

WEDA Environmental Commission Panel – June 2010

Theme: 30 Years of WEDA and Progress in Environmental Issues

Title: The Foundation of Today's Environmentally Sensitive Dredging Technology: 30+ Years of USACE Dredging Research, 1973 – Present

Bob Engler, Moffatt and Nichol

In 1972, the Clean Water and Ocean Dumping Acts were passed giving broad environmental regulatory and protection authority to the Corps. A significant Great Lakes CDF construction program was also initiated in 1972. Both required technology advances. Moreover, this follows closely the late 60's advent of WEDA. Dredging and dredged material disposal and wetlands protection were priority issues needing a fundamental and applied technology base in order to implement or comply. The Corps responded with the largest ever Civil Works R&D Program, the Dredged Material Research Program (DMRP), a \$30-million, 5-year effort started in 1973. The DMRP addressed Aquatic and Confined Disposal, Wetlands Creation, Beneficial Uses and Regulatory implementation/compliance. Hundreds of reports, summary documents and manuals were produced and two major conclusions reached; 1) No single disposal alternative is most suited for a region/project, and 2) Long-range regional planning is required for effective disposal management of dredged material. The DMRP formed the technical foundation in making the Corps a world leader in the environmental aspects of dredging and dredged material management. It also established the Corps as a competent environmental regulatory agency and the Waterways Experiment Station as their technical lead.

Shortly after the DMRP, the Corps established the Dredging Operations Technical Support (DOTS) Program as the technology transfer and training arm that forms the largest world-wide dredging information base. The DOTS Program is maintained today at <http://erdc.usace.army.mil/dots> and encompasses the following: Research, data bases, Beneficial Use case studies, publications, guidance documents (manuals), models, Center for Contaminated Sediments, Expertise, Training, Dredging resources, Education Center, and world-wide related sites. The Long Term Effects of Dredging Operations (LEDO) Program (1979-2002) addressed short and timely work efforts at risk-based procedures for effects assessment, exposure assessment and risk characterization for managing contaminated sediments. In 1985-1991, the Field Verification Program (FVP) validated environmental assessment and regulatory manuals for upland, aquatic and wetlands placement of contaminated sediment. During 1986-1994, the Dredging Research Program (DRP) directed applied research with the engineering side of the equation. From 1998 to the present, the Dredging Operations and Environmental Research (DOER) Program has been keeping the Corps current and at the cutting edge in: Dredged Material Management, Environmental Resource Protection, Operations Technologies and Risk in support of the Corps navigation dredging mission. The program also supports CERCLA (Super

Fund), TOSCA, RCRA and numerous WRDA initiatives dealing with contaminated sediments and dredged material management. <http://erdc.usace.army.mil/dots>.