National Regional Sediment Management Program
Great Lakes and Ohio River Division (LRD):

Institutionalizing Regional Sediment Management in the Great Lakes

Description

Since 2000, the Great Lakes Tributary Modeling (GLTM) program has been implemented in coordination with multiple Federal agencies, the eight Great Lakes states, and over 200 soil and water conservation districts in the Great Lakes watershed. The purpose of the GLTM has always been to improve Great Lakes water quality and reduce the need for navigation dredging. In order to more proactively pursue coastal resiliency goals through sediment management, the team, now known as the Great Lakes Sediment Management (GLSM) team, has expanded its focus to also include opportunities to restore coastal processes and habitats through the beneficial use of dredged material.

The Great Lakes Dredging Team (GLDT) is a partnership of federal and state agencies created to assure that the dredging of U.S. harbors and channels throughout the Great Lakes, connecting channels, and tributaries is conducted in a timely and cost-effective manner while meeting environmental protection, restoration, and enhancement goals. The goals of the GLDT overlap in many ways with the goals of the GLSM team.

This project will better align the GLSM team with the efforts of the GLDT team through coordination activities and an evaluation of existing databases/tools in order to move toward creating an institutionalized Regional Sediment Management program in the Great Lakes system.
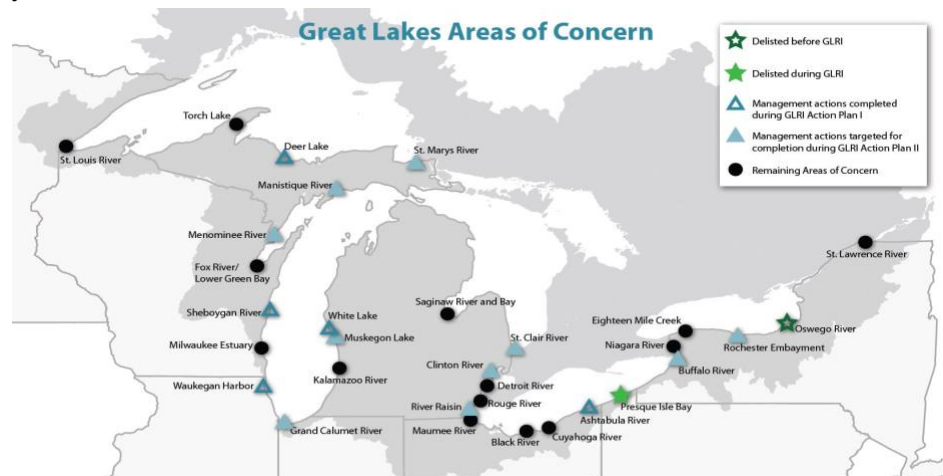

Figure 1: Great Lakes Basin (dark gray) and location of Areas of Concern

Issue/Challenge To Address

The goal of this effort is to connect and align the efforts of the GLDT and the GLSM program to better address coastal management issues and coastal resilience by using adaptive management techniques. In so doing, Regional Sediment Management can be internalized into a myriad of project work within districts and between LRB, LRC, and LRE. The foundation for this regional framework that is tailored to the Great Lakes Basin exists through the long-standing efforts of the GLDT and GLSM, along with the many RSM and GLRI projects completed collaboratively between and individually by districts.

Successes Lessons Learned

From FY2000 through FY2017, the GLTM Program was funded annually at approximately $600k per year. HQUSACE decided to no longer budget separately for GLTM beginning in FY2018 and advised that since GLTM has similar goals to the national Regional Sediment Management (RSM) program, the efforts should be combined. In FY2018, LRB, LRC and LRE received RSM funding for a joint proposal to continue the GLTM work. Additionally, LRB, LRC, and LRE have completed numerous RSM

projects independently over the years which has produced valuable research and web-based tools to support coastal management and tributary modeling.

Projected Benefits Cost Savings Value Added

In addition to increased efficiencies and decision-making capabilities that are achieved through communication between USACE districts and branches, multiple benefits to the nation would be provided through this collaborative effort and support the mission of improving overall coastal resiliency in the Great Lakes.

Long and short-term savings to USACE's navigation business line will be realized in terms of decreased channel maintenance costs associated with needing to handle/confine sediment. There may be avoided losses in revenue from industries such as shipping, commercial fishing, and recreation. There may also be long and short-term benefits to the USACE ecosystem business line as the occurrence of harmful algal blooms, hypoxia, and dead zones are reduced as a result of decreased nutrient inputs. Projects that are suitable for upland placement and nearshore habitat restoration could more readily be identified.

Additionally, there may be long and short-term savings to local communities that are experiencing erosion issues by helping to identify sediment that is suitable for nourishment projects and keeping clean sediment in the system.

Expected Products

- Evaluation of existing sediment management database/GIS tools and identification of improvements and ways to better integrate these resources into district operations and processes
- Joint strategic planning meeting between the GLSM team and the GLDT
- Presentations at RSM IPR
- Advocacy article

Stakeholders/Users

The GLSM program is a collaborative initiative that involves USACE, the Great Lakes Commission, the eight Great Lakes States, EPA, NOAA, and USGS. This effort would utilize the expertise of the GLDT and each of the GLSM partners to identify, develop, and test the sediment database improvements.

Leveraging Opportunities

Since 2010, the GLTM program has leveraged over $1M in Great Lakes Restoration Initiative (GLRI) funds to develop tools to better estimate non-point source nutrients from agricultural and urban landscapes across the basin. Specifically, this effort to transition the GLTM program into the GLSM program would build upon the current GLRI-funded sediment management project to develop a conceptual framework for Great Lakes-wide regional sediment budget in collaboration with LRB, LRC, LRE, ERDC, NOAA, and USGS.

Points of Contact

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Participating Partners

USACE-LRB, LRC, and LRE, Great Lakes Dredging Team, Great Lakes Commission, NOAA, USEPA, USGS