

Great Lakes Dredging Team Meeting Summary

October 5-6, 2000
Milwaukee, Wisconsin

The 10th meeting of the Dredging Team featured a joint session with the Great Lakes Commission's Beneficial Use Task Force. This group has some overlapping membership with the GLDT and is charged with developing recommendations for advancing beneficial use of dredged material. As confined disposal facility (CDF) space fills up around the Great Lakes and cost sharing along with siting issues for new CDF's become more difficult to resolve, the need to divert more dredged material to alternative uses is apparent.

October 5

Public Involvement Process for Contaminated Sediment Cleanup

Emily Green (Sierra Club's Great Lakes Office) explained that the focus of a recent project was to evaluate ways to increase public involvement so that progress in cleanup of contaminated sediments is not prevented by a lack of public support. The objectives of the project were threefold: identify barriers to public involvement, find solutions to overcome these barriers and build a framework for a public involvement model. Key findings from the project include the idea that the public must be involved from the beginning of a project and must be kept updated and active throughout the process and that governmental agencies need to be clear from the start when and what key decisions involve public input.

Upland Testing Manual

Tom Patin (Corps-Waterways Experiment Station) gave a brief presentation regarding the development of an Upland Testing Manual for dredged material. He estimated that the document should be final by the end of 2001. The manual outlines procedures for addressing three issues: risk/pathway considerations; environmental impact assessment; and sampling and analysis procedures. He stressed that this document only addresses confined disposal in upland environs. It was noted that there is a need to identify pathways for various upland unconfined applications.

These presentations were followed by a review of the Beneficial Use Task Force's draft findings and recommendations and a presentation of the Beneficial Use Brochure outline. The Beneficial Use group has developed 15 recommendations. One of them is that the states should establish testing protocols specific to dredged material and refrain from using solid waste criteria. Also federal guidance is recommended that would use a comparative, risk-based approach and allow for case-specific determinations. Another recommendation relates to working with the private sector and state-funded projects to encourage more beneficial use. The Task Force (with assistance from the Dredging Team) will be developing a brochure on beneficial use to be completed in spring 2001.

The GLDT and the Beneficial Use Task Force also met with the National Association of Conservation District's Great Lakes Committee and the Great Lakes Commission's Soil Erosion and Sedimentation Task Force.

Episodic Events Great Lakes Experiment

Dr. J. Val Klump (University of Wisconsin-Milwaukee) presented a general overview of the long-term Episodic Events Great Lakes Experiment (EEGLE). The purpose of this experiment is to develop an integrated observational program and computer modeling effort to identify, quantify, and develop prediction tools for the winter-spring resuspension event in Lake Michigan and to assess the impact of this event on the

transport and transformation of biogeochemically important materials and on lake ecology. The research program, which has included three seasons of data collection starting in fall 1997, is expected to be completed in 2002. Research products will include an extensive Great Lakes data collection and the development of research models for the Great Lakes. These models will incorporate ice, currents, waves, and temperature data; sediment transport data; and lower food web simulations.

Milwaukee Confined Disposal Facility and Beneficial Use Pilot Project

Dave Bowman (Corps - Detroit District) gave a brief overview of the 1998 bioremediation demonstration project in Milwaukee, Wisconsin. The project involved the treatment of moderately contaminated dredged material from the local CDF with the intent of removing PAHs and PCBs through the use of bioremediation, volatilization, and phytoremediation. The construction of biomounds on a portion of the CDF was as follows: a layer of wood chips was placed on the ground with dredged material placed upon the wood chip layer. More wood chips were then added to the dredged material and the mounds were tilled.

At the end of the pilot study, several conclusions were made. The level of PAHs had remained fairly consistent in the biomounds, but the concentration of PCBs dropped significantly in the same period of time. The task remains to find a method to reduce the concentration of PAHs in the biomounds without compromising the degradation of the PCBs.

The balance of October 5 included a field trip to the Milwaukee Harbor where port and Corps officials guided the combined groups through the port facilities and the local CDF.

October 6

Eddy Pump

Dan Wadleigh (Corps-Chicago District) described last summer's experiment with the Eddy Pump at Indiana Harbor in East Chicago, Indiana. This type of efficient hydraulic dredge does not employ a cutterhead but instead uses a suction vortex, thereby reducing turbidity. The manmade waterway serves principally two major steel mills which receive about 12 million tons of iron ore and limestone each season. Because of contaminated sediments, the waterway has been designated an Area of Concern by the International Joint Commission. The lack of a dredging and disposal plan has prevented dredging since 1972. Shoaling at various places in the navigation channel restricts vessel drafts and forces vessels to off-load at various places in the channel. Continuing sedimentation contributes to the average discharge of 150,000 cubic yards of polluted sediment into Lake Michigan each year. The Eddy Pump experiment, funded in part by Inland Steel, used the steel mill's water treatment plant and an on-site settling pond for disposal. During the seven day experiment, 4000 cubic yards were removed and "processed." Results of the experiment as to dredge efficiency, cost of operation and turbidity reduction will be available in 2001.

Soil Separation Experiments at CDFs

Trudy Olin-Estes (Corps-Waterways Experiment Station) described recent experimental work with a hydrocyclones (soil washing/separation devices) at CDFs in Duluth and Green Bay. By separating material by particle size, some sediments can be "cleaned" and made available for particular alternative uses. The planned processing rate of between 50 and 70 tons per hour was not achieved for a variety of problems—machine breakdowns in Duluth and excessive lumpiness and compaction of the CDF material at Green Bay. This approach, if it can be improved and employed through mobile units with customized operations, will be future means for relieving CDF capacity problems.

Geotextile Tubes

In keeping with past practice, the Dredging Team invited a marine contractor and manufacturer's representative to discuss a type of dredging/disposal technology. The geotextile tubes are fabricated tubes

(usually made from polyester) that are used to contain and dewater dredged material. The giant “sand bags” are available in a variety of sizes and can be used to stabilizing banks and control wave erosion.

Environmental Windows

Doug Clarke (Corps-Waterways Experiment Station) reviewed the issue of environmental windows and discussed an idea to develop a regional process to review some existing windows and, where appropriate, devise new procedures for establishing them. Such windows are time constraints placed on dredging or dredged material operations to protect biological resources or their habitats from detrimental effects. Their widespread use in the Great Lakes has added to logistical problems for dredging contractors in employing equipment in a cost effective manner. Mr. Clarke proposed that the GLDT consider establishing a task force comprised of resource and fisheries experts that would arrange scientific studies of selected dredging project windows and find ways to reasonably modify windows or dredging practices to mitigate harmful effects.

Recreational Boating and Dredging

Steve Thorp (Great Lakes Commission (GLC) staff), reported on planning for the GLDT/GLC-sponsored workshop to be held July 16, 2001 in conjunction with Coastal Zone 01 conference in Cleveland. The day-long workshop will address dredging issues as they pertain to shallow draft harbors. With recent low water levels in the Great Lakes, many recreational harbors and marinas have expressed problems getting dredging done as well as funding work which is not a federal responsibility. A draft agenda will be prepared and routed to the Dredging Team for review.

National Dredging Team (NDT) Workshop

On January 23-25 the NDT will hold a workshop and has invited the GLDT to present at a session. Several members plan to attend and will discuss various issues including beneficial use of dredged material, structure of the GLDT and its public outreach initiatives.

Co-chairs Election

The GLDT elected new co-chairs for a two-year term. They are Jan Miller with the Chicago office of the Corps Great Lakes and Ohio River Division and Kelly Burch with Pennsylvania’s Department of Environmental Protection. Both individuals have been GLDT members since the group’s inception in 1996.