

CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
TELEPHONE AND TDD (415) 904-5200

F 7a

STAFF REPORT AND RECOMMENDATION
ON CONSISTENCY DETERMINATION

Consistency Determination No. **CD-114-96**
Staff: JRR-SF
File Date: 9/25/96
45th Day: 10/25/96
Review Deadline Extended to: 2/15/97
Commission Meeting: 2/7/97

**FEDERAL AGENCY: ENVIRONMENTAL PROTECTION
AGENCY**

DEVELOPMENT

LOCATION: 6.0 miles southwest of Point Fermin, Los Angeles County
(Exhibit 1).

DEVELOPMENT

DESCRIPTION: Five-year re-designation of an ocean dredged material
disposal site.

SUBSTANTIVE FILE DOCUMENTS:

1. Final Environmental Impact Statement for the Los Angeles/Long Beach Ocean Dredged Material Disposal Site Designation, July, 1988.
2. An Historical Perspective of the Commercial and Sport Fisheries Offshore California through 1985, MBC Applied Environmental Sciences, November 1989.

3. California Department of Fish and Game Unpublished Fish Block Data for Fish Blocks in the Vicinity of the LA-2 Site, Recreational and Commercial Fisheries Data, 1984 to 1988.
4. Survey of the Ocean Dredged Material Disposal Site (LA-2) off Los Angeles, California, Science Applications International Corporation, August, 1990.
5. Water Quality Control Plan, Ocean Waters of California, California Ocean Plan, State Water Resources Control Board, 1990.
6. EPA Region 9 General Requirements for Sediment Testing of Dredged Material Proposed for Ocean Dumping, August, 1989.
7. Draft Ecological Evaluation of Proposed Discharge of Dredged Material into Ocean Waters, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, January, 1990.
8. National Wildlife Federation v. Costle (14 ERC 1600 et seq., 1980).
9. Initial Sedimentation and Dispersion Analysis, LA-2 Ocean Disposal Site, Tetra Tech, Inc., October 1990.
10. Site Management and Monitoring Results for the LA-2 Ocean Dredged Material Disposal Site, January 1997.
11. Consistency Determination CD-63-90 for the designation of LA-2.

EXECUTIVE SUMMARY:

On January 9, 1991, the California Coastal Commission (Commission) concurred with a consistency determination from the U.S. Environmental Protection Agency (EPA) for the designation of an ocean dredged material disposal site 6.0 miles offshore of Palos Verdes. EPA previously designated the LA-2 site as an interim dredged material disposal site between 1977 and 1988. After that interim designation lapsed, all dredge disposal activities at LA-2 ceased. The dredging, which the designation of LA-2 supports, is necessary to maintain coastal-dependent activities including commercial and sports fishing, recreational boating, and port-related activities. The Commission raised concerns about the impact of the proposed designation on recreational and commercial fishing resources of the coastal zone. Even though the LA-2 site is within an area that is valuable for commercial and recreational fishing, EPA and the Corps have allowed disposal of dredged material for 11 years without apparently reducing fishing values. Despite the lack of historic conflict, the Commission had concerns about potential impacts to fishing

resources. The background studies included with the consistency determination did not contain enough information to assess the fishing impact. To resolve this information problem while continuing to support important coastal and economic resources, the EPA agreed to modify the consistency determination so that it was only valid for five years. During that time, EPA implemented its site monitoring program. After the five year period, EPA submitted a new consistency determination along with additional monitoring information. That monitoring shows that disposal activities at LA-2 will not significantly affect fisheries.

The EPA proposal also raised concerns over impacts to water quality and sand supply. In its consistency determination, EPA has made commitments to protect these resources through its review of dredged material disposal permits. Since the Commission has consistency authority over these permits, it can ensure that EPA maintains its commitment to protect these resources. There are also now issues not previously reviewed by the Commission involving: (1) alleged violations of the disposal regulations and (2) disposal of large volumes of material at the site. Through EPA's management program, and project-specific Commission review, these concerns can be adequately addressed on a case-by-case basis.

STAFF SUMMARY AND RECOMMENDATION:

I. Project Description.

The U.S. Environmental Protection Agency, Region IX (EPA) is proposing the continued use of an EPA-designated ocean dredged material disposal site 6.0 nautical miles (9.6 kilometers) off Los Angeles, California. The site, known as LA-2, has center coordinates of 33° 37' 06" North by 118° 17' 24" West, and a radius of 3,000 feet (909 meters). Water depth is between 380 and 1060 feet (115 to 320 meters).

II. Federal Agency's Consistency Determination.

The Environmental Protection Agency has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

III. Staff Recommendation:

The staff recommends that the Commission adopt the following resolution:

Concurrence. The Commission hereby **concurs** with the consistency determination made by the Environmental Protection Agency for the proposed project,

finding that the project is consistent to the maximum extent practicable with the California Coastal Management Program.

IV. Findings and Declarations:

The Commission finds and declares as follows:

A. Background. The Marine Protection, Resource, and Sanctuaries Act (MPRSA) authorizes EPA to designate dredged material disposal sites. (33 U.S.C. Sections 1401 *et seq.*) The purpose of that Act is to regulate the dumping of waste material into the ocean. Section 101 of the MPRSA prohibits, unless authorized by permit, the transportation of waste materials for the purpose of dumping them into the ocean and dumping of waste materials into the territorial seas of the United States or into contiguous waters. (33 U.S.C. Section 1401.) That Act authorized the Corps of Engineers (Corps) to issue permits for dumping of dredged material and the EPA to issue permits for all other wastes.

Section 102 of the MPRSA authorizes the EPA Administrator to designate sites for the dumping of wastes, including dredge spoils. (33 U.S.C. Section 1412[c].) The MPRSA also directs the EPA to establish environmental criteria for site designation. The EPA has developed five general criteria and 11 specific factors that it must consider in designating an ocean dredged material disposal sites. (40 C.F.R. Section 228.5 and 228.6.) These criteria and factors require EPA to consider the need for dumping, the effect on human health and welfare, fisheries, and marine ecosystem, the appropriate locations and methods for ocean dumping, and the existence of alternative locations and methods for waste disposal. The MPRSA requires that, to the extent feasible, dredged material be disposed of in sites designated by EPA. (33 U.S.C. Section 1413[b].)

The MPRSA also establishes a permit system for the disposal of dredge spoils into the ocean. Section 103 of the MPRSA authorizes the Corps to issue permits for the disposal of dredged material into the ocean, if the Corps determines that "the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities." (33 U.S.C. Section 1413[a].) Before the Corps can issue a permit, it must notify EPA of its intent. EPA can disagree with the Corps decision to issue a permit if it finds that the project does not meet the criteria established in its regulations. (40 C.F.R. Part 227.) If EPA determines that the material is not suitable for ocean disposal, the Corps cannot issue the permit. (33 U.S.C. Section 1413[c].)

In 1977, the EPA designated LA-2 as an interim dredged material disposal site. The EPA originally issued the interim designation for a three year period, but in 1980 EPA extended the interim designation and issued a schedule for final designation by February

1, 1983. Subsequently, EPA granted an extension until December 31, 1988, to allow completion of field studies, environmental evaluation, and preparation of the environmental impact statement. EPA had not completed the permanent designation of LA-2 by the deadline, and closed the interim site at the end of 1988.

Before 1977, dredged material was occasionally disposed of at the LA-2 site. Since 1977, the Corps has issued permits for disposal of approximately 2,065,000 cubic yards of dredged material at the LA-2 site. (EIS, pp. 1-1 -- 1-4.) However, the actual quantity of material disposed at the site under those Corps permits is approximately 1,616,200 cubic yards. (EIS, pp. 1-1 -- 1-4.) No dredged material disposal occurred at LA-2 between 1988 and 1991, during the period that LA-2 had no designation. After EPA permanently designated LA-2, the Corps, Commission, and EPA have authorized several dredged material disposal projects, totally approximately 2 million cubic yards of sediment.

This consistency determination allows for the continued use of LA-2 pursuant to EPA's agreement during the original consistency review of the designation. However, the consistency determination does not authorize any disposal activities at LA-2. All disposal activities must receive a permit from the Corps of Engineers pursuant to Section 103 of the MPRSA. In addition, all disposal activities at LA-2 are subject to the federal consistency requirements of the CZMA.

B. Need for Dredging. Section 30220 of the Coastal Act provides that:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30224 of the Coastal Act provides that:

Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

Section 30234 of the Coastal Act provides, in part, that:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded

Section 30255 of the Coastal Act provides that:

Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

Section 30260 of the Coastal Act provides, in part, that:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

Section 30701 of the Coastal Act provides, in part, that:

The Legislature finds and declares that:

(a) The ports of the State of California, including the Humboldt Bay Harbor, Recreation, and Conservation District, constitute one of the state's primary economic and coastal resources and are an essential element of the national maritime industry.

The LA-2 disposal site supports the dredging needs of the Ports of Los Angeles and Long Beach, its tenants (which include commercial and recreational fishing boats, ship building and repair, cargo transportation, and recreational boating), the Corps, and some of the recreational harbors in the area. The Coastal Act supports and encourages protection of many of those uses. It is clear from the above cited sections that the Coastal Act includes policies protecting, in a manner consistent with all the policies of the Coastal Act, continued recreational boating, sports fishing, commercial fishing, and port-related activities. In concurring with the consistency determination for the designation of LA-2, the Commission found that the site supports the port and boating resources of the area the designation of that site is consistent with above cited Coastal Act policies. In reviewing

the current consistency determination, the Commission reiterates its previous conclusions and incorporates the relevant findings from CD-63-90 (Exhibit 2).

C. Recreational and Commercial Fisheries. Section 30220 of the Coastal Act provides that:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30230 of the Coastal Act provides that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30233(b) of the Coastal Act provides, in part, that:

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation

Section 30234 of the Coastal Act provides that:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Section 30234.5 of the Coastal Act provides that:

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Section 30705(c) of the Coastal Act provides, in part, that:

... dredge spoils may be deposited in open coastal water sites designated to minimize potential adverse impacts on marine organisms

In its original review of the designation of LA-2, the Commission raised significant concerns about the effect of the disposal on benthic habitat, water quality, fisheries, and the recreational and commercial fishing industry. The Commission based its concern on a lack of supporting studies included in the EIS and consistency determination. Representatives of the fishing industry, who opposed the site designation, supported the Commission's concern. Despite the lack of supporting studies, the fish catch data supplied by EPA did not support a conclusion that the interim use of LA-2 adversely affected fisheries. However, based on concerns raised by the Commission, the EPA agreed to modify its consistency determination to include a provision that require resubmittal of a consistency determination after five years of monitoring. The adopted findings for the LA-2 consistency determination, CD-63-90, describe the resource issues and EPA modifications as follows:

The Commission is concerned that the increased turbidity in the water column will affect commercial and recreational fishing. The increase in turbidity may clog fish gills, interfere with fish predation, and may cause fish to avoid the area. Thus, the increase in turbidity may affect the productivity of the area, and reduce its value for commercial and recreational fishing. If the currents are moving the turbidity plume into areas valuable for recreational and commercial fishing, the disposal activities may have a significant effect on those resources. The extent of the impact depends mostly on the direction and force of the currents and the grain size of the material disposed, which relates to the longevity of the plume.

