

The Marine Ecology of Marina del Rey Harbor, California

A BASELINE SURVEY FOR THE COUNTY OF LOS ANGELES

DEPARTMENT OF SMALL CRAFT HARBORS

1976-1977



by
Harbors Environmental Projects
edited by
Dorothy F. Soule and Mikihiro Oguri

published by
Allan Hancock Foundation and The Office of Sea Grant Programs,
Institute for Marine and Coastal Studies

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MARINA DEL REY HARBOR, CALIFORNIA

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Marine Studies of San Pedro Bay, California, is a series established to provide marine data and information on southern California harbors and the bight to scientists, agencies, industry and the public in a readily accessible, rapid response form. The series presents results of research at the University of Southern California, but is open to submissions by qualified authors with other affiliations. All manuscripts are subject to review for appropriate content and style. For further information contact the editors.

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Front Cover *Photograph of Playa del Rey area in January, 1958, prior to dredging for the Marina. Photo by Fairchild Aerial Surveys, courtesy of Dr. D. J. Reish.*

SUMMARY

1

MARINE ECOLOGY OF
MARINA DEL REY HARBOR, CALIFORNIA

Summary

Marina del Rey is the largest man-made recreational harbor in the world, created some 15 years ago from coastal wetlands and Ballona Creek, and facing southwest on Santa Monica Bay. Prior to the present project, no biological survey had previously been carried out on the marina nor on the area prior to development. It had been observed that at times water quality was poor, and the fauna appeared to be depauperate, while other marinas nearby did not show such patterns. The County of Los Angeles Department of Small Craft Harbors initiated a contract with Harbors Environmental Projects for studies beginning in July 1976, and requested assistance from the USC Sea Grant Program, which started in October 1976. The combined studies cover monitoring, identifying sources of impact on water quality, and developing recommendations for improving the marine environment.

Thirteen stations were established in the marina area, eleven in the marina channels, plus one in the Ballona Creek flood control channel, and one in the bird sanctuary area. At monthly intervals zooplankton and phytoplankton samples were taken, and water temperature, salinity, dissolved oxygen, pH and transparency were measured at one-meter intervals through the water column at each station. Surface water samples were taken to measure the concentration of nutrients and to determine phytoplankton productivity and pigments. Zooplankton were sampled by making vertical tows with a conical net. Benthic collections were made with a grab sampler at less frequent intervals to determine the populations of organisms in the bottom sediments. Fish were sampled by trawl and gill netting. Both the waters and sediments were sampled and analyzed chemically to determine presence or influx of pollutants.

Water temperatures were highest in August 1976 and lowest in March 1977, with the inner slips and shallow areas of the marina showing higher temperatures than the outer stations. Salinity values were similar to those expected from sea water, except after a rain when a less saline layer would appear on the water surface. Dissolved oxygen and pH showed similar trends, being high in surface waters during the warmer months and lower in cooler months. Transparency of the waters is often inversely related to suspended sediments, so that values

of 80%-95% were found in summer months and these dropped to 45%-50% in the winter, particularly after a rain.

Following rainfall it was evident that dissolved oxygen in the marina dropped sharply. In September 1976, following a rainfall, the oxygen concentration dropped to about 4 ppm at many stations, and at station 13 in the bird sanctuary area values of 0.2 to 1.3 ppm were found. Another rain in January 1977 resulted in values of less than 2 ppm at most stations. Special samples collected in March after a rainfall showed high chemical oxygen demand (COD) but low biological oxygen demand (BOD), suggesting that the low oxygen was due primarily to organic or inorganic material in the runoff. However, photographs taken by James Quinn (DSCH) of an incoming tide after a rain showed clearly that debris such as styrofoam cups and grass clippings had been carried down Ballona Creek and back into the marina.

Special sampling cruises were made two and five days after a rainfall of 0.89 inches during March 16, 1977. On 18 March water samples were collected at four stations, and on 21 March both water and sediment were taken for chemical analysis at the USC Environmental Engineering laboratory. Immediate oxygen demand (IOD) dropped between the two dates at station 4, nearest the Venice canal tidegate, and at station 7, while an increase was noted at stations 10 and 12. Heavy metals decreased and both DDT and PCB increased in the waters during the three days between samplings. Water sampling data from the Los Angeles County Flood Control District, taken 15 April 1977 near the Lincoln Blvd. overpass (Station No. 41118) at Ballona Creek offer the only comparison available for the marina samples taken in March. This location is just inland from the perimeter of Marina del Rey and from station 12, near the mouth of Ballona Creek. (See Figure 1.2).

The levels of copper, iron, zinc, cadmium, lead and nickel were lower at station 12 than they were at Lincoln Blvd. Flood Control Station. On the other hand, levels of chromium and mercury were from 2 to 20 times higher at the downstream location, station 12. This might be explained by additional effluent entering the channel, or by sediment deposition and resuspension in the tidal prism, if the laboratory analyses are truly comparable.

Finer sediments appear to occur in the inner parts of the marina. In general, sediments from stations nearest the entry to the marina were lower in both organic material and heavy metals than those from stations in the inner parts of the marina. Station 3 was consistently the lowest in almost all parameters, and station 10 was highest.

Phytoplankton productivity, pigments and assimilation ratio showed seasonal trends of a moderate bloom in April 1977 and secondary, sometimes localized, blooms through the summer and fall. Winter values were the lowest recorded. In general, the most productive stations were station 1 at the entry, and station 8 near the beach; the least productive were station 3 near the Venice canal tidegate, station 7 near the boat launching ramp, and station 10 near the bird sanctuary. The effect of rainfall and runoff is not immediately apparent, although blooms were noted at most of the stations one month after rainfall in September 1976 and January 1977. Rainfall in March may have engendered general bloom conditions in April, but this is also the time for the spring bloom which occurs generally along this coast.

Zooplankton in Marina del Rey show a ubiquitous occurrence and general dominance by *Acartia tonsa*, with a higher diversity in the outer stations, numbers 1-5, than in the inner stations. Seasonally high population levels occur in summer and low levels are found in the winter months. Station 3 is the most depauperate of all, showing lower numbers throughout the year. Number 11 is also one of the poorer stations.

Benthic populations in the marina show a generally good pattern of diversity, suggesting that the sediments in which they live are not heavily polluted. Station 1, which would be most influenced by the flow from Ballona Creek, showed heavy concentrations of *Capitella capitata*, a species highly tolerant of pollution and of environmental variability.

Fish collections conducted in Marina del Rey by both trawl and gill net resulted in the capture of 630 fish of 13 species. Juvenile anchovies collected in Basin D were the most numerous. Other dominant species included the white croaker, California halibut and spotted sand bass.

Historical unpublished data taken by Dr. D. J. Reish prior to and during construction of the marina was assembled and included in this report (See Appendix A).

Cage culture experiments, which were not funded by OSG or DSCH, were carried out in part by Harbors Projects personnel along with Dr. C. R. Feldmeth from Claremont Colleges and Mr. Russ Izor, skipper of the sport fishing boat Peace. Cages were anchored in the water at the USC Catalina Marine Science Center and juvenile kelp bass were gathered by Scuba divers. Fish were fed a supplemental diet of trout chow and showed 100% survival and growth for the test period of about six months, after which the experiment had to be terminated for lack of funds. While admittedly a limited pilot project, this

established a feasibility for developing stocks of desired fish species to be transplanted to sportfishery locations, much as the California Fish and Game now stocks freshwater streams. A small artificial reef was established in 1966 by the County Fish and Game Commission, with 250 tons of rock. It is located about one nautical mile west of the north end of the breakwater and was visited once by a diver team to examine it as a possible site for stocking.

