15 years of Information Management: Complex Sediment Projects, Extensive Datasets, Data of Known and Documented Quality: Supporting and Defending Environmental Remediation by the Great Lakes Legacy Act

Mark Loomis (Loomis.Mark@epa.gov) and Lou Blume (U.S. EPA, Chicago, IL, USA)
Judy Schofield, Zaileen Rahim, and Neal Jannelle (GDIT, Alexandria, VA, USA)

Background/Objectives. The U.S. Environmental Protection Agency Great Lakes National Program Office (U.S. EPA GLNPO) has been extremely successful in remediating contaminated sediments in the Great Lakes under the Great Lakes Legacy Act (GLLA). Working in partnership with nonfederal sponsors (NFS), EPA has been able to leverage significant resources, outside of federal funding, to help solve complex contaminated sediment problems. Recent advances in the program's progress are due to funding provided through the Great Lakes Restoration Initiative (GLRI). There are many technical, functional, and programmatic complexities associated with sediment projects, even more so when GLLA interfaces with partners (State, local, and industries). One challenge that is ever-evolving is how to manage a robust, but flexible Quality and Data Management System (DMS) capable of meeting the Agency and Program requirements, while accommodating the needs of EPA's partners and the many contractors that support GLLA projects.

GLNPO has been working diligently to create, utilize and continuously improve its DMS. Various aspects of GLLA projects require different types of controls. Sound data of known quality helps answer the question of "what is the nature and extent of contamination?" Often, a large volume of geospatial and analytical data is gathered during early phases of these projects, however the utility of having sound data at those phases provides the basis for remedial design and subsequent implementation. The methodology and system for managing data through an entire project lifecycle allows determination of attaining post-remediation goals while starting to demonstrate the effectiveness of remediation efforts in restoring ecological systems.

Approach/Activities. This presentation will focus on discussing the GLLA Data Management System and it utility in managing large volumes of intricate data to support the project-specific needs within GLLA. A unique aspect of the Great Lake National Program Office's management of the GLLA has been its creation of the GLLA DMS. The system is a collection of databases, tools, and processes that are used to manage the large volumes of data generated. The components are designed to ensure all data are complete, accurate, and properly formatted before being uploaded into a final data repository. The GLLA DMS enables users to obtain and use reliable data of known and documented quality, as well as key metadata, supporting sound environmental decisions. The approach then builds into how each of these tools are programmatically, and contractually implemented through GLNPO. This discussion will also include improvements and updates being developed to continuously improve the data system.

Results/Lessons Learned. One lesson learned is that upfront planning and documentation at a project-specific level leads to higher-quality deliverables, which streamlines the functional elements of the DMS. This is manifested through setting clear contract requirements, developing quality assurance project plans, and working with analytical laboratories to define the data/information needs. Additionally, the development of the Data Reporting Standard specific to the GLLA has helped improve the DMS. The discussion will also bring in some lessons learned on the programmatic side (quality management planning, integration of quality and data requirements into Project Agreements under GLLA). Finally, the discussion will

highlight coordination that GLNPO is piloting with the Superfund program – including integration with new software being made available to laboratories and contractors.