The Commission has concerns regarding the completeness of EPA's analysis of turbidity. EPA's conclusions are based on information produced from numerical modeling of the turbidity plume. These models are based on general information about currents and grain size. As described above, both currents and grain size are the major factors that affect the direction and longevity of the turbidity plume and its potential to affect commercial and recreational fisheries. Without specific information on currents and grain size, the fishing impacts from the turbidity plume are difficult to predict.

The current information used to model the impact of the turbidity plume is based on literature on general currents of the southern California bight and not on specific currents at the disposal site. The Commission believes

that it is difficult to predict specific currents at any time or place in this area from general information and that site specific information is, therefore, needed to assess properly the potential impacts of disposal at the LA-2 site.

In addition to the general unpredictability of the currents in the area, the geographic features of the LA-2 site may alter currents in a manner that requires site specific studies. It is unclear whether the San Pedro Sea Valley, which is adjacent to LA-2, has an effect on currents at the LA-2 site.

....

In addition to the currents, the EPA needs specific grain size information to accurately predict the effect from the turbidity plume. The larger the grain size of the material disposed, the shorter lived the turbidity plume. In other words, the longevity of the turbidity plume for disposal of material that contains predominately sand-sized grain will be shorter than the disposal of material that is predominately clay or silt.

EPA's analysis of the turbidity plume also fails to take into account cumulative impact associated with repeated disposals. The impacts of individual disposal events are treated by EPA as isolated occurrences with only temporary impacts. In fact, the number of such incidents may result in a virtually continuous disturbance. The model used to analyze the turbidity plume estimated that discharges from the barge will range between 500 to 4000 cubic yards per dumping event. Disposal of 200,000 cubic yards annually at LA-2 will involve between 50 to 400 such loads. The EIS indicates a general impact duration of about 5 hours. (EIS, p. 4-12.) According to the EIS, during dredging operations, a barge may make two to four trips to the disposal site per day. (EIS, p. 1-4.) Therefore, turbidity plume could last up to 20 hours per day during the dredging operation and could have lethal and sub-lethal affects on marine organisms as well reducing the fishing value of the area.

As described above, the CDFG fish block statistics show that the fish blocks including and near LA-2 remained productive despite the historic dredged material disposal operations that have occurred at LA-2 between 1977 and 1988. Although this lack of historic evidence of fishing impacts suggests that dredged material disposal and fishing have coexisted, the Commission believes that that evidence does not conclusively show that

dredged material disposal will not affect fishing resources. The information about fishing productivity is at a rather general scale; fish blocks are approximately eight by ten miles. Thus, these blocks do not provide specific enough information to make conclusions regarding resource impacts to area near the disposal site. Even if the fish block information was specific enough to assess the fishing impact, most of the data included in the EIS and consistency determination was collected while LA-2 was an active site. Thus, it is conceivable that the area was more productive prior to interim designation of LA-2. Therefore, the fish block data is too general to conclude that turbidity caused by dredged material disposal will not affect fishing values of the area near LA-2. Without site specific turbidity analysis, there is not enough information for the Commission to conclude that the project's effect on fisheries is consistent with the CCMP.

....

In the case of LA-2, the best way to gather the needed information is to study disposal activities at the site. Since there is no clear historic conflict between disposal activities and fishing, the Commission believes that a temporary approval of the dredged material disposal site with a monitoring program will allow for further analysis of the impacts from dredged material disposal without significantly risking fishing resources.

The EPA has agreed ... to modify its consistency determination so that it is only valid for five years. During that period, EPA will monitor dredged material disposal activities at the site (the monitoring plan is described in full below) and continue to evaluate both the deep water site and the shallow water site as alternative disposal sites. As part of the evaluation of the deep water alternative, EPA agreed to model oceanographic conditions at the deep water site. On an annual basis, the EPA will inform the Commission of any results and progress of its data gathering. After three years, the EPA will submit to the Commission for its review, during a public hearing, an analysis of the monitoring results, turbidity plume modeling using project specific current and grain size data, and alternative site evaluations. If that analysis produces evidence that the disposal activities are significantly affecting fishing values, EPA will begin the process for selecting a new site or, if possible, manage disposal activities at the site to minimize or avoid impacts to coastal zone resources. After five years, the EPA will submit a new consistency determination for the designation of LA-2. That consistency determination

will contain results from five years of monitoring, plume modeling, and alternative site evaluations. In addition, the Commission will be able to regularly evaluate the results of EPA's data gathering through its consistency review of disposal activities at the site. Through its review authority, the Commission can work with the Corps, EPA, and any permit applicants to develop necessary mitigation of impacts revealed through the monitoring process. In addition, the Commission notes that if the disposal activities have coastal zone impacts substantially different than anticipated, a new consistency determination could be required, pursuant to 15 CFR Section 930.44(b), prior to the end of the five year period.

In conclusion, the Commission finds that the consistency determination as submitted does not include enough information to determine consistency with the CCMP. However, EPA proposed modifications, which includes a five-year limitation of the consistency determination, site monitoring, and management plan, will provide the information necessary to completely assess the coastal zone effects. The Commission finds that, because commercial or recreational fishing continued at the site during the historic disposal activities, and because the study would enable more detailed evaluation of the activities, the temporary designation of LA-2 in order to gather information on potential coastal zone effect is consistent to the maximum practicable with the commercial and recreational fishery resource policies of the CCMP.

The EPA completed its five-year monitoring study and presented it to the Commission as part of this consistency determination. The monitoring report provides the Commission with detailed monitoring of physical oceanographic conditions, benthic biological communities, and fisheries resources. The final site monitoring report describes the physical oceanographic studies as follows:

Physical oceanographic studies and measurement programs were conducted by SAIC in the immediate vicinity of the LA-2 ODMDS. These studies included a bathymetric survey, REMOTS sediment profiling investigation, side-scan sonar survey, plan-view photographic mapping survey, and current meter measurement program. The Cooperative Institute for Research and Integrated Ocean Sciences (CIRIOS) performed an analysis of satellite data to evaluate the effectiveness of satellite imagery in identifying upwelling events within the Southern California Bight. The U.S. Army Corps of Engineers conducted a study of bathymetric data collected in 1990 and 1993.

In addition to evaluating physical oceanographic conditions, EPA monitored benthic habitat at the site. The benthic studies consisted of the following:

The current knowledge of the benthic communities near the LA-2 ODMDS and adjacent oceanic basins is summarized from review of pertinent literature, and from interviews with benthic ecologists who have conducted research in the region of the LA-2 ODMDS and nearby areas and/or who are familiar with dredged material disposal effects.

The benthic community includes infauna, epifauna, and demersal fish assemblages. Infauna are small invertebrates that reside within or near the surface of soft sediments. Epifauna include larger invertebrates that reside on the sediment surface or that live attached to hard substrates. Demersal fish live on or near the bottom of the sea.

Three site-specific studies of the benthic community at the LA-2 ODMDS have been sponsored by the U.S. Environmental Protection Agency (EPA). Interstate Electronics Corporation (IEC) conducted a field survey in April 1980 that included a 0.06-square meter (0.65-square foot) box core sampling of the benthic infauna, and otter trawl sampling of epifauna and demersal fish (IEC 1982). MBC Applied Environmental Sciences conducted four quarterly surveys between August 1983 and May 1984 that also included otter trawl sampling for large epifauna and demersal fish; infauna were sampled with a 0.1-square meter (1.1-square foot) Van Veen coring device (Tetra Tech 1988). For both the IEC and MBC studies, infauna were sampled at 5 stations within the LA-2 ODMDS. IEC also sampled infauna at 5 stations outside the site boundaries, and MBC sampled infauna, epifauna, and demersal fish at three stations at a reference site off Orange County. Locations of sampling stations for the 1980 and 1983-1984 surveys are shown in Figure 7. Most recently, a reconnaissance of the disposal area was performed in May 1990 by Science Applications International Corporation (SAIC). Side-scan sonar, REMOTS sediment-profile photography, and plan-view photography were used to identify evidence of dredge material disposal and to document its effects on the benthic environment (SAIC 1990).

Finally, EPA evaluated project effects on fisheries in the area. The monitoring focused on evaluation of California Department of Fish and Game fish catch records. The final monitoring report describes fisheries monitoring as follows:

Fish blocks, established by the California Department of Fish and Game (CDF&G) in cooperation with the U.S. Coast Guard, and are delineated by latitudinal and longitudinal coordinates such that each block is 16.1 kilometers (ten miles) long by 16.1 kilometers (ten miles) wide. Commercial catch statistics for weight per quarter and weight per year, as compiled by the California Department of Fish and Game for 31 blocks in Southern California over the 26-year period from 1970 through 1995, were analyzed to evaluate the significance of fishery resources in each fish block to compare fish block resources near and away from offshore dredged material disposal sites, and to determine if dredged material disposal has had a discernible impact on those resources. The available catch statistics do not include fishing effort, therefore catch per unit effort could not be determined. For the purposes of this study, it was assumed that there were no significant changes in fishing effort for the years analyzed. Graphic and tabular summaries of the fish block data are presented in Appendix B and summaries indicating the amount of resource caught and relative ranking by fish block are presented in Appendix C. Similarly, CDF&G provided recreational fishery catch data, collected from 1986 through 1995, for both Fish Block 740 specifically and for the overall Southern California area encompassing the LA-2 site. The CDF&G recreational catch data do not lend themselves to catch-per-unit-effort analysis, or to detailed statistical comparisons based on such indices. Nevertheless, the data do allow general comparisons to be made between recreational catch trends within Fish Block 740, versus the overall Southern California region over time.

Fish blocks analyzed included Block 740 (block containing the LA-2 Ocean Dredged Material Dump Site (ODMDS)) and Block 738 (block containing the LA-3 ODMDS), as well as surrounding blocks in the waters of the Southern California Bight. The specific blocks examined in this study are shown in Figure 8. The LA-3 ODMDS is located approximately 7.5 kilometers (4.0 nautical miles) south of the Newport Harbor entrance in water depths of approximately 396 meters (1,300 feet) to 457 meters (1,500 feet).