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CHAPTER 1

ENVIRONMENTAL INVESTIGATIONS
OF
MARINA DEL REY, CALIFORNIA

INTRODUCTION

History

Marina del Rey Small Craft Harbor is a man-made recreational marina which encompasses some 403 acres of waterways, including navigation channels and small craft berthing basins. A similar amount of peripheral land in the marina is devoted to support facilities. About one-third of the land is held or operated directly by the Los Angeles County Department of Small Craft Harbors for the public, and two-thirds is under lease to private entities that provide slip and dock facilities, shops, restaurants, apartments and hotel accommodations.

The marina was created from a part of the area which, much earlier, had been included in the estuarine wetlands associated with Ballona Creek (Fig. 1.1).

The creek was concretized over a period of years before marina construction, creating a major flood control channel that drained inland areas from central Los Angeles seaward. Tidal gates connect Ballona Lagoon with the north side of the marina channel entry, and Del Rey Lagoon is connected with the flood control channel on the south side. Each lagoon lies parallel to the ocean behind the sandy strands. The former wetlands were partly occupied by farms and oil fields prior to development of the marina; much of the area dredged had earlier been drained or filled (see front cover photo).

The Department of Small Craft Harbors (1976) compiled a short history of the region, indicating that a plan to develop the area into a major commercial harbor was conceived as early as 1887. In 1919, the U.S. Army Corps of Engineers reported to Congress that development of the Playa del Rey Inlet and Basin as a major commercial harbor was impractical. However, in 1936, Congress authorized reconsideration of the negative 1919 report. The decision was finally made to enlarge the present Los Angeles Harbor instead of constructing a commercial harbor at Playa del Rey.

In 1949, the U.S. Army Corps of Engineers indicated the feasibility of constructing a pleasure craft harbor, and Marina del Rey became a viable plan. The Los Angeles County Board of Supervisors sponsored state legislation in 1953, which eventually granted the county a two million dollar loan from the state tidelands oil revenue to complete purchase of the new harbor site. In 1954, Marina del Rey became an authorized federal project and planning moved into high gear. Funds for construction came from the federal and Los Angeles County governments and from a 13 million dollar revenue bond

issue. By late 1958, the entrance channel jetties were complete and construction of the marina's interior continued. Dredging was completed and the harbor opened in 1962. However, during the winter of 1962-63 the marina suffered severe storm damage due to excessive surge caused by wave action along the main channel.

Model studies at the U.S. Army Corps of Engineers Waterways Experiment Station at Vicksburg, Mississippi indicated the need for an additional, offshore breakwater (Fig. 1.2). Appropriations by the County of Los Angeles and the Federal Government were shared in the construction of this breakwater, which was completed in January of 1965. Total cost for the construction of the entire marina was \$36,250,000.

Today over 5,800 recreational boat slips are in use and hundreds of smaller boats are in dry storage. A new park and library are present, along with a large public launching ramp for trailer-class boats. Some 30 restaurants are located around the marina's shores, along with apartment residences for more than 10,000 people. The marina has now been in operation for about fifteen years.

Areas which were once mudflats have now become part of a protected bay environment. A rich and relatively diverse fauna such as those which exist in Alamitos Bay on the south coast or nearby King Harbor on the west coast might be expected to occur in Marina del Rey. Unfortunately the fish fauna is reduced and provides little resource for recreational fishing. The invertebrate species composition had not been sampled in the marina prior to the present study.

Marina del Rey also has a serious problem with floating trash which appears to enter the marina from adjacent Ballona Creek with the changing tide. Such a condition may also mean that water of poor quality is entering the marina and perhaps causing less than optimal conditions for the development and maintenance of a diverse marine community. Storm drains also flow into the marina at several locations, probably adding to the water quality problem (Fig. 1.2).

Marine Environmental Investigations

In July, 1976 the Los Angeles County Board of Supervisors approved a proposal for a study of Marina del Rey for the Department of Small Craft Harbors, covering the biological, physical and chemical aspects of the waters by the University of Southern California Harbors Environmental Projects program. The USC Sea Grant Program, funded by the Department of Commerce

(NOAA), has provided some matching funds for the present study.

The physical, chemical and biological aspects of Marina del Rey had not been systematically sampled previously. Several county agencies, including the Los Angeles Flood Control District and the Department of Health Services, have responsibilities and technical capabilities to survey and analyze the physical and chemical properties of both ocean and fresh waters. However, their objectives relate primarily to human health standards. A need thus existed for a thorough study of the marine biota and the ambient conditions which directly affect these marine organisms. The California Department of Fish and Game has not made such a comprehensive study of the marina.

Dredging took place for the marina between January, 1960 and August, 1962. During that period Dr. Donald J. Reish studied the fauna of the Ballona Creek jetty area. His published and unpublished data have been made available for comparison with existing conditions (Appendix A).

The only other studies of the marina were limited in scope and duration. In 1971, the University of Southern California School of Engineering analyzed stormwater runoff (Bowerman and Chen, 1971). In 1973 a study of birds was carried out for six months by Schleicher (1974), but it did not cover the spring nesting or migratory seasons and may have thus missed important species usage. A study of the flood control channel flow characteristics was carried out by USC in 1973 (Brandtsma et al., 1973).

Scope of the Study

Thirteen stations were selected as representative of the diverse environments in or adjacent to the marina (Fig. 1.2). Stations 12 and 13 cannot be sampled by boat, so benthic samples were made at eleven stations only. The station descriptions are presented in Table 1.1.

The sampling program included, on a monthly basis, measurements at thirteen stations of temperature, salinity, dissolved oxygen and pH. A remote probe instrument was used to take measurements at one-meter intervals through the depth of the water column. Turbidity (percent light transmittance) was also measured through the water column by a remote probe transmissometer. Water samples were analyzed for the nutrients ammonia, nitrite, nitrate and phosphate.

Phytoplankton productivity and pigments were also measured

monthly and zooplankton was sampled for identification by making oblique tows with a 253 μ mesh conical net. Bimonthly sampling of meroplankton (fouling fauna) was done by suspending settling racks at eight locations, at the 3-meter depth.

Benthic (bottom) invertebrates were sampled at eleven stations by Campbell grab three times during the year, rather than quarterly, due to multiple breakdowns of the county boat scheduled for sampling. Fish observations were made during the year and an intensive trawl and gill net survey was made in June, 1977.

Because of questions concerning the levels of pollutants in the water column following stormwater runoff, and of ambient levels in the sediments, several special analyses were made during the year. Sediments were analyzed for 22 parameters. Water was analyzed for 30 parameters, in samples taken before and after a rainfall in March, 1977.

