

Great Lakes Regional Collaboration – Areas of Concern Strategy Team

Contaminated Sediments and Great Lakes Legacy Act Drafting Team Narrative – March 2005

Problem

Contaminants in sediments pose a threat to human health, aquatic life, and the environment. Sediments are naturally occurring materials that are deposited on the bottoms of rivers and lakes. They are an integral component of aquatic ecosystems, providing habitat, feeding, spawning, and rearing areas for many aquatic organisms. Many pollutants released to the environment settle and accumulate in this silt and mud. Much of the contaminated sediment in the U.S. was polluted years ago by such chemicals as PCBs, DDT, and mercury, which have since been banned or restricted. Some other chemicals released to surface waters from industrial and municipal discharges, atmospheric deposition, and polluted runoff from urban and agricultural areas continue to accumulate to environmentally harmful levels in sediment.

There is a consensus among diverse sectors in the Great Lakes Basin (e.g., government, industry, nongovernmental organizations, and Remedial Action Plan groups) that contaminated sediment is a major cause of environmental problems and a key factor in many of the impairments to beneficial uses of the Great Lakes. All 42 Great Lakes Areas of Concern (AOC) have sediment that is considered contaminated based on application of chemical guidelines. This universal obstacle to environmental recovery in Areas of Concern can potentially pose a challenge to restoring 11 of the 14 beneficial use impairments identified in the Great Lakes Water Quality Agreement (Table #X: A summary of use impairments potentially associated with contaminated sediment and the numbers of Areas of Concern with such use impairments). Adequate knowledge of impact is essential for determining the degree of impairment.

A variety of remedial options are available, ranging from natural recovery and capping to full-scale remediation depending on the severity of the problem. Further, it is critical that some of these concentrated deposits of contaminated sediment be addressed relatively quickly, because over time they may be transported from a river or harbor to the Great Lakes. Currently, sediments are entering the Great Lakes due to downstream transport and the suspension of sediments by ships that enter harbors that have not been dredged. Once dispersed into the lakes, cleanup is virtually impossible. (Sediment Priority Action Committee, Great Lakes Water Quality Board, International Joint Commission)

Contaminated sediments drive the majority of the beneficial use impairments. The cost for actual cleanup of contaminated sediments in all of the AOCs combined is estimated to be in the range of \$1.6 – 4.4 billion. (Table #X: Estimates of Great Lakes Sediment Remediation Needs, online at <http://www.great-lakes.net/aocstrategyteam/documents/RemediationEstimatesJan05.xls>) The Great Lakes Legacy Act is one tool that provides funding for cleaning up sediments in AOCs and is an important contribution to the Remedial Action Plan (RAP) program.

Like many other issues in the Great Lakes, contaminated sediment presents a complex mix of legal, economic, social, technological, scientific, and ecological issues. In order to achieve progress and ultimately sediment mitigation, it is imperative that the key issues and obstacles be identified and that solutions, including site-specific issues, be identified and resolved.

The magnitude of the challenge in remediating contaminated sediments is not the same in each AOC. In a small number of AOCs, particularly those located in historically heavily industrialized

urban areas, the problems of contamination and scope of activities and partnerships are complex, meaning that restoration activities may take many years to complete. Some AOCs have discrete “hot spots,” which can be addressed fairly easily and rapidly; others contain many miles of contaminated river bottom which are much more complex, costly, and lengthy undertakings. Governments cannot do this important work alone. Partnerships, particularly those at the state and local level, are the key to success in bringing AOCs back to good health. It is imperative that AOCs continue to define and achieve delisting targets (see Section ## of this document) in working toward this end result.

