(E)(i).

[23] 33 U.S.C. § 1268(c)(12).

[24] *See* 33 U.S.C. § 1268(c)(12)(E)(iii) (non-federal share may include monies paid and services performed under an administrative order on consent or judicial consent order, but not under a unilateral or court order).

[25] 33 U.S.C. § 1268(c)(12).

[26] 33 U.S.C. § 1268(c)(13)(B).

[27] *See Implementation Guidance for § 312*, at ¶ 3. Notwithstanding the Corps of Engineers' participation in the Ashtabula River Partnership, and its statutory mandate from Congress to conduct environmental dredging projects to remove sediments contaminated with hazardous substances, it has re-

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The Corps of Engineers interpreted this policy to require EPA to complete a cost allocation demonstrating that the combined percentage share to be contributed by participating PRPs to fund the project was consistent with the equitable share they otherwise would be assigned under superfund. Further, in the view of the Corps of Engineers, its policy required that EPA, working with the Department of Justice, memorialize the PRPs' obligations to pay their shares of project costs in a CERCLA consent decree, and that the decree provide the Corps of Engineers with a CERCLA liability release. These policy positions ultimately doomed any prospect of proceeding with the Ashtabula River project as the Ashtabula River Partnership, including the Corps of Engineers, had proposed it.

By contrast, EPA had not yet developed any guidance to address the overlap between pending or potential enforcement or regulatory actions under superfund and funding requests under GLLA. EPA understood it was not bound by the polluter pays principle as the Corps of Engineers had articulated it for purposes of implementing WRDA, but determined that some evaluation of the principle was appropriate to assess project priorities and cost sharing requirements under GLLA.

For purposes of that evaluation, the Ashtabula River Cooperation Group assembled and provided EPA with historical and technical information to demonstrate that the proposed Ashtabula River project met the terms and legislative intent of GLLA to expedite restoration of areas of concern by providing federal matching funds.

First, in adopting GLLA, Congress recognized that cleaning up areas of concern adversely affected by 200 years of development and industrialization could not be achieved by suing people under CERCLA and other liability statutes. As Representative John Duncan (R-Tenn.), Chairman of the House Water Resources and Environment Subcommittee, stated, ''The Great Lakes sediments became contaminated as a result of pollution from many sources over several generations. Applying Superfund could make virtually every citizen of the Great Lakes Basin a liable party.''[28] Because society as a whole cannot be held accountable under superfund, Congress sought to encourage voluntary, consensus-based cleanup actions to be carried out by GLNPO in partnership with non-federal sponsors, and funded by mixed federal and local sources. In providing up to 65 percent federal funding for restoration projects for areas of concern, Congress, in essence, built into GLLA an equitable allocation of costs between identifiable historical sources and generations of widespread industrial and development activities.

Second, given that it was cited in the House Report as a model inspiring adoption of GLLA,[29] it is not surprising that the Ashtabula River project precisely fits the established criteria for federal funding. The Ashtabula River has been compromised by riparian activities causing pollution and habitat destruction that date back to the 1800s, including activities related to long defunct industrial enterprises, a municipal landfill, railroads and coal yards, sewer discharges, urban runoff, commercial shipping, marinas, and ship building and decommissioning. None of these riparian activities were attributable to the few PRPs proposing to fund the non-federal share of the GLLA project. Data from sediment sampling in the Ashtabula River, and resource assessments prepared by the Ohio EPA, demonstrate that these riparian activities account for a substantial share of contamination now present in river sediments.

Third, the federal government is one of the primary PRPs having responsibility for contaminating the Ashtabula River. The Defense Plant Corporation operated industrial facilities that discharged hazardous substances to Fields Brook, a tributary to the River. The U.S. government contracted for and managed the building of dozens of wartime vessels in and downstream of the turning basin of the Ashtabula River. Thereafter, it arranged for the dismantling of several Navy vessels at a salvage facility on the River.

Fourth, as one of the original members of the Ashtabula River Partnership, EPA already determined more than a decade ago that restoration of the Ashtabula River should be accomplished through a public-private partnership rather than under superfund. EPA understood that attempting to join all parties potentially responsible under CERCLA—federal, municipal, corporate and individual—would result in costly, protracted, and politically unpopular litigation. As a member of the partnership, EPA advocated for 65 percent federal funding, and ratified that policy decision through several administrations. In short, there was no new policy determination to be made with respect to funding the Ashtabula River project.

EPA Region 5 and GLNPO recommended to EPA headquarters that the Ashtabula Port Authority's GLLA application be approved. In the fall of 2005, after months of internal policy discussion, EPA endorsed that recommendation.