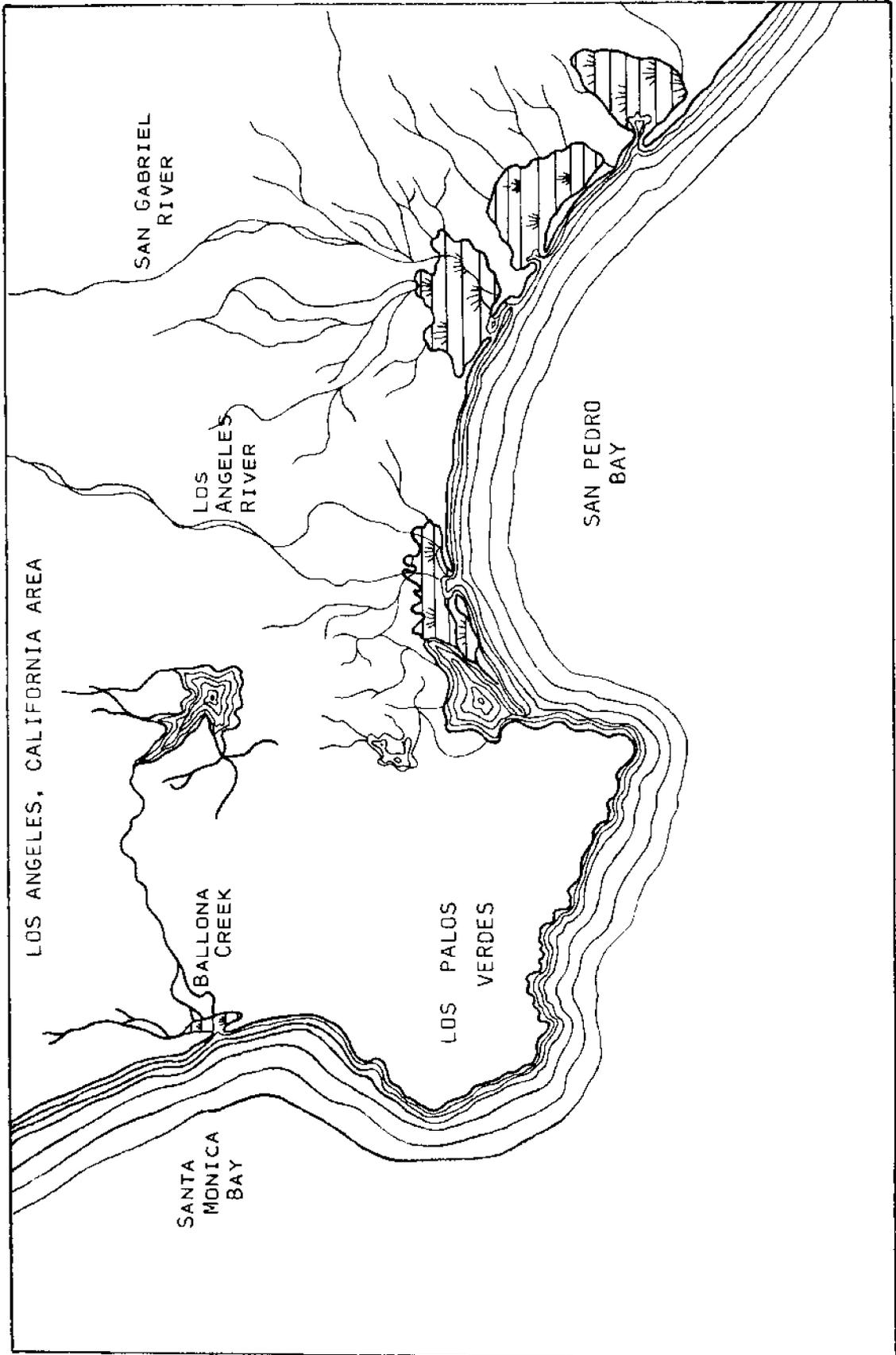


Figure 1.1.

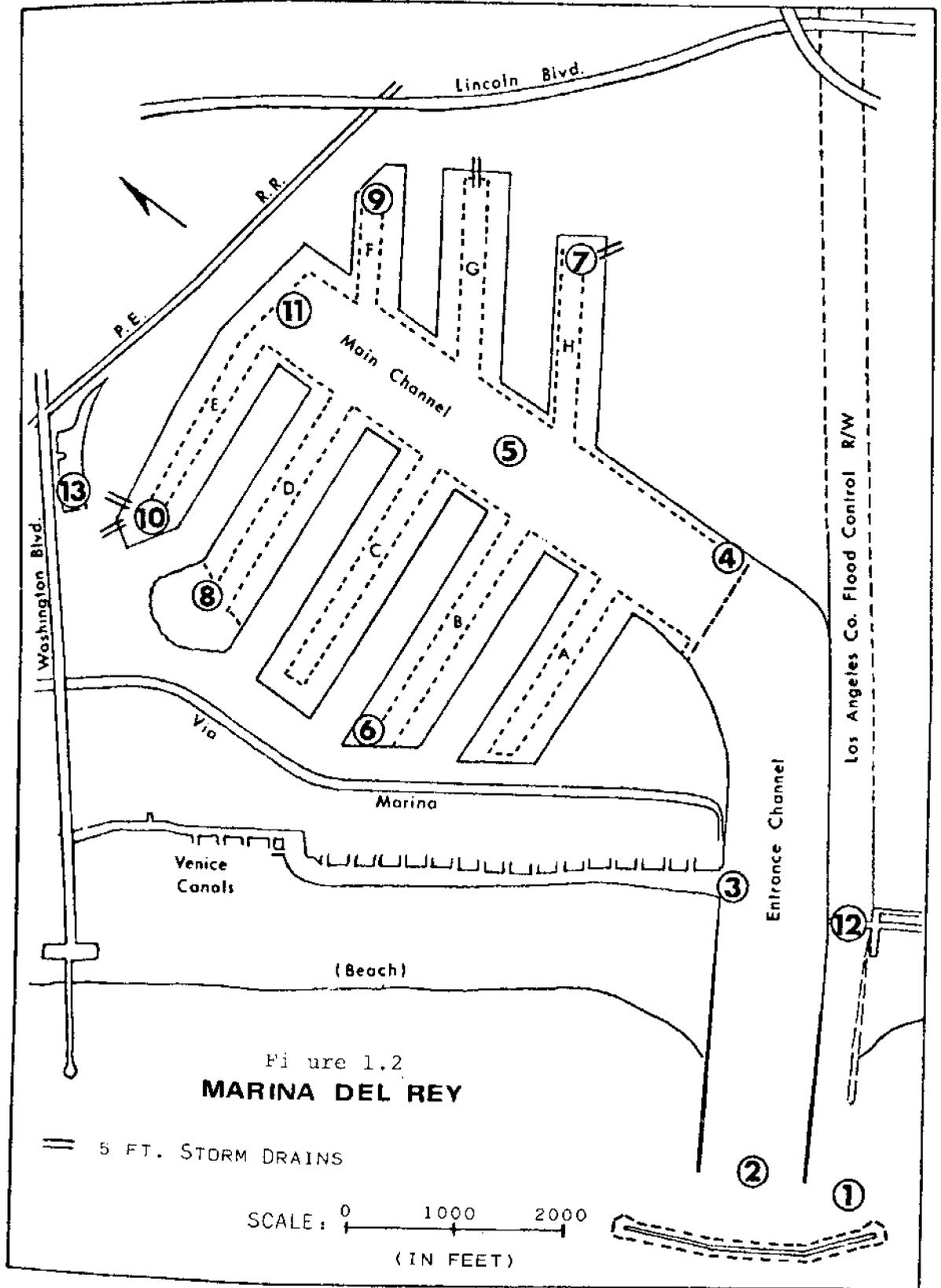


Figure 1.2
MARINA DEL REY

== 5 FT. STORM DRAINS

SCALE: 0 1000 2000
(IN FEET)