The final monitoring plan supports the EPA's conclusions that the designation of LA-2 will not significantly affect fisheries resources. One of the purposes of the oceanography is to confirm the conclusion that turbidity plumes from disposal events and the resuspension of dredged material disposed of at the site will not affect nearby fishing areas. To measure local water circulation at LA-2, the EPA's contractor installed three moorings around the site, with a total of eight meters:

Mooring ID	Water Depth (meters)	Instrument Depths (meters)	Instrument Type
A	90	20, 50, 85	S4, S4, RCM
B	450	20, 150, 440	S4, RCM, RCM
C	540	400, 530	RCM, RCM

Notes: RCM = Aanderaa Recording Current Meter-4
S4 = InterOcean S4 Current Meter

(See Exhibit 3 for mooring locations.) The current meters were in place from August 31, 1991, through July 14, 1992. EPA describes the results of the current meter study as follows:

The current speeds used in the modeling study appear to be in good agreement with the near-surface and mid-depth mean currents measured in the current meter study. The modeling study results indicated that it would take approximately three hours for a cloud of residual dredged material to move a horizontal distance of 800 meters (2,625 feet) implying that the cloud moves at a speed on the order of ten centimeters per second (0.33 feet per second). The measured data collected for the LA-2 ODMDS revealed that the mean current speed through the water column is on the order of ten centimeters per second (0.33 feet per second) also. Based on the near-bottom current measurements obtained during the monitoring program, the magnitude of the near-bottom currents at the LA-2 ODMDS is most likely not sufficient to resuspend material that has settled to the bottom. These observations seem to confirm the findings of the numerical study which also found that near-bottom velocities were insufficient to resuspend sediment.

In summary, the site specific current data confirms the conclusions in the EIS that the turbidity cloud would not migrate to nearby fishing grounds and that turbidity clouds will not affect fishing areas.

Besides re-evaluating the physical oceanography, EPA's final monitoring report provides additional data on benthic habitat at the disposal site. Although the benthic habitat at the site is outside the coastal zone, the Commission previously raised concerns about potential benthic habitat effects because it provides food sources for commercially, recreationally, and biologically important fish species. These species, as well as the commercial fishing industry itself, are coastal zone resources. The conclusions of the benthic habitat monitoring are that the disposal at LA-2 has had a minor disturbance on the benthic resources at the site. Specifically, EPA concludes that:

Dredged material disposal activities are expected to have localized impacts to benthic organisms within the disposal site. Monitoring results indicate that disposal activities have had only a slight to moderate disturbance effect on the benthic community. Most notably, abundances of early successional infaunal species have been elevated within the LA-2 ODMDS during each monitoring survey. During the 1990 survey, the disturbance-related assemblage extended up to 1,000 meters (3,300 feet) west and 500 meters (1,640 feet) north of the site. Less consistent differences have been noted for epifaunal species. Although fewer epifauna were collected within the LA-2 ODMDS during the 1983-1984 surveys, the 1990 survey did not detect any substantial difference in this assemblage within and outside the LA-2 ODMDS. Demersal fish were slightly less diverse and were less abundant within the LA-2 ODMDS than the reference site during 1983-1984 surveys; they were not quantitatively sampled in 1990.

None of the monitoring studies have indicated a substantially altered or degraded benthic community. Species assemblages within the LA-2 ODMDS are relatively diverse and comparable to other outer shelf and upper slope areas within the Southern California Bight. No unique biological resources or specific nursery areas were identified in the vicinity of the LA-2 ODMDS from review of available literature and from interviews with benthic ecologists familiar with the region. Therefore, no unique benthic resources appear to be at risk from continued use of the LA-2 ODMDS.

The Commission's interest in the effect of the use of the disposal site on benthic resources and on turbidity at and near LA-2 is generated by concern over the effect of the site on economically, recreationally, and biologically important fish species. It appears from the data presented so far that the designation of LA-2 has not affected fishery resources of the area. To provide further evidence of this conclusion, EPA conducted an analysis of recreational and commercial fish catch to determine if the use of LA-2 has caused a noticeable reduction of fish catches as compared to trends of the region. Based on these studies, EPA concludes that dredged material disposal at LA-2 has not caused any significant effect on recreational and commercial fish catches. EPA elaborates on these conclusions as follows:

The analysis of the commercial catch data from 1970 to 1995 finds no evidence that the disposal of dredged material has affected commercial pelagic and benthic fishery resources. There was no significant correlation of dredged material disposal volumes with pelagic or benthic

catch at either the LA-2 or LA-3 ODMDS. In addition, although the recreational catch data did not lend itself to detailed statistical analyses, comparison to regional recreational catch trends suggests that there have also been no significant adverse effects on recreational fisheries.

Long-term trends in catch are influenced by numerous factors including pollution, over-exploitation of resources, loss of habitat, and natural cycles. Long-term trends in environmental parameters, including periodic events such as the El Niño Southern Oscillation, may have more significant effects on biological resources. The most important parameter may be oceanic temperature variations. Data in MacCall and Prager (1988) imply that there have been three major temperature regimes of the Southern California coast since reliable records were first kept beginning in 1916. Ocean waters tended to be relatively warm from 1916 to the early 1940s, cold to the mid-1970s, and then warm again until the present. Changes in species catch and abundance appear to be related to these long-term changes in ocean temperature (MacCall and Prager 1988; Stephens et al. 1986; Love et al. 1986; Roemmich and McGowan 1995).

The decreasing trend in annual catch, which began about 1975-1976 and continued through to the mid 1980s, occurred for the average of all blocks combined, at many of the blocks where no disposal occurred, and for Block 740. This decrease coincides with the initiation of disposal at the LA-2 ODMDS which began in 1975; however, the decline also occurred at sites where no dumping occurred. Furthermore, major disposal did not occur at this site until 1982, seven years after the decline in catch began. Regression analysis found no significant correlations between dredged material disposal volumes and total commercial catch for Blocks 738 and 740.

The general decline in pelagic catch coincided with a general warmer trend of West Coast ocean waters which has continued to the present time (MacCall & Prager 1988). The abundance of Pacific sardine and chub mackerel eggs and larvae have increased with the warmer waters. The decline in pelagic tonnage initially was largely due to fewer Northern anchovy, presumably this northern species does less well in warmer waters. However, by the late 1970s and early 1980s overall catch of most pelagic species had declined which may have been related to ocean temperature and fewer prey. Significant decreases in plankton abundance, including fish larvae and fish prey, has been correlated with warmer ocean waters off the Southern California coast (Roemmich & McGowan 1995). Thus, the decreasing pelagic catch trend from about

disposal activities. Similarly, the increasing pelagic catch trend since 1985 appears to be regional in nature and not affected by disposal activities.

There were fewer significant temporal trends for benthic catch, although there has been an increase in benthic tonnage in recent years due to the harvesting of urchins, sea cucumbers and to a lesser extent sablefish. The lack of significant correlations between benthic tonnage and dredge volumes and the lack of temporal trends related to dumping activity suggests that disposal activities have not affected the commercial benthic catch.

Similarly, analysis of recreational fish data indicate that there have been no significant adverse impacts from dredged material disposal at LA-2. The catch trends seen in the vicinity of LA-2 generally follow the regional catch trends; specifically, there is no indication of adverse impacts to recreational fish catch from disposal activities from 1986 to 1995 (see Appendix D). Thus, the temporal trend of recreational fish catch from Fish Block 740 (containing LA-2) suggests that any trends were regional and not related to disposal of dredged material.

In conclusion, the Commission's evaluation of the final monitoring plan indicates that the effect from designation and use of LA-2 on fishery resources is not significant. The Commission bases its conclusion on an evaluation of physical oceanography, benthic resources, and fish catches near LA-2. Therefore, the Commission finds that the continued use of LA-2 is consistent with the fisheries policies of the CCMP.

D. Water Quality and Sand Supply. Section 30230 provides that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 provides, in part, that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health

populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232 provides that:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Section 30233(b) of the Coastal Act provides, in part, that:

Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

Section 30412 provides, in part, that:

The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate the provisions of this section. Neither the commission nor any regional commission shall, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.

Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, regional commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this division in a manner necessary to carry out the provisions of this division.

Section 307(f) of the Coastal Zone Management Act incorporates into the CCMP the requirements of the Federal Water Pollution Control Act and requirements of federal and state agencies developed pursuant to that Act. Section 307(f) of the Coastal Zone Management Act provides that:

Notwithstanding any other provision of this chapter, nothing in this chapter shall in any way affect any requirement (1) established by the Federal Water Pollution Control Act, as amended [33 U.S.C.A. Section 1251 et seq.] ... or (2) established by the Federal Government or by any state or local government pursuant to [the Act] Such requirements shall be incorporated in any program developed pursuant to this chapter and shall be the water pollution control ... requirement applicable to such program.

Significant impacts to the marine organisms can occur from the disposal of contaminated dredged material. Some of the sediment disposed of at LA-2 could be contaminated with heavy metals, pesticides (including tributyl tin), PCBs, and petroleum based products. Organisms in the water column and on the ocean floor may absorb some of these contaminants. These chemicals may accumulate in the tissues of these organisms and in other higher level predators. Another potential impact from disposal of dredge material at LA-2 is the loss of sand resources. The disposal of sand at LA-2 will remove that material from the littoral system and could adversely affect coastal resources by increasing erosion, and reducing the size of public beaches.

The Commission evaluated both the water quality and sand supply issues in its review of EPA's consistency determination for the designation of LA-2, CD-63-90 (Exhibit 2). In its review, the Commission found that although potential water quality and sand supply impacts are significant, they were issues that EPA, the Corps, and the Commission will evaluate on a case-by-case basis, since all of these agencies have regulatory review over every disposal activity at LA-2. The Commission found in CD-63-90 that it would resolve any sand supply or water quality conflicts through individual review of dredged material disposal activities. The conclusions that the Commission reached in CD-63-90 are still valid and the Commission incorporates those findings by reference. In conclusion, the Commission finds that its future review will enable it to assure that the water quality and sand supply impacts associated with the transportation and disposal of dredge spoils at LA-2 will be consistent with the CCMP.

E. Emerging Issues. There are two issues relating to the continued use of LA-2 that warrant further discussion. The first issue of concern involves alleged violations of relevant regulatory requirements. Two alleged violations are under investigation by EPA. One event involved disposal outside of the site boundaries and

another event involved disposal of material that EPA had not authorized for ocean disposal. In its submittal, EPA describes the status of its investigation of these incidents:

To prevent errant dumping from occurring, EPA, the Corps and the U.S. Coast Guard Eleventh District (USCG) have worked together to monitor disposal operations at the site and to enforce permit conditions requiring disposal of dredged material within a radius of 900 feet (274 meters) of the center of LA-2. The requirement for disposal inside the 900-foot radius area has been incorporated into the special conditions of all permits. The 900-foot radius target area in the center of LA-2 was selected based on modeling of random disposal events at the site and the accumulation of sediment at the boundary of the site.

