

Making Sediment “Relevant” to Policy/Decision Makers: Linking Urban Sediment Management to Social Benefits and Sustainability

Eugene Peck¹ and Eric A. Stern²

¹Viridian Alliance, Inc, 356 Westwoods Road, Hamden, Connecticut 06518 USA Phone: +011 203 285 7777

² Montclair State University, 1 Normal Ave, Montclair, New Jersey - 07043 USA Email: gene.peck@viridianalliance.com

Introduction: Sediments and their societal relationship to contaminated sediment management can be a complicated paradox. This paradox was discussed at the European Union SedNet 2013 meeting in Lisbon, Portugal where sediment experts were assembled to develop a Working Group on Science & Policy Interfacing. The Working Group posed the question of *how can we communicate sediment challenges more effectively to policy and decision makers in a meaningful and understandable environmental management context that fosters greater interaction and interest?* It was discussed that Urban Sediment Management could be the platform for this interaction since it is trans-disciplinary within the science, socio-economic and political disciplines and ties sediment management to larger, less obscure objectives. It may be that the cost and complexity of urban contaminated sediment projects can be daunting and overwhelming to policy makers. Hence, without understanding the linkage between the long-term benefits of sediment management and restoration, they move on to more resolvable and politically rewarding challenges.

Challenge: Sediment impairments can take decades to mature to regulatory action and a century to environmentally restore. This is out of synch with 2 to 6 years of government election cycles or the needs of urban real estate developers to typically see investment returns within 5 to 8 years. Sediment systems are vast and mostly obscured, consequently sediment challenges are difficult to prioritize, even when acute. We tend to conceptualize contaminated sediment management in terms of linear objectives: port maintenance, human health and ecological risk, remediation options and beneficial use if applicable. This line of thinking has led to localized scopes seeking single action solutions, having to address competing multiagency objectives, countless studies, litigation over costs and allocation of responsibility, protracted timelines and, consequently, few real successes.

As sediments are a fundamental part of the natural infrastructure upon which human systems depend, connecting sediment management to larger environmental issues more visible and accessible to decision makers and the public can help focus attention on the actions and reforms needed. This

requires full consideration of the soil-sediment continuum.

Moving Forward: The socio-environmental issues that matter to policy/decision makers depend on a clean and balanced sediment system and include:

- Economic development / job creation
- Global trade
- Water supply and security (reservoirs and dams)
- Resiliency
- Climate adaptation
- Contaminant dispersal via urban flooding
- Food security
- Biodiversity / extinction

While these have wide media exposure and are heavily funded, the underlying sediment component is not evident to policy/decision makers.

Policy Perspective: What’s missing to the policy and decision making community and market forces to drive interest is the intersection of ecosystem services in an urban sediment watershed and the existing built community in a manner that conveys the full cost of deferred action or no action. Tools such as the ecosystems services framework, Life Cycle Assessment and Multi-Criteria Decision Analysis are becoming more established supports for policy makers yet still the challenges of time, cost and complexity associated with sediment management remain. The U.S. Great Lakes Legacy Act is a model on how many barriers to action can be overcome. That program, in public-private partnership with bipartisan political support, combines social, economic and ecosystems services drivers with cost-sharing and has been successful in achieving incremental improvement on sediment contamination affecting the Great Lakes region of the United States.

Connections to the larger environmental issues are needed to interest policy and decision makers to facilitate a greater interest with contaminated sediments and how it benefits a multi-disciplinary scientific, stakeholder, corporate investment community to overcome the disconnect of contaminated sediments in urban systems. One may then ask: Is it really about sediments?