Table 1.1. Descriptions of Stations

<u>MDR-1</u>	<ol style="list-style-type: none"> 1. Located at buoy at east entrance to Marina. 2. Off mouth of Ballona Creek, some protection from breakwater but subject to currents along coast. 3. Subject to discharge from Ballona Creek, especially after rains. 4. Depth 21 feet.
<u>MDR-2</u>	<ol style="list-style-type: none"> 1. At entrance of Marina, midway between the two jetties. 2. Protection by breakwater but subject to currents along coast.
<u>MDR-3</u>	<ol style="list-style-type: none"> 1. Located on west side of main channel in front of tide gate at entrance to the old Venice canal. 2. Protected by jetties and breakwater. 3. Subject to discharge from Venice canal on ebb tides and after rains. 4. Depth 10 feet.
<u>MDR-4</u>	<ol style="list-style-type: none"> 1. At Administration dock on east side of main channel. 2. Subject to heavy boating use. 3. Protected from surge but exposed to strong westerly winds. 4. Depth 15 feet.
<u>MDR-5</u>	<ol style="list-style-type: none"> 1. Located in the center of the main channel. 2. Subject to heavy boating traffic. 3. Depth 15 feet.
<u>MDR-6</u>	<ol style="list-style-type: none"> 1. At very back of Basin B. 2. Protected from winds by concrete sea wall. 3. Depth 10 feet.
<u>MDR-7</u>	<ol style="list-style-type: none"> 1. At work yard dock, back of Basin H. 2. Exposed to afternoon westerly winds. 3. Storm drain opening present. 4. Depth 10 feet.
<u>MDR-8</u>	<ol style="list-style-type: none"> 1. At center buoy outside swimming beach in Basin D. 2. Exposed to afternoon winds. 3. Depth 10 feet.
<u>MDR-9</u>	<ol style="list-style-type: none"> 1. At very back of Basin F. 2. Protected by slips and sea wall. 3. Storm drain present. 4. Depth 6 feet.

Table 1.1. (continued)

- MDR-10
1. At very back of Basin E.
 2. Subject to daily flow from adjacent tide gate from Bird Conservation Area.
 3. Subject to storm drain runoff after rains due to Bird Conservation Area.
 4. Depth 9 feet.
- MDR-11
1. At end of main channel.
 2. Storm drain present.
 3. Depth 10 feet.
- MDR-12
1. On Ballona Creek at Pacific Avenue bridge.
 2. Subject to daily discharge along Ballona Creek as well as storm runoff after rains.
 3. Depth 6 feet.
- MDR-13
1. At tide gate in Bird Conservation Area.
 2. Subject to daily flushing via tide gate.
 3. Storm drain runoff present after rains.
 4. Depth 6 feet.

CHAPTER 2

PHYSICO-CHEMICAL PARAMETERS

PHYSICO-CHEMICAL PARAMETERS

The interactions of physical and chemical parameters in the sea create the environmental conditions that govern the occurrence and distribution of marine organisms. While there are numerous factors that could be measured, and some that cannot, temperature, salinity, oxygen and pH are considered to be crucial in defining the local environment. Light transmittance measures the turbidity of the waters.

Temperature, salinity, dissolved oxygen and pH were measured monthly at all stations. Using a Martek instrument with remote cable probe, measurements were taken at one meter intervals through depth. Data were entered in the Harbors Environmental Projects data bank at USC. Tables of raw data are presented in Appendix B. Graphs of the minima and maxima of the parameters, with depth profiles, are given in Tables 2.1 to 2.13, at the end of this section. Light transmittance was measured with a Hydrolab transmissometer.

Temperature

Ocean temperature regimes differ considerably from year to year in the southern California area (Soule, 1974), due to variability of the intrusion of warm water by the northerly flow of the Davidson current. The winter of 1976-77 was unusual in that the north central Pacific water mass was 1-3°C colder than normal, while southern California waters were 1-3°C warmer than usual. This was thought to have caused the Pacific coast drought by altering the jet stream. Sea temperatures affect the extent of cloud cover and the amount of late night and early morning fog along the coast as well. Variations in wind, clouds, fog, rainfall and air temperature also affect localized water temperatures.

In embayments such as Marina del Rey, water often becomes considerably warmer than the open ocean waters of Santa Monica Bay during the summer months. This occurs because the shallow waters are warmed by the sun to a greater extent and mixing with cooler ocean water is restricted by the structure of the marina.

Plants and animals living within the marina are, therefore, subject to a wider range in temperature than those living in much of Santa Monica Bay. Warmer summer temperatures within the marina may cause certain fish species to migrate out to cooler waters. Blooms of dinoflagellates or diatoms may occur in the warmer, protected waters of the marina.

In the sampling period from August, 1976 to July, 1977 the highest water temperature measured within the marina occurred on 19 August 1976, when it was 23.3°C at a depth of 2 meters at station 9, located at the end of Basin F (Fig. 2.1). The lowest temperature observed was 13.0°C for surface water at station 1 at the east entrance of the marina, on 17 March 1977 (Tables 2.1a-2.13a).

The maximum summer temperatures found in the marina consistently occurred in the shallow ends of the basins located farthest from the ocean. Even during winter and spring months these protected basins are somewhat warmer than the main channels or the waters of Santa Monica Bay.

Salinity

Salinities within Marina del Rey are those of normal sea water for this latitude, except after rains. Major storm drains five feet in diameter enter the marina at the end of slips H, G, and E, while local drains bring runoff to the various slips. Ballona Creek, adjacent to the marina, is a major flood control channel and some fresh water probably enters the marina by being deflected off the breakwater and moving up the entrance channel during flood tides. Tables 2.1b-2.13b graph the minimum and maximum salinities during the 12-month period.

Since fresh water has a specific gravity lower than sea water, low salinities are mainly restricted to the surface or the first few meters. The lowest salinities measured during the study were 20.6 parts per thousand at station 12 and 26.8 ppt at station 1 on 17 March 1977. Also at station 12 the salinity was 26.9 ppt on 19 August 1976. During rainstorms lower salinities will occur, but these conditions are only temporary because tidal flushing soon brings the salinity back to normal. Many organisms found within the marina are adapted to the estuarine environment and variability, and such periods of low salinity probably have little negative impact. Some species of invertebrates, especially those attached to boat docks and slips, may be adversely affected by the low salinities which occur during and briefly after rainfall, but many are able to close up or otherwise become inactive during short periods of stress. Some fishes would probably swim from the harbor, while euryhaline species (tolerant to a wide range of salinities) would remain.

Dissolved Oxygen

Dissolved oxygen (DO) levels in surface waters are used by regulatory agencies to measure water quality, and 5.0 ppm has been designated as the minimum level for acceptable environmental quality. Sea water at air saturation will generally contain 7-9 ppm, depending upon temperature and salinity. As the oxygen level drops below the saturation point most marine animals must either increase the rate at which they ventilate their respiratory surfaces (gills) or reduce their level of activity to meet the lower oxygen available from their environment. Below about 3 ppm most fishes are under considerable stress and a dissolved oxygen concentration of 2.0 ppm is probably lethal to many fishes (Waggoner and Feldmeth, 1971). Some invertebrates can tolerate very low dissolved oxygen levels temporarily.