Furthermore, EPA, in cooperation with the Corps, has developed a management plan and a site monitoring program that are designed to ensure that unacceptable adverse environmental impacts do not occur and disposal operations comply with the permit conditions. This plan includes mandatory conditions that are applied to all permits for disposal at the LA-2 site. EPA has also worked with the Corps and the USCG to inspect, monitor and conduct surveillance of all dredging and disposal operations in the Los Angeles/Long Beach area. When violations of the permits have been detected, EPA has taken appropriate enforcement action. Two cases have been developed for violations of MPRSA since 1991. One case - which involved the disposal of suitable material outside the target area - is in the final stages of investigation (i.e., settlement is expected to be formally signed soon). The second case - involving disposal of unauthorized material - is currently in the initial stages of investigation.

The second emerging issue is a concern shared by EPA and the Commission about the volume of material currently being disposed of at LA-2. Specifically, the ports and the Corps have proposed several large dredging projects in the area. These volumes are much greater than the historic volumes used by EPA as a basis for its modeling and EIS. Both EPA and the Commission have concerns about the effects of these increased volumes on the conclusions reached in the designation process. However, to date, the site monitoring has not shown any significant effects from the increased volumes. If in the future, there is evidence of resource impacts from these increased volumes, EPA may require a re-evaluation of the site to document any potential resource impacts. If necessary, EPA will implement site management changes to address resource impacts. Additionally, if there is evidence that the increased volumes are affecting coastal resources, the Commission may re-evaluate the consistency determination for the designation pursuant to 15 CFR Section 930.44(b). Currently, EPA addresses this concern by conducting a thorough evaluation of every disposal project to ensure that the

applicants maximize beneficial uses of dredged material and minimize disposal at LA-2. Finally, it is possible that the volume of dredged material disposed of at LA-2 may decrease significantly in the near future. EPA has initiated a process to evaluate cleanup methods for a hazardous waste site located offshore of Palos Verdes. One of the cleanup methods under consideration is the use of dredged materials to cover or cap the hazardous waste site. If that were to occur, EPA would use most of the clean dredged material in the area for that cleanup.

In conclusion, the Commission did not consider the enforcement and disposal volume issues in its review of the site designation, CD-63-90. However, through its management program, EPA has addressed these concerns. Therefore, the Commission finds that these issues, at present, do not raise any conflicts with the CCMP.

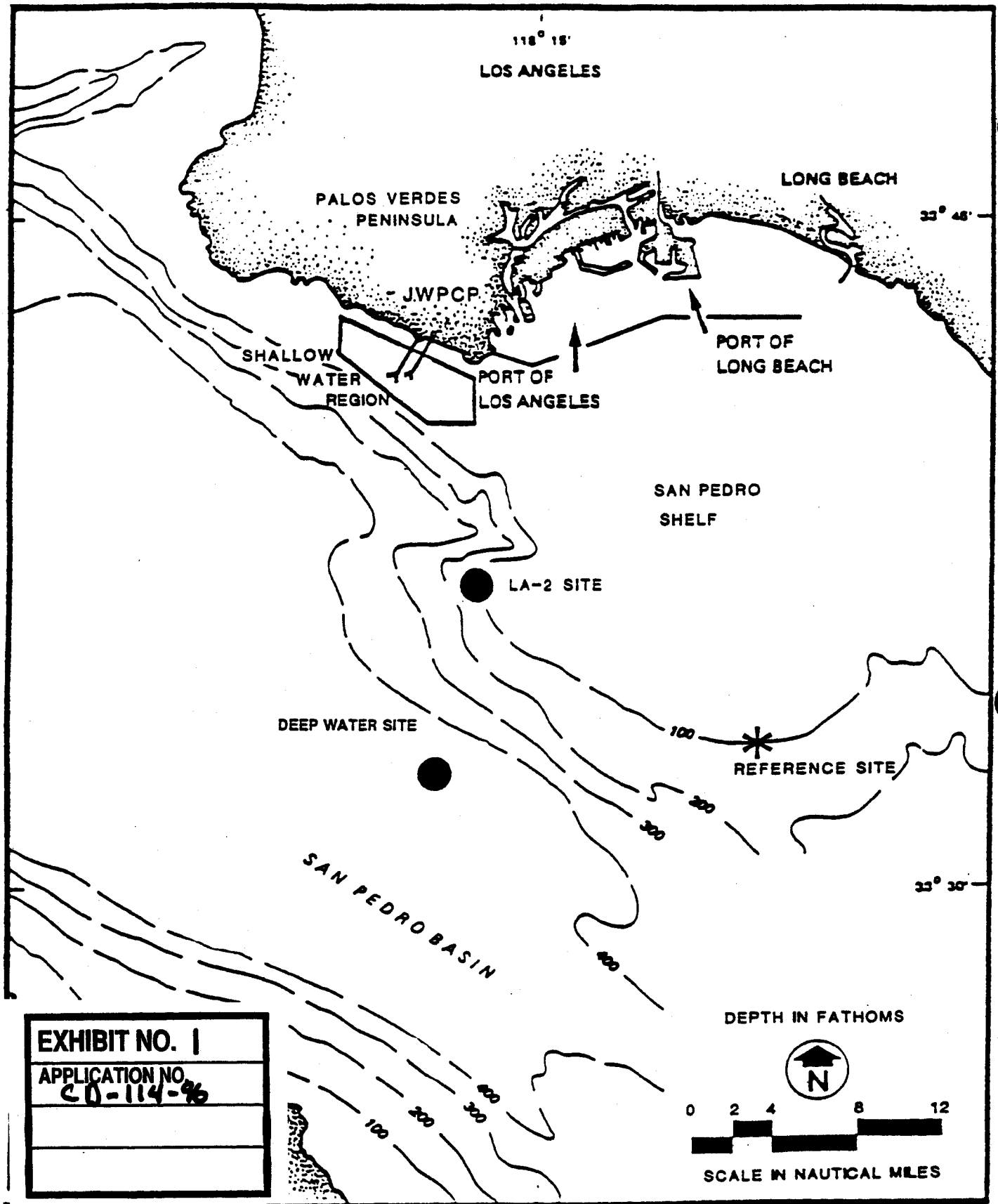


FIGURE 1-1. MAP OF THE PROJECT AREA

JWPCP: LOS ANGELES COUNTY JOINT WATER POLLUTION CONTROL PROJECT AT WHITES POINT

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
 SAN FRANCISCO, CA 94105-2219
 VOICE AND TDD (415) 904-5200

RECOMMENDED REVISED FINDINGSON CONSISTENCY DETERMINATION

EXHIBIT NO. 2
APPLICATION NO. CD-114-96

Consistency Determination No. CD-63-90
 Staff: JRR-SF
 Date of Review: January 9, 1991
 Commission Meeting: April 9, 1991

FEDERAL AGENCY: Environmental Protection Agency

DEVELOPMENT LOCATION: 6.0 miles southwest of Point Fermin, Los Angeles County (Exhibit 1)

DEVELOPMENT DESCRIPTION: Designation and Management of an ocean dredged material disposal site

PREVAILING COMMISSIONERS: Cervantes, Giacomini, Glickfeld, Rynerson, MacElvaine, McInnis, Doo, Neely, Wright, and Gwyn

SUBSTANTIVE FILE DOCUMENTS:

1. Final Environmental Impact Statement for the Los Angeles/Long Beach Ocean Dredged Material Disposal Site Designation, July, 1988.
2. An Historical Perspective of the Commercial and Sport Fisheries Offshore California through 1985, MBC Applied Environmental Sciences, November 1989.
3. California Department of Fish and Game Unpublished Fish Block Data for Fish Blocks in the Vicinity of the LA-2 Site, Recreational and Commercial Fisheries Data, 1984 to 1988.
4. Survey of the Ocean Dredged Material Disposal Site (LA-2) off Los Angeles, California, Science Applications International Corporation, August, 1990.
5. Water Quality Control Plan, Ocean Waters of California, California Ocean Plan, State Water Resources Control Board, 1990.
6. EPA Region 9 General Requirements for Sediment Testing of Dredged Material Proposed for Ocean Dumping, August, 1989.
7. Draft Ecological Evaluation of Proposed Discharge of Dredged Material into Ocean Waters, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, January, 1990.

8. National Wildlife Federation v. Costle (14 ERC 1600 et seq., 1980).
9. Initial Sedimentation and Dispersion Analysis, LA-2 Ocean Disposal Site, Tetra Tech, Inc., October 1990.

EXECUTIVE SUMMARY:

On November 20, 1990, the California Coastal Commission (Commission) received a consistency determination from the U.S. Environmental Protection Agency (EPA) for the designation of an ocean dredged material disposal site 6.0 miles offshore of Palos Verdes. All disposal activities at the site must be conducted in compliance with EPA's regulations (40 C.F.R. Parts 225 and 227) and the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 (33 U.S.C. Sections 1401 et seq.). These legal requirements establish a permit system implemented by the Corps of Engineers (COE) with oversight by EPA, and these requirements are designed to minimize the environmental impacts associated with dredged material disposal. In addition, dredging and disposal activities affecting the coastal zone will be subject to separate consistency review by the Commission.

The LA-2 site had been previously designated an interim dredged material disposal site between 1977 and 1988. After that interim designation lapsed, all dredge disposal activities at LA-2 ceased. The dredging, which will be supported by the designation of LA-2, is necessary to maintain coastal-dependent activities including commercial and sports fishing, recreational boating, and port-related activities. The support of these coastal-dependent activities is consistent to the maximum extent practicable with Coastal Act Sections 30220, 30224, 30234, 30255, 30260, and 30701.

The Commission is concerned about the impact of the proposed designation on recreational and commercial fishing resources of the coastal zone. Several policies of the California Coastal Management Program (CCMP), Sections 30230, 30233(b), 30234, and 30705(c) of the Coastal Act, provide for protection of these resources. Even though the LA-2 site is located in an area that is valuable for commercial and recreational fishing, it was used for dredged material disposal for 11 years without apparently reducing fishing values. Despite the lack of historic conflict, the Commission is concerned about potential impacts to fishing resources. The consistency determination does not contain enough information to assess the fishing impact, and thus, the EPA agreed to modify the consistency determination so that it is only valid for five years. During that time, EPA will monitor the disposal activities at LA-2. After the five year period, EPA will have to submit a new consistency determination. That consistency determination will also contain an evaluation of alternative ocean disposal sites. In addition, EPA agreed to evaluate all proposed dredging projects using the procedures defined in the newest version of the Ocean Dumping Implementation Manual (expected to be published in March, 1991). With these modifications, the proposed project is consistent to the maximum extent practicable with the commercial and recreational fishing protection policies of the CCMP.

