DMMP CLARIFICATON PAPER

TRANSITION FROM DAIS TO EIM

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INTRODUCTION

When the Puget Sound Dredged Disposal Analysis (PSDDA) program was implemented, the Corps of Engineers assumed responsibility for the development and maintenance of a database to store data from dredged material testing and disposal site monitoring (PSDDA, 1989). The Dredged Analysis Information System (DAIS) was created for this purpose. The system has evolved over time and is presently in the form of an Access database with a user interface developed using Microsoft Visual Basic 6. Data from over 300 dredging projects and monitoring events currently reside in DAIS, with over 200,000 individual chemistry and bioassay data records.

At the time of PSDDA implementation, the Department of Ecology had its own database, called SEDQUAL. The primary purpose of SEDQUAL was calculation of apparent effects thresholds (AETs), which were then used to establish sediment quality guidelines for use in the PSDDA program. SEDQUAL has since evolved into the Environmental Information Management (EIM) system, which has become the primary repository of many types of environmental data at the Department of Ecology.

Through the years, the Corps developed and maintained within its database system the capability of exporting data from DAIS into the input format required by Ecology's database – first SEDQUAL, and now EIM. This export capability is currently accomplished using Visual Basic code.

PROBLEM IDENTIFICATION

Many changes have occurred since the time DAIS was first envisioned and developed. Together these changes have created conditions under which it is no longer practical or necessary to maintain DAIS as a stand-alone repository for data from dredged material testing and disposal site monitoring. These changes are discussed in the following paragraphs.

In 2007, the Corps of Engineers switched from an information technology model in which each district maintained its own cadre of IT professionals, to a national contract (ACE-IT) under which district-managed services were discontinued. On a practical basis, this has meant that local programmers are no longer available to update the DAIS database and user interface.

The software that the DAIS user interface is based on (Visual Basic 6) is no longer supported by Microsoft. It is becoming increasingly difficult to maintain this older generation of software.

Upgrading to the current version of Visual Basic would require IT resources that are no longer available in Seattle District. It would also likely be costly due to the evolution of Visual Basic to the Microsoft .NET environment.

DAIS does not have the capability of accepting electronic data deliverables (EDDs) from laboratory information management systems (LIMS). Instead, data are entered manually using the DAIS user interface. This is a laborious and costly process. DAIS data input is funded by the Corps' Navigation Section for maintenance dredging of federal navigation projects, and by the Corps' Regulatory Branch for dredging projects regulated under Section 404 of the Clean Water Act. That funding, especially for regulatory projects, is becoming increasingly difficult to obtain. For the past several years, data entry for regulatory projects has had to wait until the end of the fiscal year to see if any year-end funding would be available for this effort. When funding is not available, DAIS data entry can be delayed for two years or more. This means that data export to EIM is also delayed.

Maintenance of the same data in two separate databases is redundant, and costly from a taxpayer perspective. During the early days of SEDQUAL, maintenance of two systems could be justified, as the two systems had largely independent functions. But with the evolution of SEDQUAL into EIM, the distinction between the two systems has blurred.

PROPOSED DMMP DATA MANAGEMENT STRATEGY

DMMP will transition from DAIS to EIM as a chemical and bioassay data repository in DY 2013. Once the transition has occurred, project proponents will be required to submit data for dredging projects to the Dredged Material Management Office (DMMO) in EIM format.

A number of procedural and data management issues will need to be resolved to complete this transition. First, while Ecology does have gatekeepers that ensure that data are in the proper format for import into EIM, these gatekeepers are not intimately familiar with DMMP and are therefore not equipped to identify problems with the data itself. A quality assurance process will need to be established to ensure the accuracy and completeness of the data submittals. Second, EIM does not capture some data that are essential for DMMP including, for example, the suitability determination for each dredged material management unit (DMMU), volumes associated with DMMUs, and the final disposition of dredged material. Critical data elements such as these will need to be identified and maintained outside of EIM. Finally, guidelines will need to be developed to help consultants and labs make this transition.

REFERENCES

PSDDA, 1989. *Management Plan Report, Unconfined Open-Water Disposal of Dredged Material, Phase II*, Prepared by the Puget Sound Dredged Disposal Analysis agencies: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Washington State Department of Ecology, Washington State Department of Natural Resources, 1989.