The dissolved oxygen levels within Marina del Rey exhibit an interesting pattern over a year's time. During the summer months of July and August, dissolved oxygen concentrations remained near saturation throughout the marina. The lowest levels in those months (6.0 to 7.0 ppm) occurred at stations 10 and 11 at the back of the marina. During August, oxygen concentrations rose to about 10 ppm at several stations, indicating the presence of phytoplankton blooms.

In September 1976, after an unusual tropical storm brought more than 3 inches of rain to southern California, the dissolved oxygen levels dropped below 4.0 ppm in many basins. At station 13, in the bird sanctuary, dissolved oxygen ranged between 0.20 and 1.30 ppm. Since the bird sanctuary is the terminus of a major storm drain, the low oxygen levels may be due to an influx of substances with high oxygen demand that were transported into the marina after the heavy rains.

This pattern of low oxygen levels after significant rainfall continued throughout the winter and spring months (Figs. 2.2-2.4). Rainfall during January 1977 totalled approximately four inches, after minimal rains in November and December, 1976. The lowest dissolved oxygen concentrations were measured in January 1977, when oxygen levels fell below 2.0 ppm for all stations except those at the entrance of the marina (stations 1 and 2). Heavy rainfall also occurred on 16-17 March 1977.

On 18 and 21 March 1977, following a heavy rain, water samples were collected from stations 4, 7, 10, 11, 12 and 13, for more thorough laboratory analysis. The chemical oxygen

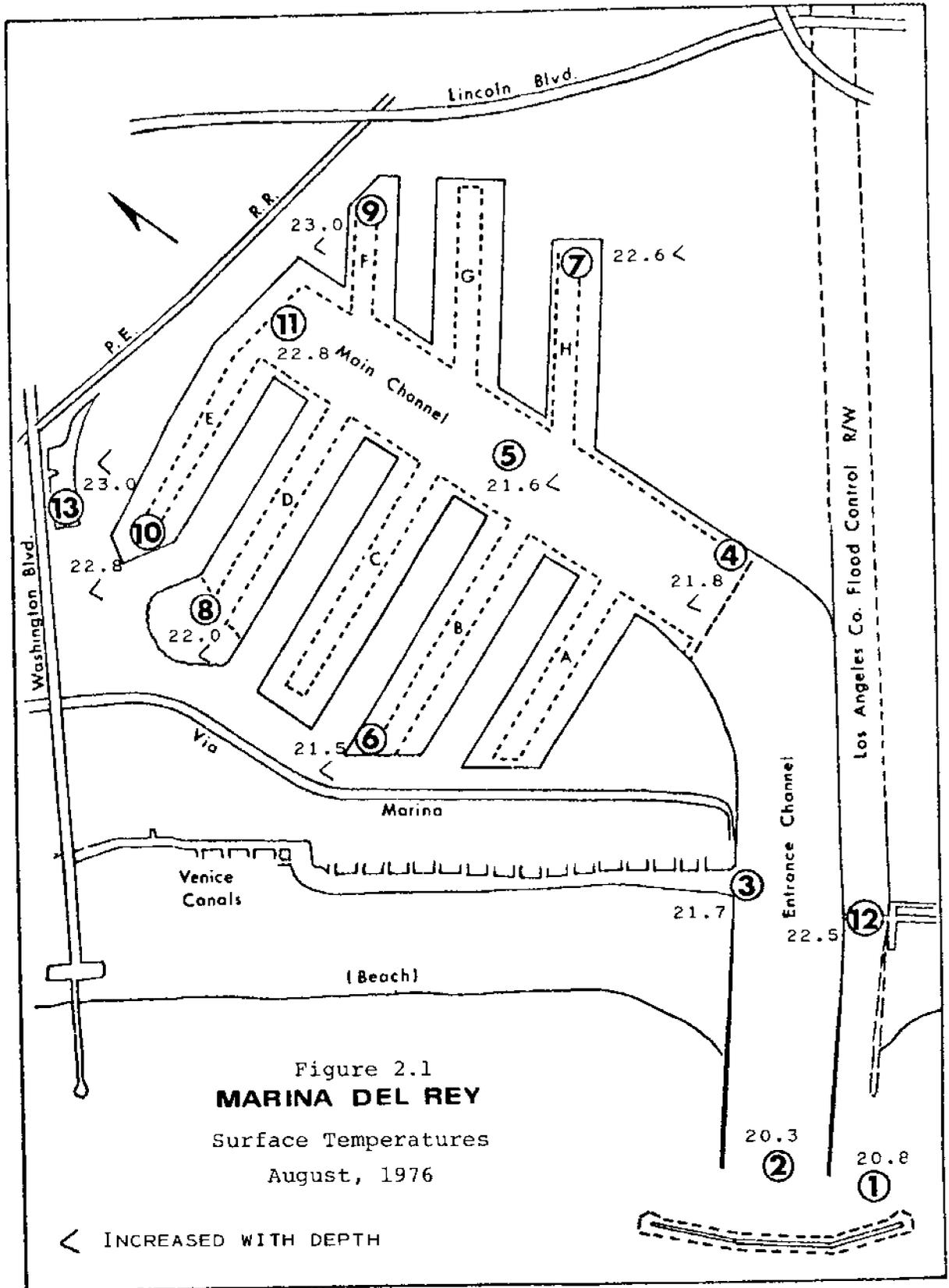
demand for samples collected from these stations ranged from 172 to 204 ppm, which is extremely high. This preliminary data may well explain the low oxygen levels monitored in the marina after rains. Chemical substances, with the capability of combining with dissolved molecular oxygen, are apparently transported into the marina from flood control channels. Once in a marina, they reduce oxygen levels until they can be sufficiently diluted by tidal flushing. Certain more tolerant species, such as flatfishes and rays may survive, but other fishes probably cannot (Waggoner and Feldmeth, 1971).

pH (Acidity-Alkalinity)

The pH of the waters of the marina showed a tendency at times to follow the same patterns as the variations in dissolved oxygen, but in some instances the patterns appeared to be unrelated (Soule and Oguri, 1976). The range of pH was 7.56 to 8.45 and the lower values were generally found in cool months or near the bottom. The highest pH values generally occurred during the warm months and at the surface.

Light Transmittance

The amount of light available to the phytoplankton in harbor waters is regulated by ambient sunlight and by weather such as cloud cover and fog. Light penetration is controlled by turbidity in the water, which may be due to sediment suspension, turbid waste products, or density of phytoplankton. Light transmittance (the opposite of turbidity) was measured with a Hydrolab transmissometer with remote cable probe and a self-contained light source. During the summer months, values generally between 80 and 95% transmittance were observed in the main channel and at the marina entrance. In the basins, more turbid conditions caused the transmittance readings to be between 60 and 70%. During the winter and spring months, especially after rains, transmittance readings as low as 45-50% were common, especially at station 12 in Ballona Creek and at station 1 at the east entrance of the marina. These very low readings were generally restricted to surface waters of below normal salinities and are indicative of waters affected by rain runoff.



