

Position Paper

POSITION ON DREDGING

AND

DISPOSAL OF DREDGED MATERIALS

by the

CALIFORNIA STATE COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS



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CALIFORNIA STATE COUNCIL

LOS ANGELES SECTION

SACRAMENTO SECTION



SAN DIEGO SECTION

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May 15, 1991

To All Parties Involved in the
Economic Viability of California's Ports:

Dear Colleague:

Enclosed is a copy of a position paper on Dredging and Disposal of Dredged Material prepared by a task committee of the California State Council of the American Society of Civil Engineers. As a people-serving profession, ASCE is concerned about the aging infrastructure of the United States and of California in particular. This position paper presents a discussion of problems occurring with the State's ports which we feel need urgent attention. ASCE, as a people-serving profession, has a deep concern for the general environment. We feel that the economic viability of the State's ports can be sustained without detrimental effects on the environment. We hope that you will support our position and do what you can personally to insure that the economy stimulated by California's port facilities remains strong. If you would like further information, please feel free to contact me.

Sincerely,

Edward E. Rinne
Chairman

INTRODUCTION

California's port industry is a large and viable part of the state's economy. Together the commercial ports of California (San Pedro, San Diego, Oakland, San Francisco, Stockton, and Sacramento) contribute approximately \$90 billion to the state's economy. 935,000 jobs are directly related to commerce through the state's ports and 95% of the state's international trade is transported by ships which load and unload in California. Thus, the successful and efficient operation of ports is of vital importance to the welfare of Californians and is significant in the national picture, particularly in this time of record U.S. foreign trade deficits.

In order for California's ports to operate safely and efficiently, maintenance dredging is required as well as periodic construction dredging to enlarge or improve navigation facilities in order to maintain a competitive position through accommodation of new, larger ships or simply increased traffic. Maintenance dredging amounts to 5 to 6 million cubic yards annually in the San Francisco Bay alone and 50,000 cubic yards in the port of Long Beach each year. In addition, the Port of Oakland plans to dredge 7 million cubic yards of material to accommodate new, larger container ships.

Average time required to obtain the necessary permits to dredge, and in particular to dispose of the dredged material, has become increasingly long, greatly increasing the cost of port development and maintenance. Approval of new disposal sites, particularly offshore sites, is uncertain, time-consuming, expensive (to both taxpayers and port owners), and has yet to be achieved, although the process has been under way for more than four years. These delays are due to lack of a consensus among the various state and federal agencies, overlapping regulatory jurisdictions and missions, inadequate funding of reviewing agencies, as well as increased environmental concerns, the ease with which a project can be stalled through intervention, and increasingly complex, expensive and time-consuming sampling and testing requirements. The cost of sampling and testing at the Port of Oakland is approximately 25% of the total cost of dredging and disposal. The net result threatens to significantly damage the port industry in California with resulting negative impacts on the state's economy.

This position paper briefly reviews the status of dredging programs and dredged-material disposal programs in California, formulates conclusions, and makes recommendations toward resolution of the difficulties. These recommendations are in agreement with ASCE's expressed mission as a "People Serving Profession".

STATUS OF DREDGING PROGRAMS

San Francisco Bay

The San Francisco Bay is a natural harbor that includes the port facilities of Oakland, San Francisco, Richmond, Redwood City, Alameda, and Benicia. In addition there are several military facilities such as the Alameda Naval Air Station, Oakland Army Base, and Mare Island Naval Shipyard that use the waterways of the Bay. More than 4,000 ocean-going ships use the Bay annually and carry more than \$25 billion in cargo. The Bay requires continual maintenance dredging to offset siltation and to assure the federal authorized depths of the channels for existing navigation. The U.S. Army Corps of Engineers and the U.S. Navy are accountable for 80% of the normal maintenance dredging which amounts to 5 to 6 million cubic yards annually. Small boat harbors and marinas are responsible for the remainder of the dredging with most of these projects involving 10,000 to 15,000 cubic yards each. New projects, expected to begin by 1992, envision 17 million cubic yards of dredging.