Final Project Funding

On Dec. 9, 2005, EPA announced that it had entered a project agreement with the Port Authority to fund the upstream portion of the Ashtabula River project under

sisted implementing that authority from the time it was granted. In its first written policy statement, the Corps of Engineers stated, ''Environmental cleanup of contaminated materials is the primary responsibility of the U.S. Environmental Protection Agency (EPA) under the provisions of 'Superfund' and other EPA administered programs. Therefore, Civil Works funds will not be budgeted for the implementation of Section 312(b) of WRDA 90.'' U.S. Army Corps of Engineers PGL No. 35, ¶ 3 (March 17, 1992). In 1996, Congress reaffirmed its intent to fund environmental dredging projects and identified specific sites (including the Ashtabula River) to be given priority for that purpose. WRDA 96, P.L. 104-303, § 205, 110 Stat 3658, 3679. The Corps of Engineers revised its policy to state that environmental dredging projects would not be approved at any superfund site, or any other site where the federal or state government was proceeding under similar remedial or enforcement authority. U.S. Army Corps of Engineers PGL No. 49 (Jan. 28, 1998). Commenting on the conference report on WRDA 99, Representative Bud Shuster (R-Pa.) criticized the Corps of Engineers' policy as inconsistent with Congressional intent. ''We believe the Corps policy guidance letter no. 49 inappropriately attempts to limit opportunities for Corps participation at sites that could benefit from the Section 312 program.'' 145 Cong. Rec. H7432 (daily ed. Aug. 5, 1999). On April 25, 2001, the U.S. Army Corps of Engineers issued its new *Implementation Guidance for § 312*, which remains in effect today.

[28] 148 Cong. Rec. H6009 (daily ed. Sept. 4, 2002).

[29] H.R.Rep. No. 107-587 at 6, *reprinted in* 2002 U.S.C-.C.A.N. 1467, 1471.

GLLA. Specifically, the project agreement provided for EPA and the Port Authority each to pay (or provide the equivalent in in-kind services) 50 percent of the costs of the project, as defined in the conceptual scope of work made part of the agreement. The estimated cost of the project was $61 million, including contingency. EPA committed to allocate $25 million from funds already appropriated under GLNPO for the project.[30]

Simultaneously with the project agreement, the Ashtabula River Cooperation Group, the Ohio EPA, and the Port Authority entered companion agreements to secure funding for the non-federal share of project costs. The Ashtabula River Cooperation Group agreed to provide funds and in-kind services (*e.g.*, construction and operation of the pipeline, containment facility, and water treatment facility), and to perform the obligations imposed on the Port Authority in the project agreement. The Ohio EPA agreed to contribute $7 million, matching the Ashtabula River Cooperation Group's payments to contractors on a dollar-for-dollar basis, as construction costs were incurred.

The Corps of Engineers continues to have responsibility for completing the remaining portion of the project, downstream of the 5th Street Bridge. On March 13, 2006, the assistant secretary of the army for civil works reaffirmed his approval of that work as a separate project under WRDA.[31] One hundred percent of the dredging and 90 percent of the disposal costs for the downstream portion of the project are eligible for federal funding under the navigational and environmental dredging authorities in WRDA.[32] Notably, the Corps of Engineers determined that its polluter pays policy does not apply to projects executed under Section 312(a) of WRDA 90, as amended.[33]

To implement the downstream portion of the project, the Corps of Engineers must complete and execute a Record of Decision, and enter a Project Cooperation Agreement with the Port Authority. To take advantage of disposal space in the containment facility that has been built for sediments from the GLLA project, the Corps of Engineers must complete its preconstruction and contracting work and begin disposal of dredged materials by the first quarter of 2008. Alternatively, the Corps of Engineers may enter a memorandum of agreement with EPA, under which the corps would secure and provide funding under WRDA and EPA's contractors would extend their present scope of work to the segment downstream of the 5th Street Bridge.

Scope of Work for the GLLA Project

The GLLA Ashtabula River Remediation Project is defined by a statement of work[34] that largely is based on the portions of the comprehensive management plan applicable to disposal and dredging activities for the segment of the Ashtabula River upstream of the 5th Street Bridge. It incorporates modifications recommended in a value engineering review of the comprehensive management plan undertaken by Corps of Engineers and the Ashtabula River Partnership, including hydraulic rather than mechanical dredging, pumping of dredge spoils to the dewatering and containment facility through a pipeline rather than transport by truck, and use of geotube technology rather than mechanical dewatering at the River's edge. The statement of work also includes elements that GLNPO added during the GLLA project approval process. These include additional dredging, manual placement of clean cover material in specific areas, and enhanced short-term and long-term monitoring.