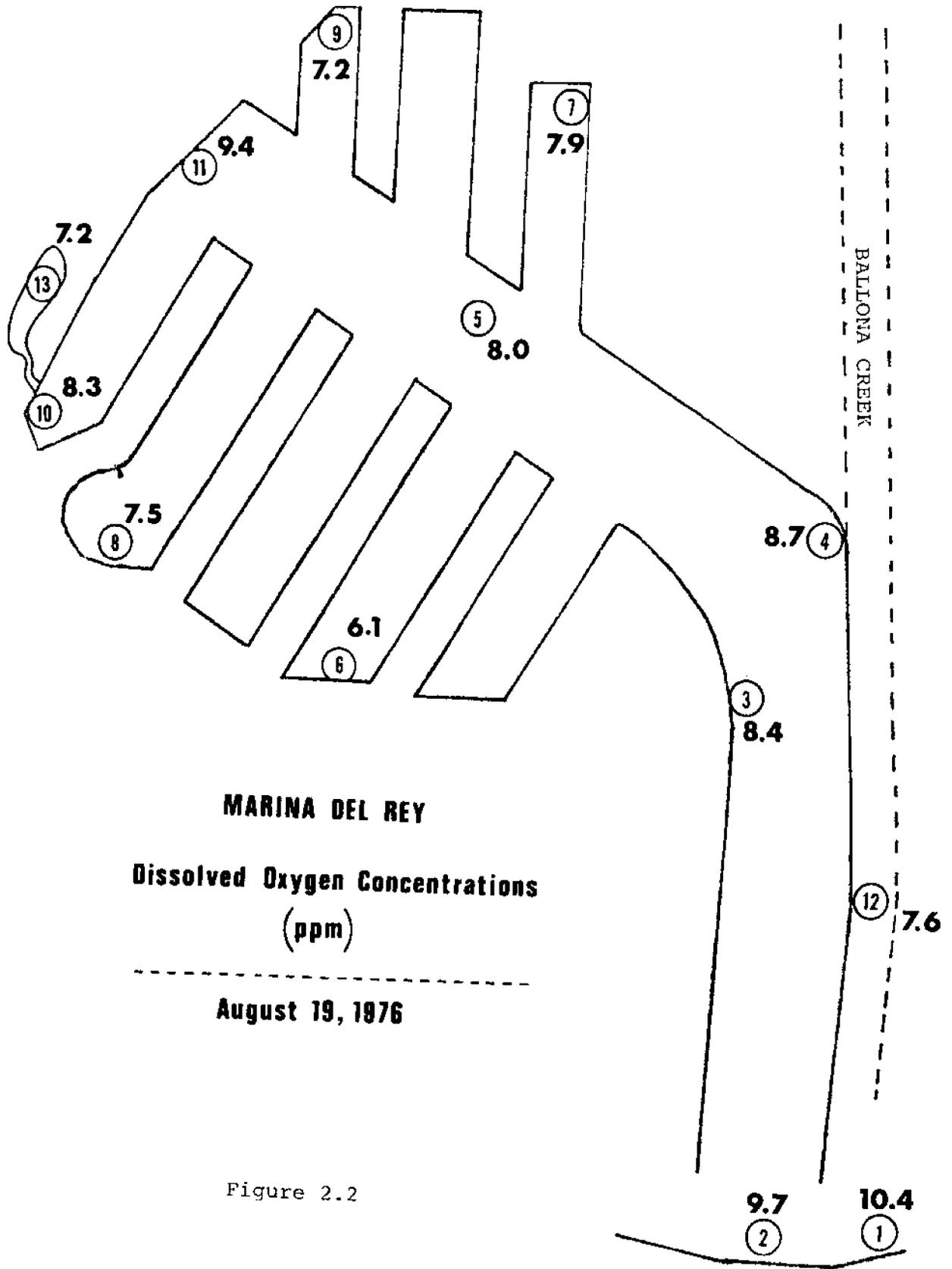


Figure 2.2

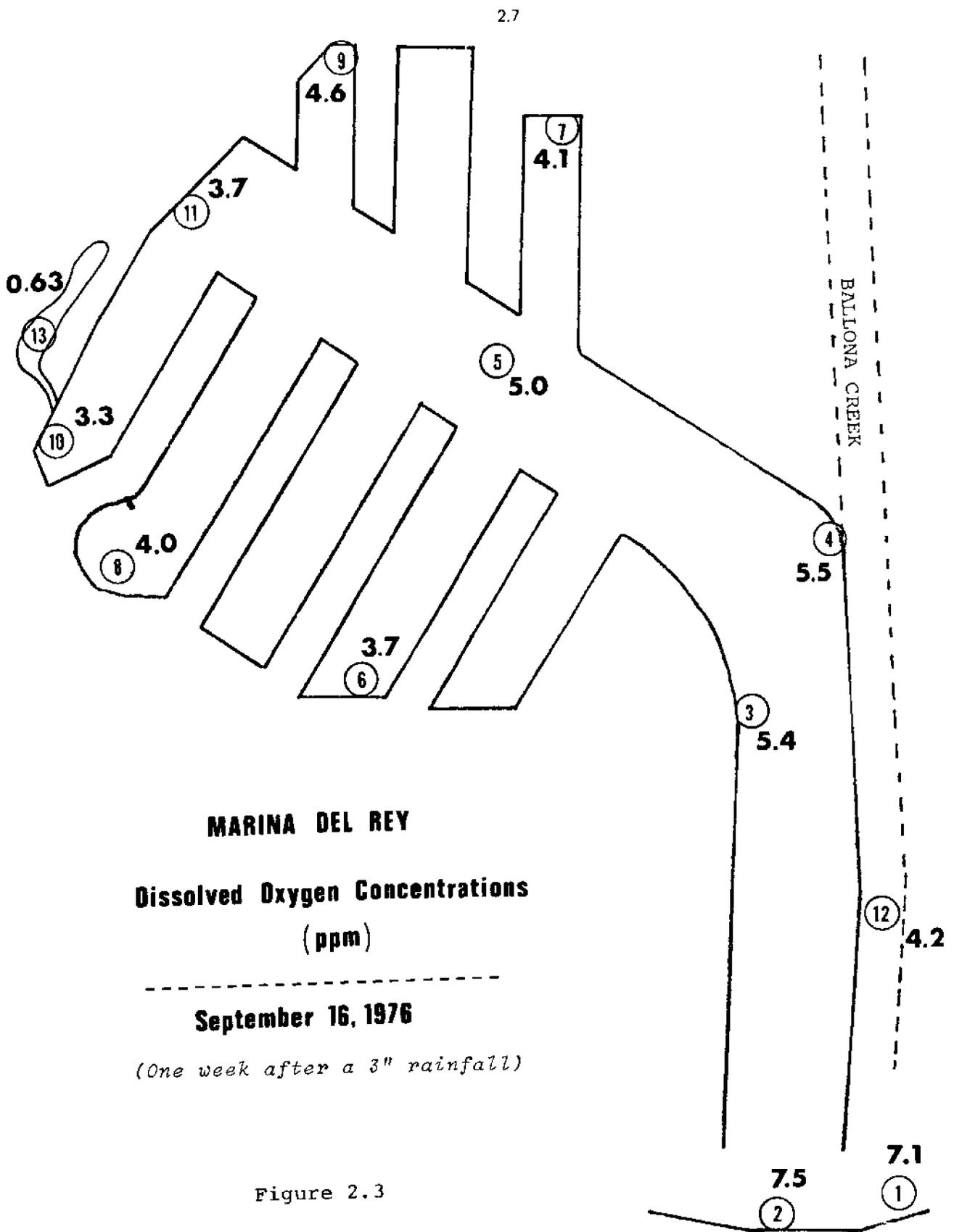


Figure 2.3

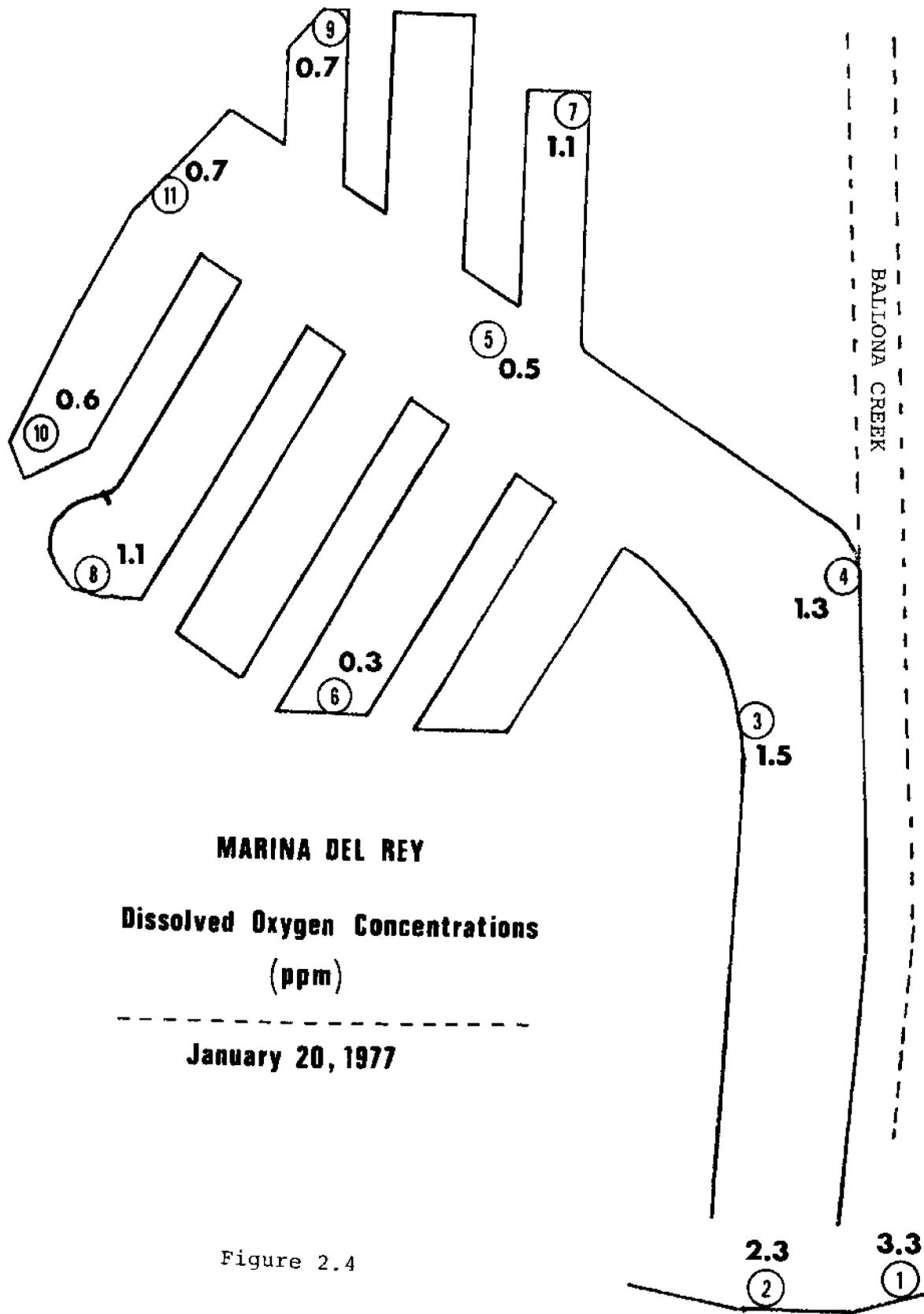


Figure 2.4

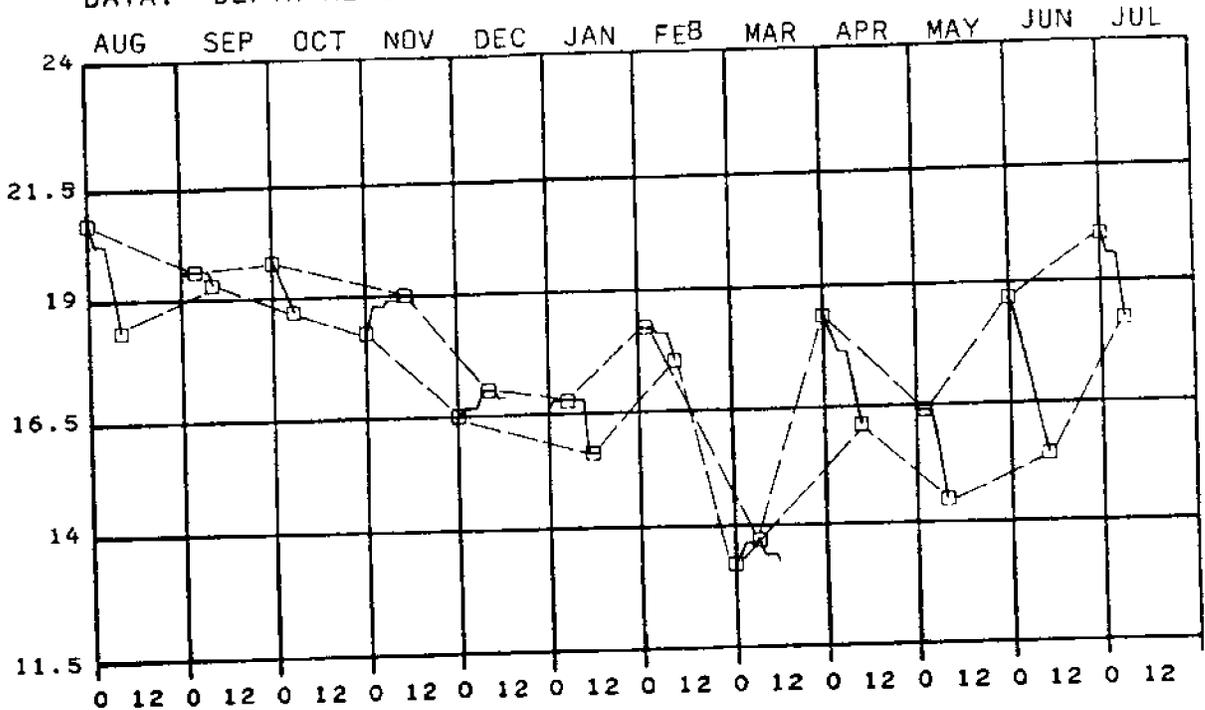