The EPA proposal also raises concerns over impacts to water quality and sand supply. These resources are protected by Sections 30231 and 30233(b) of the Coastal Act. In its consistency determination, EPA has made commitments to protect these resources through its review of dredged material disposal permits. Since the Commission has consistency authority over these permits, it can ensure that EPA maintains its commitment to protect these resources. With these provisions, the proposed designation is consistent to the maximum extent practicable with the CCMP.

STAFF SUMMARY AND RECOMMENDATION:

I. Staff Summary:

A. Project Description. The EPA originally proposed to designate and manage an ocean dredged material disposal site 6.0 miles offshore of Palos Verdes (Exhibit 1). The site, known as "LA-2," has a center coordinates of 33° 37.10' north by 118° 17.40' west, a radius of 3,000 feet, and a water depth between 380 and 1060 feet. The site will receive dredged materials from federal projects and permitted disposal activities. The LA-2 site was used for authorized disposal of dredged materials from navigational channels and new construction projects in San Pedro area between 1977 and December 31, 1988, when its interim designation lapsed. Ocean dumping permits for disposal at LA-2 have not been issued since then. Three ocean site alternatives were considered for designation. Those sites include the previously used LA-2, a shallow water region near Palos Verdes, and a deep water site south of LA-2 (Exhibit 1). The LA-2 site was selected as the preferred alternative because it met the applicable criteria and had been already affected by previous disposal activities.

The EPA has agreed (Exhibit 10) to modify its consistency determination so that it is only valid for five years. During that period, EPA will monitor dredged material disposal activities at the site (the monitoring plan is described in full below). After three years, the EPA will submit to the Commission for its review, during a public hearing, an initial report analyzing the first three years of monitoring results and turbidity plume modeling using project specific current and grain size data. If monitoring produces evidence that the disposal activities are significantly affecting fishing values, EPA will begin the process for selecting a new site or, if possible, manage disposal activities at the site to minimize or avoid impacts to coastal zone resources. After five years, the EPA will submit a new consistency determination for the designation of LA-2. That consistency determination will contain results from five years of monitoring, alternative evaluations, and plume modeling.

During the public hearing of EPA's consistency determination, the EPA agreed to further modifications. These modifications are as follows:

- 1) EPA agreed to evaluate all proposed dredging projects received after January 9, 1991 (date of Commission concurrence) would use the procedures defined in the newest version of the Ocean Dumping

Implementation Manual.

- 2) EPA agreed to continue to evaluate both the deep water site and the shallow water site as alternative disposal sites should negative impacts arise from the use of LA-2. The results of this evaluation will be incorporated into EPA's monitoring program, and will be reported to the Commission with EPA's evaluation of the monitoring results in three years and with EPA's new consistency determination in five years.
- 3) EPA agreed to submit to the Commission on an annual basis the results of its monitoring program.
- 4) EPA agreed to incorporate the local commercial and sport fishermen into the monitoring and surveillance activities at LA-2.
- 5) As part of the evaluation of the deep water site, as described in modification 2 above, EPA agreed to model the oceanographic conditions at the deep water site to determine what would happen if dredged material was disposed of at that site.

C. Federal Agency's Consistency Determination. The Environmental Protection Agency has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

II. Staff Recommendation:

The staff recommends that the Commission adopt the following resolution:

Concurrence. The Commission hereby concurs with the consistency determination made by the Environmental Protection Agency for the proposed project, finding that the project is consistent to the maximum extent practicable with the California Coastal Management Program.

III. Findings and Declarations:

The Commission finds and declares as follows:

A. Background. The proposed site designation is authorized by the MPRSA. (33 U.S.C. Sections 1401 et seq.) The purpose of that Act is to regulate the dumping of waste material into the ocean. Section 101 of the MPRSA prohibits, unless authorized by permit, the transportation of waste materials for the purpose of dumping them into the ocean and dumping of waste materials into the territorial seas of the United States or into contiguous waters. (33 U.S.C. Section 1401.) Under that Act, the COE is authorized to issue permits for dumping of dredged material and the EPA Administrator is authorized to issue permits for all other wastes.

Section 102 of the MPRSA authorizes the EPA Administrator to designate sites

for the dumping of wastes, including dredge spoils. (33 U.S.C. Section 1412[c].) The MPRSA also directs the EPA to establish environmental criteria for site designation. The EPA has developed five general criteria and 11 specific factors that must be considered in designating an ocean dredged material disposal sites (Exhibit 2). (40 C.F.R. Section 228.5 and 228.6.) These criteria and factors require EPA to consider the need for dumping, the effect on human health and welfare, fisheries, and marine ecosystem, the appropriate locations and methods for ocean dumping, and the existence of alternative locations and methods for waste disposal. The MPRSA requires that, to the extent feasible, dredged material be disposed of in sites designated by EPA. (33 U.S.C. Section 1413[b].)

The MPRSA also establishes a permit system for the disposal of dredge spoils into the ocean. Section 103 of the MPRSA authorizes the COE to issue permits for the disposal of dredged material into the ocean, if the COE determines that "the dumping will not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities." (33 U.S.C. Section 1413[a].) Before the COE can issue a permit, it must notify EPA of its intent. EPA can disagree with the COE decision to issue a permit if it finds that the project does not meet the criteria established in its regulations. (40 C.F.R. Part 227.) If EPA determines that the material is not suitable for ocean disposal, the COE cannot issue the permit. (33 U.S.C. Section 1413[c].)

In 1977, the EPA designated LA-2 as an interim dredged material disposal site. The interim designation was originally issued for a three year period, but in 1980 EPA extended the interim designation and issued a schedule for final designation by February 1, 1983. Subsequently, an extension until December 31, 1988, was granted to allow completion of field studies, environmental evaluation, and preparation of the environmental impact statement. EPA had not completed the permanent designation of LA-2 by the deadline, and the interim site was closed at the end of 1988.

Prior to 1977, the LA-2 site was used occasionally for disposal of dredged material. Since 1977, the COE has issued permits for disposal of approximately 2,065,000 cubic yards of dredged material at the LA-2 site. (EIS, pp. 1-1 -- 1-4.) However, the actual quantity of material disposed at the site under those COE permits is approximately 1,616,200 cubic yards (Exhibit 3). (EIS, pp. 1-1 -- 1-4.) Although the COE has never used LA-2 site for the disposal of dredged material (EIS, pp. 1-1), any future disposal activities would be subject to consistency review. The COE is not required to issue itself permits for federal dredging projects. However, NEPA and other documentation, including a consistency determination, is prepared by the COE in which the need for ocean disposal is evaluated. The total amount of material disposed at the LA-2 site from COE-permitted projects has averaged approximately 180,000 cubic yards per year, with a range between 8,200 cubic yards and 688,000 cubic yards. (EIS, p. 1-4.) No dredged material disposal has occurred at LA-2 since the site lost its interim designation in 1988.

B. Future Review. The EPA is proposing to designate a dredged material

disposal site, LA-2, offshore of Palos Verdes. This designation is limited to the identification of a disposal site that, to the extent feasible, should be used for the ocean disposal of suitable dredged material. (If the applicant for an ocean dredged material disposal permit determines that it is not feasible to use the designated ocean site and decides to dispose at another ocean location, the review of that decision by EPA and the COE will trigger additional consistency review.) This designation does not include any approval for a specific dredging or dredged material disposal project. All future disposal activities at LA-2 will require federal consistency review.

Federal consistency review of disposal activities at an EPA approved ocean disposal site is not limited by Section 30610(c) of the Coastal Act. That Section states that:

Notwithstanding any provision in this division, no coastal development permit shall be required pursuant to this chapter for the following types of development and in the following areas:

...

(c) Maintenance dredging of existing navigation channels or moving dredged material from those channels to a disposal area outside the coastal zone, pursuant to a permit from the United States Army Corps of Engineers.

That section exempts maintenance dredging and the moving of material to an approved disposal site outside of the coastal zone from the Commission's permit review. However, that exemption relates only to dredging and movement, and does not identify disposal of maintenance dredged material as an exempted activity. That section refers to movement of material to a disposal site outside of the coastal zone and a permit is not required for any disposal activities outside of the coastal zone. Section 30610(c) essentially describes activities that would otherwise need a permit. Since dredge disposal outside the coastal zone does not require a permit, that exemption does not apply.

Even though disposal activities at LA-2 will not require a coastal development permit, they may trigger federal consistency review. The recent amendments to the Coastal Zone Management Act clarify the application of consistency requirements to disposal activities outside the coastal zone. In particular, they state that any "activity within or outside the coastal zone that affect any land or water use or natural resources of the coastal zone" (emphasis added) requires federal consistency review. (16 U.S.C. Section 1456, as amended.) Any proposed ocean disposal activities at LA-2 will require a permit from the COE pursuant to Section 103 of the MPRSA. (83 U.S.C. Sections 1401 et seq.) That permit is listed in the CCMP as an activity that is likely to affect the coastal zone, and thus, will trigger Commission's federal consistency review if the activity affects any land or water use or natural

resources of the coastal zone. (COE projects do not require Section 103 permits, but, as a federal agency, their activities are also subject to consistency review.)

The listing of Section 103 permits in the CCMP, emphasizes that Section 30610 does not limit the Commission's authority to review ocean disposal activities outside the coastal zone under federal consistency provisions. In fact, the only purpose of listing Section 103 permits in the CCMP is to assure review of ocean disposal activities outside of the coastal zone, since the Commission has permit authority for all dredged material disposal activities within the coastal zone, because they constitute development in the Commission's original jurisdiction. Pursuant to the CCMP, the Commission's review of an activity requiring a coastal development permit, which also requires a federal permit, is "deemed to be a determination by the State that the proposed Federal license or permit activity is consistent with the management program, and no further certification will be required." (CCMP, p. 92.) Since the Commission reviews ocean disposal of dredged material in the coastal zone under its permit authority, the only purpose of listing Section 103 permits in the CCMP is to assure review of ocean disposal activities outside of the coastal zone. As a listed activity, ocean disposal activities outside of the coastal zone will require a consistency certification or determination, if the activities affect land or water uses or natural resources of the coastal zone.

C. Need for Dredging. The designation of LA-2 is intended, for the most part, to support the dredging needs of the Ports of Los Angeles and Long Beach, its tenants (which include commercial and recreational fishing boats, ship building and repair, cargo transportation, and recreational boating), the U.S. Navy, the COE, and some of the recreational harbors in the area. The Coastal Act supports and encourages protection of many of those uses. Section 30220 provides that:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30224 provides that:

Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

Section 30234 provides, in part, that:

Facilities serving the commercial fishing and

recreational boating industries shall be protected and, where feasible, upgraded

Section 30255 provides that:

Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

Section 30260 provides, in part, that:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

Section 30701 provides, in part, that:

The Legislature finds and declares that:

(a) The ports of the State of California, including the Humboldt Bay Harbor, Recreation, and Conservation District, constitute one of the state's primary economic and coastal resources and are an essential element of the national maritime industry.