The statement of work consists of the following key elements: (1) construction, operation, and closure of a dewatering and containment facility dedicated solely to containment of material dredged from the Ashtabula River; (2) dredging approximately 600,000 cubic yards of contaminated sediment from the upper turning basin downstream to the 5th Street Bridge; (3) pumping dredged sediment from the river through a pipeline to the dewatering and containment facility; (4) monitoring river conditions during dredging activities to ensure that horizontal and vertical limits of dredging are achieved, and that no areas of surficial sediments with PCB levels above maximum concentrations are left exposed; (5) placement of clean cover material over areas outside the navigation channel; (6) post-project monitoring to confirm that average surficial PCB concentrations have been reduced; (7) restoration of habitat disrupted during the remediation effort; and 8) long-term maintenance of the containment facility.

Implementation. Implementation of the work has been divided between EPA and the non-federal sponsor. EPA is responsible for all in-water activities, including dredging, monitoring, and delivering of dredged material to the pipeline. The non-federal sponsor is responsible for the land-based work, including permitting, construction, operation and maintenance of the pipeline, sediment dewatering, containment, and water treatment facilities.

One general contractor was engaged to perform both the in-water and land-based components of the project. This facilitated integration of risk within one contracting firm and maximized coordination of dredging, transportation, dewatering, and disposal work. The entity that contracted separately with the non-federal sponsor and EPA is responsible for ''whole-project'' productivity performance— including delivering sediment to the pipeline in quantities in accordance with specifications stipulated in the contract, maintaining sediment throughput from the pipeline through the disposal and dewatering process, and managing water treatment to keep pace with sediment dewatering and disposal.

The horizontal and vertical limits of dredging were defined by ''cut-lines'' based on sediment sampling to identify all sediment with PCB concentrations greater than 10 ppm. During the process of evaluating remedial alternatives, the Ashtabula River Partnership determined that PCBs should be used as an indicator or surrogate for removal of all contaminants of concern in river sediments. Sediment sampling demonstrated that contaminants of concern generally are co-located in the

[30] *Project Agreement Between the United State Environmental Protection Agency and the Ashtabula City Port Authority* (Dec. 9, 2005).

[31] *Memorandum from John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works)* (March 13, 2006).

[32] *Environmental Dredging Project White Paper, Ashtabula River*, U.S. Army Corps of Engineers, Buffalo District (March 14, 2006) at 7.

[33] *Id.*

[34] *Statement of Work for the Ashtabula River Remediation Project, Ashtabula, Ohio* (Nov. 23, 2005).

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upstream portion of the river. Other contaminants of concern in sediments include polycyclic aromatic hydrocarbons (PAHs), heavy metals, chlorinated benzenes and butadienes, low-level radioactive material, and a number of other chemical pollutants. Ten ppm, rather than 1 ppm, was selected as a basis for the cutlines because the modeling analyses demonstrated that dredging to 1 ppm essentially would require bank-to-bank-to-bedrock dredging, which was infeasible. Further reduction in concentrations will be achieved, if necessary, in the short term through a combination of sediment redeposition and placement of clean cover.

Ongoing sedimentation of the Ashtabula River will gradually cover low level contaminants left behind. Natural sediment deposition within the navigation channel is well established based on the historical need to dredge the river periodically. Total River sediment loading and deposition has been estimated to be 6 to 12 inches or 130,000 cubic yards a year. To eliminate any concerns regarding the sufficiency of sediment deposition along the sides of the river, however, one of the enhancements to the comprehensive management plan agreed on for the GLLA project was the manual placement of 6 inches of clean cover material between the exterior walls of the navigation channel and the shoreline immediately following dredging.

Monitoring. Operational and environmental conditions are being monitored during dredging. The objectives of this monitoring are: (1) to establish that horizontal and vertical limits of dredging are achieved in accordance with the design; (2) to assure that resuspension of contaminated sediment into the water column is being minimized and controlled; and (3) to confirm that ''hotspots,'' identified as total PCB concentrations above 40 ppm, are not left exposed. Bathymetric surveys were performed before dredging to define the river bottom topography within the areas to be dredged, and are being performed after dredging activities to document changes from baseline conditions.