Table 2.1a,b

STATION M1

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M1

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

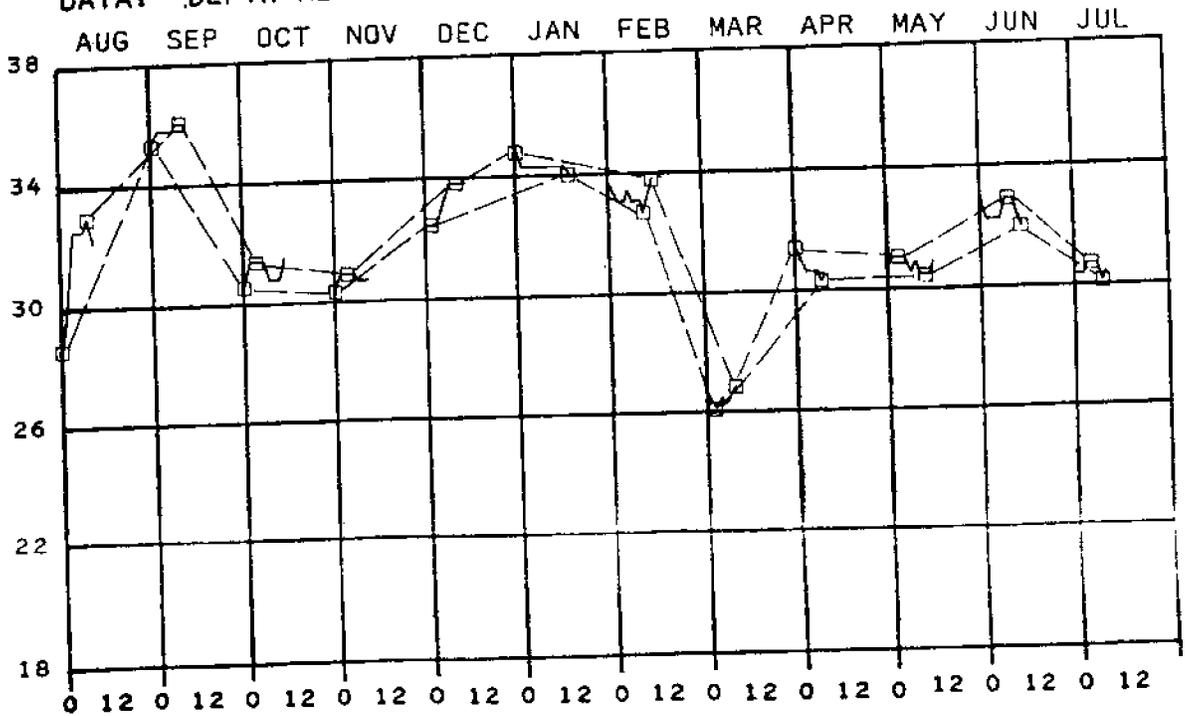