It is clear from the above cited sections, that the Coastal Act includes policies protecting, in a manner consistent with all the policies of the Coastal Act, continued recreational boating, sports fishing, commercial fishing, and port-related activities. These are all current uses within the ports and harbors in the area. These ports provides berthing for commercial and sports fishing boats, recreational boats, and cargo ships. Section 30701 of the Coastal Act recognizes the Ports of Los Angeles and Long Beach as among those ports that are part of the state's primary economic and coastal resource and an essential element of the national maritime industry.

The channels within those ports are necessary to provide access to berthing,

unloading and loading, and repair areas. These channels need regular dredging in order to maintain the depth necessary for ingress and egress into the port. Without regular dredging, the channels would eventually silt up and access into the ports would be significantly limited. Thus, dredging is necessary to support continued high priority coastal uses such as commercial fishing, recreational boating, and other port related activities. Additionally, future proposals may seek authorization for dredging the channels to new depths to support expansion of the port and other coastal-dependent activities.

One of the more significant limitation on dredging is the problems associated with disposal of the dredged material. However, in the Los Angeles area there are several options for disposal of dredge spoils. In the past, much of the material dredged from channels in the Ports of Los Angeles and Long Beach has been used as fill for port expansion, and this use, most likely, will continue in the future. Additionally, some of the material dredged in this area of Southern California is used for beach replenishment. Even though there appear to be feasible options for dredged material disposal, an ocean disposal site is necessary because, among other considerations, it is not always feasible to use dredged material for port expansion or beach replenishment; the grain size of the material may not be suitable for those uses, and a port expansion activities may not coincide with dredging activities. Therefore, an ocean dredged material disposal site is needed to support dredging activities necessary for coastal dependent uses such as transportation of cargo, commercial and sports fishing, recreational boating, and other port related activities. Therefore, the Commission finds that the proposed designation will support high priority uses protected by the CCMP.

D. Recreational and Commercial Fisheries. The proposed dredged material disposal site has the potential to adversely affect marine species including those that are recreationally and commercially valuable. The Coastal Act provides for the protection of these resources. Section 30220 provides that:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30230 provides that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30233(b) provides, in part, that:

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation

Section 30234 provides that:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Section 30705(c) provides, in part, that:

... dredge spoils may be deposited in open coastal water sites designated to minimize potential adverse impacts on marine organisms

The proposed site will be located 6.0 miles south of Point Fermin (Exhibit 1), which is three miles seaward of the coastal zone boundary. Since the site will not be in the coastal zone, pursuant to Section 307(c) of the Coastal Zone Management Act (16 U.S.C. Section 1456[c]), the Commission must evaluate the project for its effects on the coastal zone. Resources of the coastal zone that could be affected by the designation of a dredged material disposal site at this location include marine fisheries (including species that may be commercially or recreationally valuable) and the commercial and sports fishing industries. The commercial and sports fishing industries and recreational fishing are coastal zone uses that utilize ports and harbors inside the coastal zone. Impacts to fish species, or to marine life on which those species depend on, will impact those industries and activities. Also, fish species travel in and out of the coastal zone.

One type of commercial fishing, trawling, has the potential to be significantly affected by the designation of a dredge disposal site, because trawl nets dragged on the bottom can be snagged by deposited dredge materials. Trawl fishermen would have to avoid the disposal site and surrounding areas to protect their equipment. However, according to a recent study and discussions with representatives of the fishing industry, "little trawling is done in this region, apparently due to seafloor irregularities and the presence of natural and man-made snags nearshore." (MBC, p. 29.) Therefore, the designation of LA-2 will not affect trawl fisheries.

However, the disposal activities has the potential to affect other types of recreational and commercial fisheries. This impact is potentially significant because LA-2 will be located in area that has high fishing values. The

commercial fishing values of the area have been documented by the California Department of Fish and Game (CDFG). That agency collects data on fish catches and aggregates its according to fish blocks (Exhibit 4). The EIS and consistency determination for the LA-2 designation contains several years of fish block data. In 1976 and 1977, fish blocks 740 (containing LA-2) and 741 (adjacent to the block containing LA-2) (Exhibit 5) were the two most productive blocks in the San Pedro area. In 1981, fish block 741 was the most productive area. While the productivity of block 740 was lower than previous years, it was still the third most productive block. (EIS, p. 3-68.) The commercial fishing values for these two blocks remained high for the years between 1984 and 1988. Commercial fishermen caught, on an average, 267,516 pounds of fish per year within Fish block 740 (Exhibit 6). (Consistency Determination, p. 17.) This was the second most productive block in the San Pedro area. Block 741 averaged 142,521 pounds of fish caught, and was the fourth most productive block. (Consistency Determination, p. 17.)

The value of the San Pedro area for commercial fishing is also described in the EIS for the LA-2 designation. That document describes the commercial fishing resources as follows:

The Los Angeles area ports are an important center for commercial fishing. The 260 million pounds of commercial fish landed in 1983 were valued at about \$85.1 million. This represents approximately 51.5% of the total catch weight and 45.7% of the total value of all commercial landings in California [Exhibit 5]. Between 1981 and 1983, the value of landings at Los Angeles area ports declined from about \$112.0 million to \$85.1 million. However, the Los Angeles area portion of the state total value for commercial landings has increased from 39.9% to 45.7% due to a greater overall decline in the total state landings. ... In 1983, the most important port was Terminal Island which accounted for 88.4% of the value for commercial landings in the area.

In addition to its commercial fisheries, the San Pedro area has a significant recreational fishing value. The CDFG also collects and processes fish block data for recreational fishing. The fish block data from 1977 indicates that block 740, which contains LA-2, was the third most productive fish block in the San Pedro area (Exhibit 7). (EIS, p. 3-85) More recent fish block data shows that block 740 continues to be an important recreational fishing area. Between the years 1984 and 1988, the average catch for block 740 was 102,031 fish, the fifth highest for the San Pedro area (Exhibit 8). The LA-2 site is located near several important recreational fishing areas (Exhibit 9). One of these areas, Horseshoe Kelp, is one of the most popular recreational fishing areas in the San Pedro area. In addition, the Potter's Reef fishing area is located adjacent to the proposed LA-2 site.

It is clear that the LA-2 will be located in an area valuable for commercial and recreational fishing. The regular disposal of dredged material at this

site will smother organisms living on and below the ocean floor and increase turbidity in the water column. These effects could result in significant coastal zone impacts if they affect recreational or commercial marine species, or interfere with commercial and/or sports fishing.

Disposal activities at LA-2 may affect the coastal zone by smothering benthic organisms and demersal fish. The organisms affected by the smothering may be in the food chain of commercially and recreationally valuable marine species. Even though the smothering may result in some mortality of species at the site, these bottom organisms are expected to recolonize the site after disposal. Since disposal of dredged material at the site may happen several times a year, the effect on bottom organisms may reoccur. However, the site is large enough that it is unlikely that same area will be regularly affected. Thus, areas affected by dredged material disposal should have an opportunity to recolonize. In addition, the types of organisms found at the LA-2 site are common species found at similar depths throughout the southern California bight. Thus, any reduction in abundance at the LA-2 would not significantly reduce the number of prey species in a manner that would affect the coastal zone. Therefore, the Commission finds that smothering of organisms by dredge spoils disposal will not affect fishing resources of the coastal zone.

In addition to smothering benthic organisms that are found within the LA-2 site, disposal activities could affect fish species in and near the site. Although most of the material disposed of at the site will sink to the bottom, some of it will remain in the water column as a turbidity plume. In its consistency determination and EIS, EPA concludes that the increase in turbidity is not significant because its impact is localized and temporary. The EIS states that:

Short term impacts to water quality in the immediate vicinity of LA-2 can be expected at the time of dredged material disposal The dredged material will be dispersed by currents as a plume cloud causing an increase in turbidity and possibly a reduction in dissolved oxygen. ... [A]fter the initial disposal and with prevailing northwest current, it is predicted that the plume will be diluted to a negligible concentration of 4 to 5 mg/l within 5 hours. ...

Increased turbidity and reduced DO in the water column have been determined as a Class 1 [most significant] impact since they cannot be mitigated. This is a local effect of short term duration so no mitigation measure is proposed.

However, the Commission is concerned that the increased turbidity in the water column will affect commercial and recreational fishing. The increase in turbidity may clog fish gills, interfere with fish predation, and may cause fish to avoid the area. Thus, the increase in turbidity may affect the

productivity of the area, and reduce its value for commercial and recreational fishing. If the currents are moving the turbidity plume into areas valuable for recreational and commercial fishing, the disposal activities may have a significant effect on those resources. The extent of the impact depends mostly on the direction and force of the currents and the grain size of the material disposed, which relates to the longevity of the plume.

The Commission has concerns regarding the completeness of EPA's analysis of turbidity. EPA's conclusions are based on information produced from numerical modeling of the turbidity plume. These models are based on general information about currents and grain size. As described above, both currents and grain size are the major factors that affect the direction and longevity of the turbidity plume and its potential to affect commercial and recreational fisheries. Without specific information on currents and grain size, the fishing impacts from the turbidity plume are difficult to predict.

The current information used to model the impact of the turbidity plume is based on literature on general currents of the southern California bight and not on specific currents at the disposal site. The Commission believes that it is difficult to predict specific currents at any time or place in this area from general information and that site specific information is, therefore, needed to assess properly the potential impacts of disposal at the LA-2 site. This conclusion is supported by the EIS:

Parachute drogue and drift bottle studies show that the currents in the Southern California Eddy have a complex nature of flow and that flows calculated based on the geostrophic currents may not be completely valid. Countercurrents, eddy currents, and upwelling conditions form a complicated system that has both large and small scale variations in flow direction (Maloney and Chan, 1974).

Surface currents are heavily influenced by wind forces and submarine topography. Deeper currents are mainly influenced by tides, undercurrent, and basin topography. Localized eddies and other current features are constantly forming, interacting and dissipating. Despite the three recognized current periods, the prevailing current at a particular time and place is changeable and difficult to predict. (EIS, p. 3-11.)