Desired State/Goals

One of the overarching goals of the AOC program is to restore and delist the beneficial use impairments caused, in large part, by contaminated sediments. (Table #X.) In order to accomplish this, the Great Lakes Strategy of 2002 set out the following goals:

- Accelerate the pace of contaminated sediment remediation, working to overcome barriers to progress identified at each site.
- Bring together complementary federal and state authorities, and/or government and private resources to address the contaminated sediment problem and its various sources, so that:
 - Three remedial action starts are initiated each year.
 - Three sediment remedial actions are completed per year until all known sites in the Great Lakes Basin are addressed.
- Complete the cleanup of all known contaminated sediment sites in the Basin by 2025.

Assessment of Ongoing Efforts

Enforcement actions have achieved and are continuing to achieve significant contaminated sediment site cleanups in recent years, as have voluntary actions. Additionally, the Great Lakes Legacy Act of 2002 (GLLA) was passed as a measure to move the logjam of contaminated sediment work needed and accelerate action in cleaning up Great Lakes Areas of Concern. Yet, the Legacy Act is insufficient to address all sediment and AOC issues, both from a funding standpoint and the inability of some projects to meet stringent eligibility criteria. Hence, significant challenges remain in achieving greater success in cleaning up contaminated sediments. Some of the key challenges include:

- Lack of a strategic cross-program approach; need for a strategic decision-making process to address contaminated sediment sites.
- Inadequate resources to remediate all sites completely.
- Recalcitrant potentially responsible parties (PRPs).
- Limited and declining disposal capacity.
- Policy and regulatory challenges to reusing sediments beneficially. Contaminated sediments are often identified as hazardous waste to be disposed of or destroyed, when they could be a resource when used beneficially.

The Great Lakes Legacy Act

Contaminated sediments are a significant problem in the Great Lakes basin. For decades, point and nonpoint sources contributed substantial amounts of harmful pollutants to the Great Lakes, including polychlorinated biphenyls (PCBs), heavy metals, polycyclic aromatic hydrocarbons (PAHs),

and various pesticides. Improvements in controlling discharges have greatly reduced the amount of contaminants being released into the environment, but high levels of contamination still remain in the sediment as a “legacy” of the historical contamination. These contaminants can subsequently enter the food chain where they can cause adverse effects to human health and the environment.

The Great Lakes Legacy Act of 2002 (P.L. 107-303) was signed into law on November 27, 2002. The Act authorizes \$270 million in funding over five years (which began in fiscal year 2004) to specifically assist with the remediation of contaminated sediment in any of the 31 designated U.S. Areas of Concern.

The Legacy Act provides a unique opportunity and a new tool to accelerate sediment remediation in Great Lakes AOCs. The Legacy program provides a mechanism to remediate contaminated sediments, achieve measurable water quality improvements, and help fulfill AOC delisting targets.

The U.S. EPA received \$10 million in FY 2004 to begin to implement the Legacy Act, and received \$22.5 million in Legacy Act funding for 2005. The first project funded was the Black Lagoon in Michigan, with additional projects in other AOCs to follow.

This Great Lakes Legacy Act also fills an important gap in the Great Lakes program. Up until now, there had been no specific federal authorization for a sediment remediation program for the AOCs. The Legacy Act changes this situation. The accelerated sediment remediation program envisioned by this Act builds on a considerable amount of preparatory work that has been done by U.S. EPA and other federal, state, and tribal agencies to characterize the nature and extent of contaminated sediments in the AOCs and to evaluate remedial options.

Recommended Actions

The *Great Lakes Strategy* of 2002 recommended the following key actions in addressing the contaminated sediment problem in the Great Lakes:

- Restore the beneficial uses impaired by sediment contamination in AOCs, as a critical step toward their delisting. Monitor before, during, and after sediment remediation to assess and document remedy effectiveness.
- Track and report on an annual basis the number of sediment remediation project starts and completions in the Great Lakes.
- Each state member of the U.S. Policy Committee, working with U.S. EPA, the U.S. Army Corps of Engineers, the National Oceanic and Atmospheric Administration, and the U.S. Fish and Wildlife Service, will develop an integrated list of sites for remedial and restoration activities, with estimated costs and schedules. These lists will be updated biennially. U.S. EPA will maintain this comprehensive list of known contaminated sediment sites in the Great Lakes, including, but not limited to AOCs. The list will help to inform the Great Lakes community on the location and magnitude of remaining sediment contamination that could require remedial and restoration actions.

