

Environmental Management Practices



Activity: Dredging and Dredge Material Disposal

EMP No. O-16

Description:

To reduce the impacts from dredging and dredged materials disposal

Targeted Activities:

Dredging
Dredged material placement



Development EMPs:

- Actively participate in watershed protection programs sponsored by local or state agencies
 - Determine the boundaries of the port/harbor's watershed
 - Identify all natural freshwater inputs to the watershed (e.g., rivers, streams)
 - Identify man-made freshwater inputs to the watershed (e.g., storm drains)
 - Identify publicly owned wastewater treatment discharges and combined sewer overflows.
 - Determine annual loading of various pollutants to harbor/port. This process involves obtaining storm water management plans/monitoring data from the municipality and discharge records from facilities that have NPDES permits and the impacts of upstream discharges on port water and sediment quality.
- Work with state/federal regulators to reduce sources of key contaminants. This will require educating the regulators on the difficulties in obtaining dredged material disposal approvals, and participating in permits for discharges
- Actively participate in NPDES permitting efforts for sources in the port's watershed
 - Identify all current NPDES permits in the watershed. Determine the expiration dates for each.
 - Submit letters to the NPDES permitting agency to allow the port to comment on new NPDES permits. This may require meeting with the agency to explain the necessity of this action.
- Carefully monitor announcements for new and renewed NPDES permits
 - Permit applications must be announced in local news publications
 - Comment on NPDES permits that have impacts on sediment quality in the port.
- Actively participate in zoning procedures
 - Meet with local planning agencies to discuss difficulties in receiving dredging approvals. This should include discussions on the type of compatible land uses in the port's watershed and possible restriction that can be placed on development
 - Carefully monitor announcements in local newspapers for development projects in the port's watershed
 - Comment on proposed development to achieve controls on runoff that will protect water quality.
- Explore beneficial uses of dredged materials with regulatory and resources agencies.

Potential Pollutants:

Hydrocarbons
Heavy Metals
Pesticides

Target Environmental Media:

Surface water
Soil (Sediments)

US Regulatory Requirements & Guidance:

40 CFR 401 Effluent Limitation Guidelines
Clean Water Act Section 404 Permitting
Clean Water Act Section 401 Water Quality Certification
Marine Protection, Research and Sanctuaries Act
Coastal Zone Management Act
State and Local Regulations as appropriate to the Port

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Operational EMPs:

- If sensitive species are an issue, select the most appropriate “windows” of time to conduct dredging
 - Studies of marine life, as necessary, in the dredging and disposal locations are required to determine which periods of time will result in the lowest impact
- Use silt curtains where necessary to ensure compliance with water quality criteria and permit limits
 - Selection of silt curtain use depends on the type of material dredged, currents in the dredging and disposal locations, marine mammal activity, and vessel traffic conditions.
- Select suitable dredging equipment to reduce resuspension and transport
 - Consider the use of clamshell dredges to keep material consolidated (lower water content) to reduce resuspension of contaminants and limit the spread of material
- Conduct continuous inspection of dredging activities, particularly, during night time work.
- Consider use of submerged discharges for hydraulic disposal
 - These discharges reduce the resuspension and release of contaminants and increase the control over the location of deposition of dredged material
- Consider the use of lateral containment in open water disposal
 - The use of borrow pits or dikes reduces the spread of sediments and effects of benthic organisms
- Consider the use of cap containment sediments with clean materials
 - Level bottom capping or a combination of use of borrow pits/dikes with capping reduces the spread of contaminated materials
- Consider the use of confined aquatic disposal facilities either near shore or upland when open water disposal is unfeasible
 - May require treatment of effluent liquids to remove suspended solids through settling or filtering. Settling may require addition of flocculents to remove smaller particles.
 - Additional treatment to remove metals and organics may be required
 - Liners, slurry walls, or some form of leachate collection system may be required to restrict contaminants from entering groundwater
- Consider treatment of solids to increase the life of the CDF and provide beneficial uses of material
- Consider the beneficial reuse of dredged materials such as wetland creation or enhancements, habitat restoration, or creation of public access/recreational facilities

Considerations:

Conduct routine maintenance of equipment