In addition to the general unpredictability of the currents in the area, the geographic features of the LA-2 site may alter currents in a manner that requires site specific studies. It is unclear whether the San Pedro Sea Valley, which is adjacent to LA-2, has an effect on currents at the LA-2 site. The EIS states that:

San Gabriel Canyon appears to modify the shelf current system by creating a corridor across the shelf and down

its slope (Karl, 1980). It is unknown whether San Pedro Sea Valle (near the LA-2 site) operates in a similar manner, although both submarine canyons head on the San Pedro Shelf at a distance greater than 2 nmi (3.7 km) from shore. (EIS, p. 3-11)

In addition to the currents, the EPA needs specific grain size information to accurately predict the effect from the turbidity plume. The larger the grain size of the material disposed, the shorter lived the turbidity plume. In other words, the longevity of the turbidity plume for disposal of material that contains predominately sand-sized grain will be shorter than the disposal of material that is predominately clay or silt.

EPA's analysis of the turbidity plume also fails to take into account cumulative impact associated with repeated disposals. The impacts of individual disposal events are treated by EPA as isolated occurrences with only temporary impacts. In fact, the number of such incidents may result in a virtually continuous disturbance. The model used to analyze the turbidity plume estimated that discharges from the barge will range between 500 to 4000 cubic yards per dumping event. Disposal of 200,000 cubic yards annually at LA-2 will involve between 50 to 400 such loads. The EIS indicates a general impact duration of about 5 hours. (EIS, p. 4-12.) According to the EIS, during dredging operations, a barge may make two to four trips to the disposal site per day. (EIS, p. 1-4.) Therefore, turbidity plume could last up to 20 hours per day during the dredging operation and could have lethal and sub-lethal effects on marine organisms as well reducing the fishing value of the area.

As described above, the CDFG fish block statistics show that the fish blocks including and near LA-2 remained productive despite the historic dredged material disposal operations that have occurred at LA-2 between 1977 and 1988. Although this lack of historic evidence of fishing impacts suggests that dredged material disposal and fishing have coexisted, the Commission believes that that evidence does not conclusively show that dredged material disposal will not affect fishing resources. The information about fishing productivity is at a rather general scale; fish blocks are approximately eight by ten miles. Thus, these blocks do not provide specific enough information to make conclusions regarding resource impacts to area near the disposal site. Even if the fish block information was specific enough to assess the fishing impact, most of the data included in the EIS and consistency determination was collected while LA-2 was an active site. Thus, it is conceivable that the area was more productive prior to interim designation of LA-2. Therefore, the fish block data is too general to conclude that turbidity caused by dredged material disposal will not affect fishing values of the area near LA-2. Without site specific turbidity analysis, there is not enough information for the Commission to conclude that the project's effect on fisheries is consistent with the CCMP.

The Commission notes that there are some fishermen that are concerned about reduced productivity potentially caused by dredged material disposal at the

site. Some of the people opposed to the proposed LA-2 site, have argued that the selection of the deep water site, an alternative considered in the EIS, would be less damaging to commercial and recreational fishing. Although the Commission recognizes that the fishing values at the deep water site are lower than the proposed site, the impact from disposal at the deep water site may have more significant environmental effects. The deep water site considered by EPA is located in the San Pedro Basin approximately five miles west of the proposed LA-2 site. According to the EIS, the "San Pedro Basin has the lowest oxygen levels reported for the borderland basins of Southern California" (EIS, p. 3-19.) Disposal of dredged material in a low dissolved oxygen environment presents serious risks to marine life. The EIS describes the risk as follows:

Increased [biological oxygen demand (BOD)] and [chemical oxygen demand (COD)] at the deep water site creates a potentially more serious impact than at the shallower sites. The dissolved oxygen levels at the deep water site are severely depleted under normal conditions and any increase in BOD or COD may further reduce the dissolved oxygen available for faunal respiration. (EIS, p. 4-35.)

The disposal of dredged material at the deep water site has the potential of depleting all dissolved oxygen at and near the site. This anoxic condition could eliminate all habitat values at the deep water site and could have long term implications because the lack of water circulation and naturally low oxygen levels would significantly lengthen the amount of time that it would take for the oxygen levels to return to normal conditions. Therefore, disposal of dredged materials at the deep water site could create a dead zone within the San Pedro Basin, and thus, based on the information available at this time, the Commission agrees that the deep water site would be a more environmentally damaging alternative.

In the case of LA-2, the best way to gather the needed information is to study disposal activities at the site. Since there is no clear historic conflict between disposal activities and fishing, the Commission believes that a temporary approval of the dredged material disposal site with a monitoring program will allow for further analysis of the impacts from dredged material disposal without significantly risking fishing resources.

The EPA has agreed (Exhibit 10) to modify its consistency determination so that it is only valid for five years. During that period, EPA will monitor dredged material disposal activities at the site (the monitoring plan is described in full below) and continue to evaluate both the deep water site and the shallow water site as alternative disposal sites. As part of the evaluation of the deep water alternative, EPA agreed to model oceanographic conditions at the deep water site. On an annual basis, the EPA will inform the Commission of any results and progress of its data gathering. After three years, the EPA will submit to the Commission for its review, during a public hearing, an analysis of the monitoring results, turbidity plume modeling using project specific current and grain size data, and alternative site

evaluations. If that analysis produces evidence that the disposal activities are significantly affecting fishing values, EPA will begin the process for selecting a new site or, if possible, manage disposal activities at the site to minimize or avoid impacts to coastal zone resources. After five years, the EPA will submit a new consistency determination for the designation of LA-2. That consistency determination will contain results from five years of monitoring, plume modeling, and alternative site evaluations. In addition, the Commission will be able to regularly evaluate the results of EPA's data gathering through its consistency review of disposal activities at the site. Through its review authority, the Commission can work with the COE, EPA, and any permit applicants to develop necessary mitigation of impacts revealed through the monitoring process. In addition, the Commission notes that if the disposal activities have coastal zone impacts substantially different than anticipated, a new consistency determination could be required, pursuant to 15 CFR Section 930.44(b), prior to the end of the five year period.

The EPA has incorporated a site management plan and monitoring program into its consistency determination (Exhibit 11). These programs will enable EPA evaluate the long-term and cumulative impacts associated with disposal at LA-2. If the monitoring produces information that suggests that there are unanticipated impacts from dredged material disposal, the EPA can implement management alternatives to minimize those impacts. Although the management plan gives discretion to EPA to implement management alternatives based on monitoring results, the Commission, through its consistency review of disposal activities at the site, will be able to identify alternatives if the Commission finds that use of the site is adversely affecting the coastal zone.

The EPA has designed a monitoring program that evaluates impacts to the ocean floor, water column, and biological resources. Specifically, a three-tiered monitoring program has been designed to evaluate conditions at LA-2. Tier 1 consists of periodic physical surveys of the disposal site to determine the aerial extent of disposed dredged material. If significant adverse impacts on selected biological resources are suspected based on the tier 1 survey, data on physical impacts (tier 2) and body burdens of chemicals of concern (tier 3) at the LA-2 site and adjacent areas will be compared to the reference site north of LA-2. The measures taken to monitor the site include periodic bathymetric, side-scan sonar, and/or sub-bottom surveys, deployment of current meters, sediment profile photographs, bottom trawls, and analysis of contaminated body burden of resident benthic organisms. The EPA will also use the local commercial and sport fishermen to aid in monitoring and surveillance activities. These fishermen will be used to report errant dumping and documenting adverse affects from disposal activities.

If the monitoring program produces evidence that the disposal activities are creating unacceptable adverse environmental impacts, EPA will implement management directives to reduce the impacts to an acceptable level. The management options include regulating the quantities and types of material and times, rates, and methods of disposing material and enforcing permit requirements. The management plan also calls for implementing changes in site use if unacceptable impacts are perceived from the monitoring program. Some

of the recommended changes in site use include limiting the amount of dredged material disposal at the site, reconfiguring site boundaries, restricting disposal to specific locations within the dump site, re-evaluating bioaccumulation testing and analytical procedures, restricting timing of disposal, and limiting designation of site to a finite time and evaluating alternative disposal sites. The management procedures will be implemented based on evidence produced in the monitoring program.

The program also requires surveillance and enforcement of permits. A recent side-scan survey produced evidence that many of the disposal activities previously approved at LA-2, while the site had its interim designation, were not disposed of at the site (Exhibit 12). This survey showed that a large area east of LA-2 has been used for disposal of dredged material. In order to insure that dredged material approved for disposal at LA-2 is actually dumped at that site, EPA may conduct one or more of the following activities: 1) onboard inspection, 2) plots of barge navigation courses while inside the confines of the disposal site, 3) detailed hydrographic surveys. In addition, EPA is working with the COE to develop a permit condition that requires the use of precise navigation equipment to determine the center of the disposal site and reporting that information to the COE. Finally, local fishermen will be used spot and document errant dumping activities. The extensive surveillance and enforcement procedures provided for in the management plan will significantly reduce coastal zone impacts associated with errant dumping. The results will be evaluated by the Commission as it reviews COE permits for dredged material disposal at LA-2.

In conclusion, the Commission finds that the consistency determination as submitted does not include enough information to determine consistency with the CCMP. However, EPA proposed modifications, which includes a five-year limitation of the consistency determination, site monitoring, and management plan, will provide the information necessary to completely assess the coastal zone effects. The Commission finds that, because commercial or recreational fishing continued at the site during the historic disposal activities, and because the study would enable more detailed evaluation of the activities, the temporary designation of LA-2 in order to gather information on potential coastal zone effect is consistent to the maximum practicable with the commercial and recreational fishery resource policies of the CCMP.

E. Water Quality. Dredged material may contain contaminants that reduce the quality of ocean waters if it is disposed of at LA-2. The Coastal Act protects biological resources from impacts associated with reduction in water quality. Section 30230 provides that:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine

organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 provides, in part, that:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232 provides that:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Section 30412 provides, in part, that:

The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate the provisions of this section. Neither the commission nor any regional commission shall, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.

Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, regional commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this

division in a manner necessary to carry out the provisions of this division.

Pursuant to Section 307(f) of the Coastal Zone Management Act, the requirements of the Federal Water Pollution Control Act and requirements of federal and state agencies developed pursuant to that Act are incorporated into the CCMP. Section 307(f) of the Coastal Zone Management Act provides that:

Notwithstanding any other provision of this chapter, nothing in this chapter shall in any way affect any requirement (1) established by the Federal Water Pollution Control Act, as amended [33 U.S.C.A. Section 1251 et seq.] ... or (2) established by the Federal Government or by any state or local government pursuant to [the Act] Such requirements shall be incorporated in any program developed pursuant to this chapter and shall be the water pollution control ... requirement applicable to such program.

Significant impacts to the marine organisms can occur, if dredged material is contaminated with hazardous substances. Most of the dredge spoils disposed of at LA-2 will be dredged from inside Ports of Los Angeles and Long Beach. Some of this sediment may be contaminated with heavy metals, pesticides (including tributyl tin), PCBs, and petroleum based products. Some of these contaminants may be absorbed by organisms in the water column and on the ocean floor. These chemicals may accumulate in the tissues of these organisms and in other higher level predators.

