Superfund in New York and New Jersey Harbor Estuary: The Birth of Superfund Sediment Regional Management?

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ABSTRACT

On-going clean-ups in the New York (NY)/New Jersey (NJ) Harbor Estuary have a scale and complexity that is unprecedented in Superfund history. Currently remedial planning is underway for five sites in the Harbor Estuary that encompass all of Newark Bay, NJ and an aggregate 30 tributary river miles. Proposed Plans (PRAPs) call for the removal of approximately 5 million cubic yards of sediments from the Passaic River, NJ and the Gowanus Canal, NY.1,2 Upcoming PRAPs for Newtown Creek, NY; Berry’s Creek, NJ, Newark Bay, NJ; Piscow’s Creek (Troy Chemical Corp), Newark, NJ and the remaining upper 9 miles of the Passaic River may remove an additional 2 million to 4 million cubic yards or more, according to estimates (see table below). A sixth, the 1.5-mile long, was recently added to the National Priority List. While the Hudson River Superfund boundaries extend to the lower tip of Manhattan, clean-up is currently restricted to the Tote, NY area.

The proposed remedies will all be similar - dredging followed by some aspect of capping, desverting, whether mechanical or the addition of portland cement, and hauling to an out-of-state landfill and/or incinerator at significant cost to responsible parties and impact to local communities. However, over time, the integration of innovative technologies developed by the U.S. Environmental Protection Agency is being considered since their commercialization is now practical and cost-competitive.

The Regional Sediment Management (RSM) program for the harbor estuary was established for long-term management of sediment, while Superfund was envisioned as an emergency response/encroachment program. The complexities of sediment clean-up can require decades to restore Superfund sediment sites. Concurrent clean-up of these six Superfund sites, plus the 2 million cubic yards dredged annually to operate and maintain the Port of NY & NJ, suggest the inclusion of Superfund into the Port’s overall Regional Sediment Management framework is warranted to reduce impacts and enhance socio-economic benefits.

Sediment is Fundamental to our Physical, Biological and Social Infrastructure

Concurrent construction will entail considerable environmental and social effects. The full range of effects are not normally considered by Superfund.1,4

All six NY/NJ harbor estuary sediment sites are biologically linked and will need to share the marine, transportation and treatment infrastructures.

The Superfund Perfect Storm

RSM is a framework for regional management of sediment systems useful for:

- Overall risk management
- Integrating flood protection, navigation, and restoration
- Reducing impacts to local communities
- Climate adaptation and coastal defense
- Enhancing beneficial uses
- Supporting revitalization of local economies
- Aligning social and Superfund timescales

Current U.S. Policy Obstructions

- Management provided under competing regulatory and non-regulatory programs (not optimized)
- Localized, segmented remediation management
- Remediation without complete source control
- Predictive “all in” costs
- Complexities in fair pay polls allocations
- Lost revenue to Potential Responsible Parties (PRPs), as well as to surrounding communities
- Complex engineering to meet regulatory requirements undertaken in urban environments with degraded infrastructure
- (example – Passaic River, NJ)
- Crisis management in choosing the least cost option with a lack of vision on sustainable measures and innovation (such as green remediation)

Comparison of Social and Superfund Timescales

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<th>Timescales</th>
<th>Social Timescales</th>
<th>Political/representative terms</th>
<th>U.S. Congress/Executive</th>
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<td>Duration</td>
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Superfund Processes Timescales

- Living on National Priority List
- Remediation/Investigations
- Design
- Construction
- Recovery (human/medical/health)
- Total Superfund process

Moving Forward

Regional Management of Sediment Systems

Integrate all components of the biophysical and social systems into planning and decision-making, including:

- Facilitative leadership / Strategy
- Regional Sediment Management (including Urban)
- Adaptive management
- Cost-sharing and incentives

Beneficial Use Becomes Driver for Sustainable Remediation

- Covenant not to sue
- Advanced tools for decision making
- Inclusion of restoration in the remediation process
- Encouraged development of closed loop systems
- Expanded view of green remediation
- Expanded stakeholder participation

REFERENCES


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