

Appendix K. EPA Region 4 Ocean Dumping Program Summary (Source: EPA 1997).**Introduction**

Under the Marine Protection Research and Sanctuaries Act (MPRSA), the U.S. Environmental Protection Agency (EPA) and the Corps of Engineers (COE) share a number of responsibilities with regard to the ocean disposal of dredged material. This involves: designating ocean sites for disposal of dredged material; issuing permits for the transportation and disposal of the dredged material; regulating times, rates, and methods of disposal and the quantity and type of dredged material that may be disposed of; developing and implementing effective monitoring programs for the sites; and evaluating the effect of dredged material disposed at the sites.

Site Selection and Designation

The principal authority and responsibility for designating ocean sites for the disposal of dredged material is vested with the Regional Administrators of the EPA Regions in which the sites are located. The Regions are responsible for developing and publishing Environmental Impact Statements (EIS) and the rulemaking paperwork associated with ocean disposal site designations. The COE Districts provide the EPA Region with the necessary information to prepare the EIS and identify any significant issues which should be addressed in the site designation process generally through a scoping process. Information required from the Districts includes: zone of siting feasibility (ZSF) data, justification for the need for ocean disposal, and alternatives to ocean disposal of the dredged material. The purpose of the EPA site designation process is to establish sites that minimize impacts to the environment, economize disposal site management and monitoring activities, and support multiple users.

Development of Site Management and Monitoring Plans (SMMPs)

The COE District and EPA brings together those people identified as having an interest in the SMMP for a given site. The usual participants are EPA Site Manager, COE Planning, COE Regulatory, COE Operation, State resource individuals, and major permittees (site users). Depending upon the particular issues, US. Fish and Wildlife, National Marine Fisheries Service, South Atlantic Fisheries Management Council, commercial fishermen, and others may be invited to participate in the process. The SMMP team works to identify the specific management goals for each site, based upon several factors (nearby resources, dredged material types, dredging frequencies, etc) . Once the management objectives are agreed upon, specific monitoring goals and objectives are identified to insure those management objectives can be achieved. If deemed necessary, specific monitoring is planned and scheduled. SMMPs are developed as part of the site designation process or separately for sites designated prior to 1992 and are required to undergo public review.

Permitting Procedures

Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the U.S. Army Corps of Engineers, using EPA's environmental criteria and subject to EPA's concurrence. EPA's environmental criteria under the MPRSA basically provide that no ocean dumping will be allowed if: the dumping would cause significant harmful effects; or the material proposed to be dumped is not adequately characterized -- in other words, there is not enough information to make the above determination.

In February 1991, EPA and the Corps issued a comprehensive revision to the 1977 manual for testing dredged material proposed for ocean dumping (Evaluation of Dredged Material Proposed for Ocean Disposal - Testing Manual, Report Number EPA-503/B-91/001). This manual, commonly known as the Green Book, sets out a framework containing the procedures approved by EPA and the Corps for evaluating the dredged material. The framework provides that the intensity of evaluation increases with the risk of contaminants and/or absence of existing information. If an evaluation in one level (tier) is not adequate to determine the material's suitability for ocean disposal, the evaluation proceeds to the next tier(s), and the protocols of the next tier(s) must be followed.

The following is a general summary of the testing and evaluation procedures included in each tier:

Tier I - Evaluation of Existing Information

Tier I specifies when and how existing information, such as results from previous tests on the material, can be used to evaluate the material. If the existing information is inadequate, the evaluation must go to the next tier(s).

Tier II - Conservative Screening Tools

Tier II specifies when and how sediment chemistry can be used in evaluating material by using worst case water column modeling and Theoretical Bioaccumulation Potential (TBP) calculations for the dredged material. (Because there is no model for evaluating toxicity, all sediments entering Tier II must also be tested for toxicity in Tier III.)

The 1991 manual includes updated scientific models for evaluating compliance with water quality criteria issued by EPA to help protect marine species. The dumping must meet the applicable water quality criteria.

The 1991 manual includes use of TBP, which is a scientifically valid approach for evaluating the potential bioaccumulation of certain specific, non-ionic compounds (such as PCBs and dioxin). There is no counterpart model available for metals or polar compounds so if their presence is a concern, actual bioaccumulation testing in Tier III is still necessary.

Tier III - Laboratory Bioassays

Tier III specifies approved testing procedures for toxicity and bioaccumulation. The acute toxicity tests employ 10 day exposures. The 1991 manual stresses the use of amphipods, which are sensitive bottom-dwelling organisms, and describes standardized test methods that were not available when the 1977 manual was developed.

The bioaccumulation tests employ 28 day exposures if contaminants with the potential to bioaccumulate are present in the material. The 1977 manual specified 10 day exposures for all compounds. Use of 28 day exposures to assess bioaccumulation of contaminants was found to be more appropriate.

Tier IV - Advanced Biological Evaluations

Tier IV consists of laboratory and field tests and other evaluations to reduce specific uncertainties about the potential impacts of proposed projects. Tests conducted under this tier are not considered routine in the regulatory program, and can require significant time and expense.

The Green Book includes evaluation methods which can be tailored to the material and location. This is intended to ensure that material is adequately evaluated to make a scientifically sound decision regarding the potential environmental impacts of the proposed ocean dumping, without requiring unnecessary or inappropriate tests in any given case.

Corps Districts and EPA Regional offices work together to develop Regional Implementation Manuals providing supplemental site-specific refinements to the national guidance, such as:
identifying the contaminants of concern for the harbors within the region; and
identifying the specific species of organisms to be tested (from the list of organisms in the national manual).

Testing procedures used to evaluate ocean dumping must be approved by EPA and the Corps. No permit is issued unless the agencies have enough information to determine that the ocean dumping will not cause significant harmful effects.

Appendix K

Site Specific Concerns

Concerns regarding use of the Ocean Dredged Material Disposal Sites (ODMDS) are identified during the designation process, during development of the SMMPs or as a result of site monitoring or new public concerns. ODMDSs within EPA Region 4 where site specific concerns have been identified are listed in Table 1.

Table 1

| Ocean Dredged Material Disposal Site | Site Specific Concerns |
|--------------------------------------|--|
| Charleston, SC ODMDS | Live bottom areas proximal to the site subject to possible impact. |
| Tampa, FL ODMDS | Disposal berm within the site has created unique habitat to be protected. |
| Miami, FL ODMDS | Effect of disposal plumes on nearshore coral reefs are under investigation. |
| Fort Pierce, FL ODMDS | Offsite transport of disposed dredged material and subsequent burial of nearby hard bottom communities is of concern to local community. |
| Jacksonville, FL ODMDS | Lies within Northern Right Whale Critical Habitat and site may be undersized. |
| Fernandina, FL ODMDS | Lies within Northern Right Whale Critical Habitat. |
| Brunswick, GA ODMDS | Lies within Northern Right Whale Critical Habitat. |
| Wilmington, NC ODMDS | Wood debris in dredged material suspected of migrating off site into shrimping grounds. |

Proposed New Sites

The COE Districts have identified the following areas in need of new ODMDSs: Port Everglades, FL; Palm Beach, FL; Charlotte Harbor, FL; Port Royal, SC; and Wilmington, NC. Ocean site designations for these areas are in the various stages of the site designation process.