In order for the Commission to evaluate the biological effect from disposal of contaminated material at LA-2, it will need more information on the type and amount of contaminants placed at the site. However, this information will only be available when the Commission reviews a specific dredging project; such information is not available at this time. Even without this information, EPA believes that the designation of LA-2 will not have any significant water quality impacts associated with the transportation or disposal of dredge spoils, because the agency has strict standards for the placement of contaminated material at the site. Specifically, EPA states, in its consistency determination, that:

Dredged material proposed for disposal at any EPA-designated disposal site will be evaluated to determine compliance with EPA's Ocean Dumping Regulations at 40 C.F.R. Parts 220, 225, 227 and 228. The composition and characteristics of the proposed dredged material must be completely documented or the sediment is prohibited from ocean disposal (40 C.F.R. Section 227.5). The sediment proposed for disposal must be adequately sampled and compared to a reference site that has characteristics similar to the LA-2 site before any dumping occurs. EPA

Region IX and the [COE's] Los Angeles District will evaluate sediment physical and chemical tests, bioassay tests and bioaccumulation tests to determine whether the proposed dredged material complies with EPA's permit criteria at 40 C.F.R. Part 227. Dredged material determined to be hazardous is not suitable for ocean disposal. (Consistency Determination, p. 20.)

The regulations implementing the MPRSA identify specific materials that are prohibited from being disposed of in the ocean, including radioactive wastes, radioactive, chemical, and biological warfare material, and floating material. (40 C.F.R. Section 227.5.) In addition, those regulations prohibit the disposal of the following material in greater than trace amounts: organohalogen compounds, mercury and mercury compounds, cadmium and cadmium compounds, petroleum products, known or suspected carcinogens, mutagens, or teratogens. (40 C.F.R. Section 226.6[a].) The EPA considers any of these materials to be greater than trace amounts if they "cause significant undesirable effects, including the possibility of danger associated with their bioaccumulation in marine organisms." (40 C.F.R. Section 227.6[b].)

In order to assess the significant undesirable effects of contaminated dredge spoils, EPA conducts bioassay tests on suspended particulate, and solid phases of the material prior to allowing the disposal. (40 C.F.R. Section 227.6[c].) These tests allow EPA to measure the effect of the contaminated material on biological resources, rather than evaluating chemical presence of the contaminants. Although these tests are not precise predictors of environmental effects, they provide quantitative estimators of impacts. EPA also measures bioaccumulation potential of contaminants. The intent of this test is to determine if organisms are concentrating chemicals in their tissues to levels which might prove harmful to either themselves or to their predators. Like the bioassay tests, the bioaccumulation test measures the biological effect of contaminated dredge spoils.

Since EPA's analysis of dredge spoils emphasizes biological effects of contaminants as opposed to chemical concentrations, the EPA's designation and management of LA-2 does not include quantitative limits on the concentrations of chemical contaminants. Thus, it is expected that some contaminated material will be disposed of at LA-2. However, this material will only be permitted if it passes EPA's biological tests. According to EPA's regulations:

The limiting permissible concentration of the suspended particulate and solid phases of a material means that concentration which will not cause unreasonable acute or chronic toxicity or other sublethal adverse effects based on bioassay results using appropriate sensitive marine organisms in the case of the suspended particulate phase, or appropriate sensitive benthic marine organisms in the case of the solid phase; and which will not cause accumulation of toxic materials in the human food chain. (40 C.F.R. 227.27[b].)

Section 30231 of the Coastal Act emphasizes the protection of biological productivity and optimum populations of marine organisms. EPA's bioassay and bioaccumulation test requirements will be a part of the Commission's evaluation of the biological effects from the disposal activities when it evaluates specific disposal projects for consistency with the biological resource protection policies of the CCMP. In order to ensure consistency with the water quality policies of the CCMP, EPA agreed to modify the project by evaluating all proposed dredging projects received after January 9, 1991 using the procedures defined in the newest version of the Ocean Dumping Implementation Manual, which are the most comprehensive procedures for testing water quality impacts from disposal. Thus, the standards used by EPA will enable the agency to minimize the biological impacts from placement of contaminants at the disposal and will enable the Commission during case-by-case review of such projects to verify whether these standards will be met. Therefore, the Commission finds that its future review will enable it to assure that the water quality impacts associated with the transportation and disposal of dredge spoils at LA-2 will be consistent to the maximum extent practicable with the water quality protection policies of the CCMP.

F. Sand Supply. The designation of LA-2 may affect sand resources in the coastal zone. Section 30233(b) of the Coastal Act protects these resources. That section provides, in part, that:

Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

Some of the material dredged from channels in the Los Angeles area may be predominantly sand sized and compatible with beaches in the area. Several of the beaches in the area have erosion problems, and sand resources dredged from channels should be used to maintain and restore those eroding beaches. Sand sized material placed at the LA-2 site would result in a loss of sand resources in the coastal zone. At about 100 fathoms, that site is not subject to littoral processes, and thus, sand placed at that site will remain there and not benefit eroding beaches.

The designation of LA-2 does not include specific standards that would prevent the disposal of sand-sized material at the site. However, EPA states, in its consistency determination that:

EPA Region IX and the [COE's] Los Angeles District will encourage the beneficial use of dredged material, whenever possible, as an alternative to ocean disposal. EPA Region IX and the [COE's] Los Angeles District consider clean sand as a natural resource that should be disposed to replenish beaches or other acceptable beneficial uses where possible. As previously noted, designation of the LA-2 site does not mean that all proposed dredged material will be disposed at the site. Applicants for each

proposed dredging and disposal project must evaluate possible alternatives, including beach nourishment. (Consistency Determination, p. 23.)

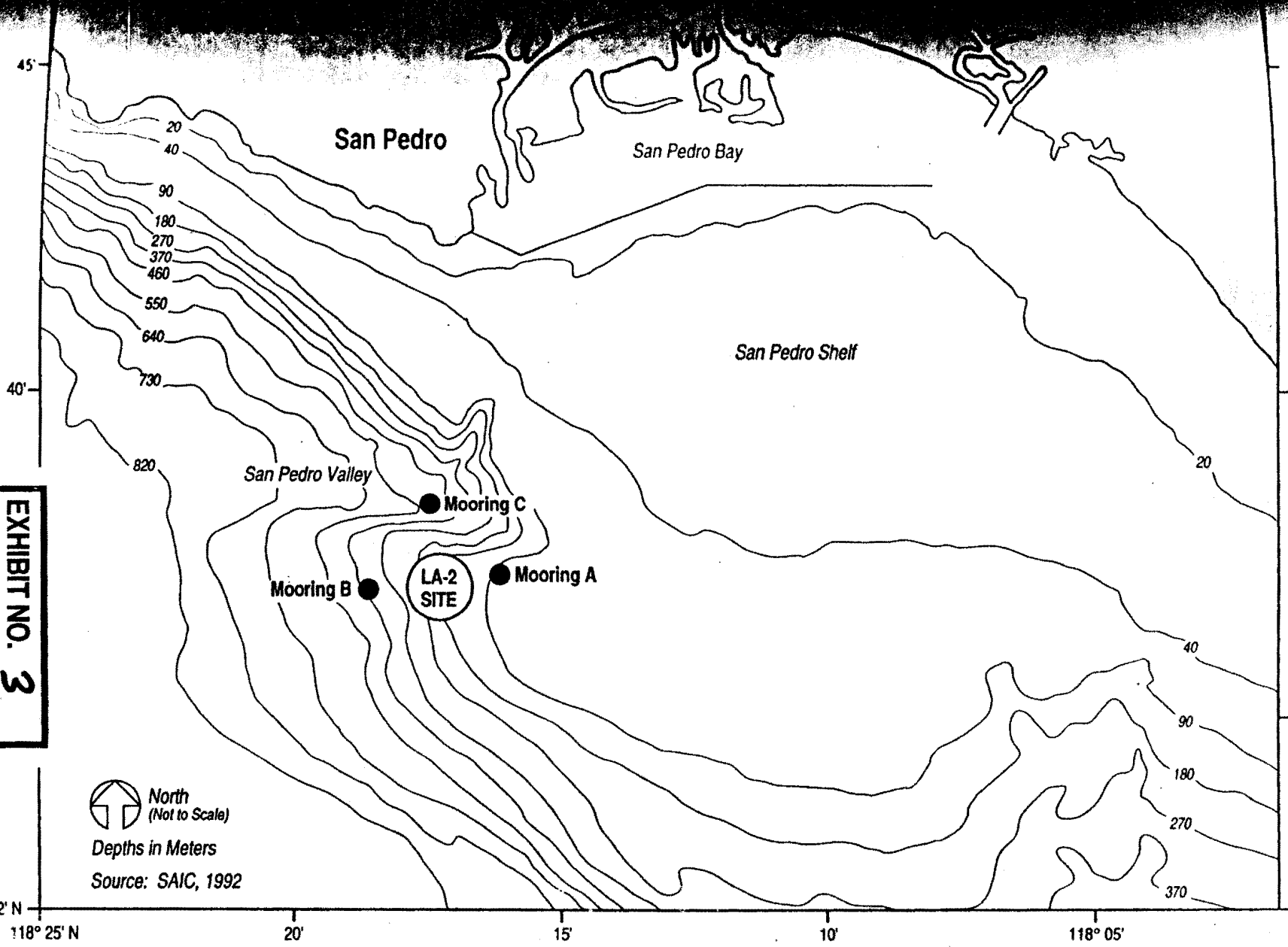
In addition, the regulations implementing the MPRSA provide encouragement for use of dredged material for beach replenishment. These regulations define disposal of dredged material that "is for beach nourishment or restoration and is composed predominantly of sand, gravel, or shell with particle sizes compatible with material on the receiving beaches" as environmentally acceptable for ocean dumping. (40 C.F.R. Section 227.13.) The discussion in EPA's consistency determination and the incentives in the regulations provide the Commission with some assurance that suitable dredged material will be used for beach replenishment.

Finally, as noted above, all disposal activities will be subject to the Commission federal consistency authority. Through this authority, the Commission will review dredged material disposal activities at LA-2 to evaluate sand supply effects of the proposal and determine if the material should be used for beach replenishment. Therefore, the Commission finds that the proposed designation of LA-2 is consistent to the maximum extent practicable with the sand supply policies of the CCMP.

Analytical Systems, Inc.

EVALUATION

EXHIBIT NO. 3
APPLICATION NO.
CD-114-96



September 1996

Figure 4. Current Meter Locations in the Vicinity of the LA-2 ODMDS.

1994