In addition to the key actions listed in the 2002 *Great Lakes Strategy*, the Great Lakes Regional Collaboration initiative of 2005 has developed a set of prioritized recommendations – targeted toward Congress, federal and state agencies, and the Regional Working Group (RWG) Executive Committee – relevant to contaminated sediment remediation.

Recommendations to Congress:

- 1) Congress should support full appropriation for all components of the Great Lakes Legacy Act of 2002 – including the remediation, research and outreach components of the Act.
- 2) The Legacy Act should be reauthorized beyond 2008 to continue progress in cleaning up contaminated sediment sites in Great Lakes AOCs.
- 3) The “maintenance of effort” language in the Legacy Act should be dropped.
- 4) The life of appropriated Legacy Act funds should be extended beyond two years (as envisioned by the Legacy Act) to accommodate both responsible remediation and long-term remedy effectiveness monitoring, which is consistent with the 2002 *Great Lakes Strategy*.
- 5) The current 35% nonfederal match requirement in the Legacy Act should be reduced; or there should be some flexibility in qualification of nonfederal funds as match.
- 6) Since the CERCLA, CWA, OPA, RCRA, and WRDA programs often complement remediation work performed under the Legacy Act, Congress should assure adequate funding for these programs as well.

Recommendations to federal/state agencies:

- 1) Contaminated sediment sites should be addressed on an ongoing basis as project opportunities are developed through a cross program/multi-agency strategy and decision-making process. Projects should involve funding from multiple sources using authorities under all applicable statutes (i.e. CERCLA – and its NRD provisions, CWA, OPA, RCRA, WRDA, etc.), when necessary, to complete a cleanup. Therefore, the Great Lakes components of these programs should be funded to facilitate the synergistic program coordination necessary to expedite the cleanup and restoration of all Great Lakes contaminated sediment sites, irrespective of liability.
- 2) Ensure that funding is available for pre-Legacy studies and logistical support (i.e. design, pre-project planning) to move projects forward towards remediation. Preferably Legacy Act funds that do not require a match can be used to support this pre-remedial work.
- 3) Guidance on how the Legacy Act Program interacts both with enforcement programs and the polluter pays principle for CERCLA and OPA should be developed. Implications for resolving Natural Resource Damages (NRD) must be weighed in deriving this guidance.
- 4) There must be multi-stakeholder involvement in the identification and approval of disposal sites within the Great Lakes Basin.
- 5) Other approaches to sediment remediation are important. Flexibility is needed when identifying solutions, including joint public/private partnerships.
- 6) Explore and implement beneficial reuse of sediment when feasible and practical.
- 7) An open solicitation schedule should be maintained under the Legacy Act to facilitate project start-up when a project is deemed to be ready for implementation.

Recommendations to the Regional Working Group (RWG) Executive Committee:

- 1) A performance-based system should be developed to ascertain the level of progress made in remediating all contaminated sediment sites in the Great Lakes. (This is linked to recommendation #1 under “Recommendations to federal/state agencies”). The Regional Collaboration would develop a system/group to track and evaluate progress made at sediment sites in the Great Lakes. This would add a new layer of accountability. Progress would be evaluated, and projects exhibiting slow or inadequate rates of progress would be elevated to the Executive Committee for review.

Summary

Overall, the Great Lakes Regional Collaboration recommends the most efficient, expeditious, effective action to address the problem of contaminated sediments in Great Lakes AOCs. All potential treatment options must be evaluated for a given site while simultaneously exploring all possible funding authorities. A collaborative approach to sediment management is recommended, utilizing a “forum” of stakeholders for sound decision-making and effective action.