The recent navigational improvement program at the Port of Oakland attracted great attention when ocean disposal at the off-shore site, which had been approved by the Corps,

EPA, and the State, was halted almost immediately through a court injunction obtained by a group of local commercial fisherman. A project to improve the Oakland Channel was authorized by Congress in 1986. To accommodate its interim needs the Port of Oakland was granted a permit for dredging of 440,000 cubic yards (the initial part of a 7 million cubic yard project) to accommodate the newest container ships. Without this dredging, the new container ships cannot enter or leave Oakland fully loaded, which reduces the revenue producing potential of the Port and the shipping lines. Since the Port of Oakland currently contributes \$4 billion annually to the Bay Area economy, the activity of the Port is very important to the people of the Bay Area as well as the industries that ship and receive products through Oakland.

Currently, the Port of Oakland is attempting to obtain approvals to dispose of dredged materials by utilizing them to strengthen the levees on two Islands in the Sacramento-San Joaquin Delta. Disposal in the Delta will more than double the total cost of dredging and is subject to further regulatory review regarding potential environmental impacts. Alternate means of disposing of dredged materials from San Francisco Bay has escalated the total cost by several fold. The added cost for studies, sampling, testing, and monitoring alone is a significant component of the total cost of dredging for the Oakland project.

Sacramento-San Joaquin River Delta

The Delta contains in excess of 1000 miles of channels including 100 miles of deep-water shipping channels. A system of levees protects more than 50 islands (700,000 acres) from flooding. The Delta islands are some of the world's richest agricultural lands and the Delta channels, which are intensively used for recreation, contain a variety of fish habitat. Annual dredging is required to maintain safe navigation in the Stockton and Sacramento ship channels; dredging of select channel material is required to maintain the flood-control levees. Maintenance dredging in the shipping channels amounts to 700,000 cubic yards annually. To accommodate larger bulk carriers, the Stockton ship channel was dredged from 30 to 35 feet in 1987; similar dredging on the Sacramento ship channel to be completed in 1994 will involve disposal of 8 million cubic yards of dredged material.

Maintenance dredging requirements on the deep-water channels is strongly dependent on annual flooding. Significant shoaling can occur in a matter of days as the result of large floods, and also occurs quickly as the result of normal winter and spring runoff. Shoaling of five feet, even in limited reaches, will reduce port traffic by 50%. Obtaining the necessary permits for dredging and the disposal of dredged material has become an increasingly difficult and time-consuming procedure. The ports, and consequently the economy of the entire Central Valley, will suffer major impacts if the process of obtaining necessary permits for maintenance dredging and disposal cannot be streamlined.

Dredging for flood-control levee maintenance is critical to the Delta and the agricultural economy of California as well as to fisheries and municipal water supplies. Levee failure and the resulting flooding would allow large volumes of saline water to flow further into the Delta impacting fisheries habitat as well as the quality of agricultural and municipal water supplies (the Delta is a drinking-water source for 16 million Californians). Flushing of the salt water would require release of thousands of acre feet of fresh water from upstream storage, water that is necessary for other beneficial uses. The Sacramento District of the Corps estimates that at least 500 miles of Delta levees need upgrading which would require 50 million cubic yards of fill.

San Pedro Ports Complex

The San Pedro Ports Complex comprising the Ports of Los Angeles, Long Beach, and the Long Beach Naval Shipyard and Naval Station is essentially manmade. Historically, through dredging, navigable channels have been created and the dredged material was utilized to create new landfills if possible or were dumped at ocean disposal sites. The Complex contributes more than \$10 Billion annually to the local and state economy and provides an important import/export point for goods and raw materials flowing between the United States and our fast-growing trading partners in the Pacific Rim.

The Port of Los Angeles, in conjunction with the Port of Long Beach, has embarked on an ambitious program called the 2020 Plan to provide the necessary facilities to meet projected cargo growth in the year 2020. It entails the dredging of new and deeper channels and the creation of 2,400 acres of new landfill. The cornerstone and essential premise upon which this entire plan is based is the use of dredged material to create new landfill at the Ports. Dredged material not suitable for use as fill would require ocean disposal, a key element in the Plan. Annual maintenance dredging will be required after the additions and improvements are finished. Over the past ten years, approximately 1 million cubic yards of dredged material have been disposed of at the EPA-designated ocean disposal site LA-2. This site lost its designation in 1989. The Ports have requested that EPA redesignate the site, which is essential to annual maintenance of the Port as well as its new development. Land disposal has very limited potential in this area.