To assure that levels of PCBs above 40 ppm are not left exposed, surficial sediment samples (0-4 inches) are being taken on 100 foot centers as dredging is completed. Since clean cover will be placed over dredged areas outside the navigation channel, immediate monitoring will be limited to dredged areas within the navigation channel. Samples will be analyzed for total PCBs. If a sample exhibits PCBs of 40 ppm or greater, a decision will be made as to whether or not to provide a second dredge pass, place clean cover, or take no further action. Underlying this decision are two important considerations. Dredging over much of the length of the navigation channel will be to bedrock, resulting in sediment removal to the maximum achievable extent. In these areas, manually placed cover or naturally accumulating sediments are the only options. If a second dredging pass is deemed appropriate, dredging will occur to one-half the distance to the adjacent sediment sample on a 1000 square foot grid. This process allows for a greater level of environmental assurance then originally provided for by the comprehensive management plan, yet continues to keep dredging productivity rates reasonably high.

Dredging Considerations. Within the navigation channel, contaminated sediment is being dredged to a depth significantly below that needed for navigation and in many cases down to bedrock. This will permit accumulation of clean sediment below the elevation to which the channel will be dredged in the future to maintain navigation. Sediment dredged in the future for channel maintenance is expected to be clean enough for open-lake disposal.

Twelve months after placement of clean cover, surficial samples (0-4 inches) will be collected on 100 foot centers in the upper turning basin and on 150 foot centers in all other locations. Samples will be analyzed for total PCBs. The results will serve as the baseline against which subsequent results, from annual sampling and analyses conducted in the same manner as in the first sampling event, will be compared to monitor the trend in surface weighted average concentration over time. Modeling performed by the Corps of Engineers and documented in the comprehensive management plan predicts that, following dredging, surface weighted average concentration generally will be approximately 7.5 ppm for total PCBs.

One of the enhancements to the statement of work that resulted from the value engineering analysis was the use of hydraulic rather then mechanical or clamshell dredging. One of the benefits of hydraulic dredging is that a post-dredging surface weighted average concentration lower than 7.5 ppm is expected to be achieved. Recovery modeling predicts a rapid continued decline in the surface weighted average concentration, with a concentration of less than 1 ppm achievable within a few years after dredging.

In the project agreement with EPA,[35] the Port Authority agreed to provide space in the containment facility for the sediments that Corps of Engineers is expected to dredge from the Ashtabula River downstream of the 5th Street Bridge, but only if the corps undertakes such dredging within 90 days of completion of dredging in the upstream segment. Specifically, the agreement provides additional airspace in the containment facility for 145,000 cubic yards to be dredged from the downstream segment. On March 13, 2006, the Assistant Secretary of the Army reaffirmed approval for the downstream project under Section 312(a) of WRDA 90, as amended,[36] and that project already has been approved in Congress. the Corps of Engineers currently is evaluating preconstruction and contracting issues in connection with the project, including whether to enter an interagency memorandum of understanding under which GLNPO's contractor for the GLLA segment would complete the rest of the Ashtabula River restoration project.

Conclusion

The work now underway in the Ashtabula River is the consummation of sustained efforts to move away from the liability-based approach under superfund, to a model of partnership and shared responsibility for restoring natural resources in industrialized waterways. Local, state and regional representatives of EPA and the Corps of Engineers reached a consensus more than a decade ago that CERCLA was inappropriate as a tool for addressing contamination and habitat destruction attributable to generations of commercial and industrial

[35] *Project Agreement. between the United States Environmental Protection Agency and the Ashtabula City Port Authority* at ¶ 23 (Dec. 9, 2005).

[36] *Memorandum from John Paul Woodley, Jr., Assistant Secretary of the Army (Civil Works)* (March 13, 2006).

activity. Through that vision, they have succeeded in putting together and implementing the first project to target an entire area of concern. Their success also demonstrated to Congress that the partnership model can and should be applied to fund and initiate major environmental dredging projects.

There is some irony in the fact that the Ashtabula River project never would have happened without the promise of funding provided in Section 312 of WRDA 90, as amended, but that, under the Corps of Engineers policy, that promise was entirely illusory. Although honoring the United States' commitment under the 1978 Great Lakes Water Quality Agreement to restore areas of concern is an important priority, dozens of sediment sites outside the watersheds of the Great Lakes are of equal importance and concern. As the Ashtabula River project shows, the partnership model first adopted in WRDA can be a powerful vehicle for effectuating large-scale sediment removal and restoration projects. Consistent with congressional intent, as stated repeatedly in the provisions of Section 312 of WRDA 90 and the subsequent legislative history associated with those provisions, the partnership model now being applied to fund GLLA projects should be deployed beyond the Midwest to address sediment sites in all regions of the country.

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