San Diego

Disposal of dredged material from San Diego and Mission Bays into ocean disposal site LA-5 in 1989 was not possible unless a Corps of Engineers dredging permit could be obtained prior to December 31, 1988. This unfortunate situation is a result of the LA-5 site being closed by the EPA on January 1, 1989. Any new permits obtained will almost certainly contain a restriction limiting dredging activities to the time between April 1 and September 15, a restriction imposed by the U.S. Fish and Wildlife Service to protect the California Least Tern, an endangered species. This narrowing of the dredging window significantly increases the unit costs of dredging since contractors will need to make major investments in larger equipment to enable them to complete the necessary work in reduced time, and equipment will spend an increasing percentage of time idle.

The San Diego and Mission Bays require only limited maintenance dredging since no major streams discharge to these bays. However, dredging by the Corps during 1987-88 to maintain the San Diego Bay entrance amounted to 750,000 cubic yards. The dredged material, which was composed of clean sand, was placed along the Silverstrand State Beach in an attempt at replenishment. The local Association of General Contractors has held discussions with the local Congressional Delegation in an attempt to resolve the dredging impasse, but little progress has been made.

ENVIRONMENTAL CONSIDERATIONS

The U.S. Army Corps of Engineers has the authority to issue Federal permits which are required for dredging activities by various relevant federal laws and as described in Corps regulations. For the disposal of dredged materials at an ocean site or onto wetlands, the Corps must abide by its Memorandum of Agreement with EPA. In addition, 404 permits, where required, are contingent upon two state approvals: the Clean Water Act Section 401 water quality certification and the Coastal Zone Management Act "consistency determination". Ocean disposal in waters from the coastal base line seaward is regulated under the Marine Protection, Research, and Sanctuaries Act (Title I of the MPRSA is commonly called the

"Ocean Dumping Act"). The Ocean Dumping Act is the domestic law implementing the regulations of the London Dumping Convention (LDC), an international convention to which the U.S. is signatory. The LDC bans the ocean dumping of various industrial wastes and controls the disposal of certain other substances. EPA developed the required testing protocol, the 1977 Green Book, which has been under revision for more than two years.

Complicating the entire permitting process is the fact that no two situations are identical, and the required testing for a site is not a simple matter for ready resolution by the state and federal agencies. The net result is that the time taken to obtain a 404 permit has increased steadily. In addition, it is clear that the Corps authority in the permitting process is subordinate to the mandates of many other agencies.

Finding suitable disposal sites is the overriding problem now facing the Corps and other sponsors of dredging projects. Although Corps policy stresses the balanced consideration of all disposal options, federal regulatory requirements are generally stricter for disposal in the open ocean than for disposal in freshwater and estuarine environments. Federal and state requirements tend to be least restrictive for upland disposal, and policies that have attempted to curb pollution in freshwater and marine environments have indirectly encouraged disposal at upland sites. However, disposal in upland areas is generally more costly, and finding upland sites is becoming more difficult. For example, proposed disposal of dredged materials within the Sacramento-San Joaquin Delta is subject to a variety of additional regulatory requirements such as those of the Regional Water Quality Control Boards and the counties in which the material is to be placed.

The economic vitality of the American port industry is being threatened by delays in obtaining necessary permits for dredging and disposal.

RECOMMENDATIONS

The California State Council of the American Society of Civil Engineers recognizes the great economic importance of our ports and harbors and supports a program of improvement and maintenance of ports, harbors, and navigation channels as being essential to the economic well-being of the State. The Council simultaneously supports the provision of adequate environmental safeguards. We support the deepening and widening of ship channels as necessary to safely accommodate the larger, new ships in world fleets, and to maintain a competitive position in the international shipping economy. We also support continued dredging to maintain safe and efficient port facilities.

In addition, we recommend that:

- I. Measures be taken immediately to insure that Corps/EPA studies to locate and certify permanent ocean disposal sites are kept to timely schedules.
- II. All parties involved in the permitting process strive to achieve a common goal of enhancing the development of desirable new port facilities while minimizing the environmental impact of the development.
- III. Permitting agencies establish and disseminate a uniform criteria for dredged material sampling and testing.

- VI. An immediate improvement in the regulatory process be made to streamline the process of obtaining the necessary state and federal permits and in designating disposal sites.
- V. State and federal programs provide additional funding for research studies to increase our knowledge of dredging impacts and problems, in order that environmental impacts of dredging can be assessed in a timely manner.
- VI. Pertinent agencies immediately address means to speed up the process of locating and permitting disposal sites.
- VII. The permitting process be simplified for maintenance dredging of existing facilities.