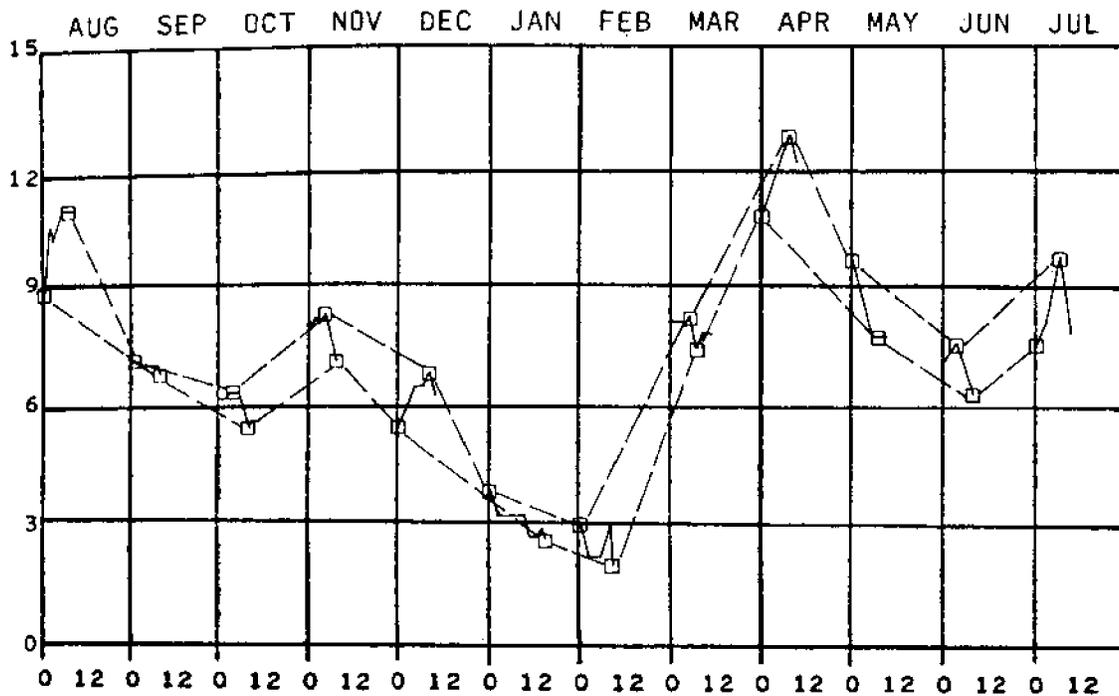


Table 2.1c,d

STATION M1
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M1
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

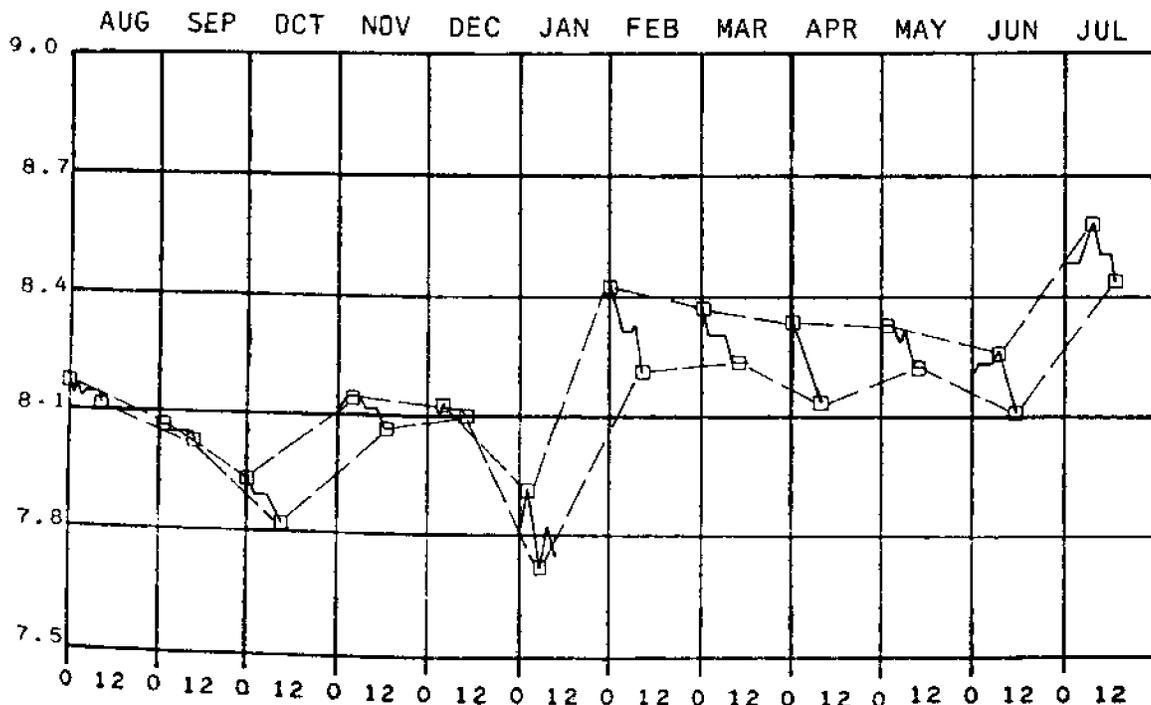


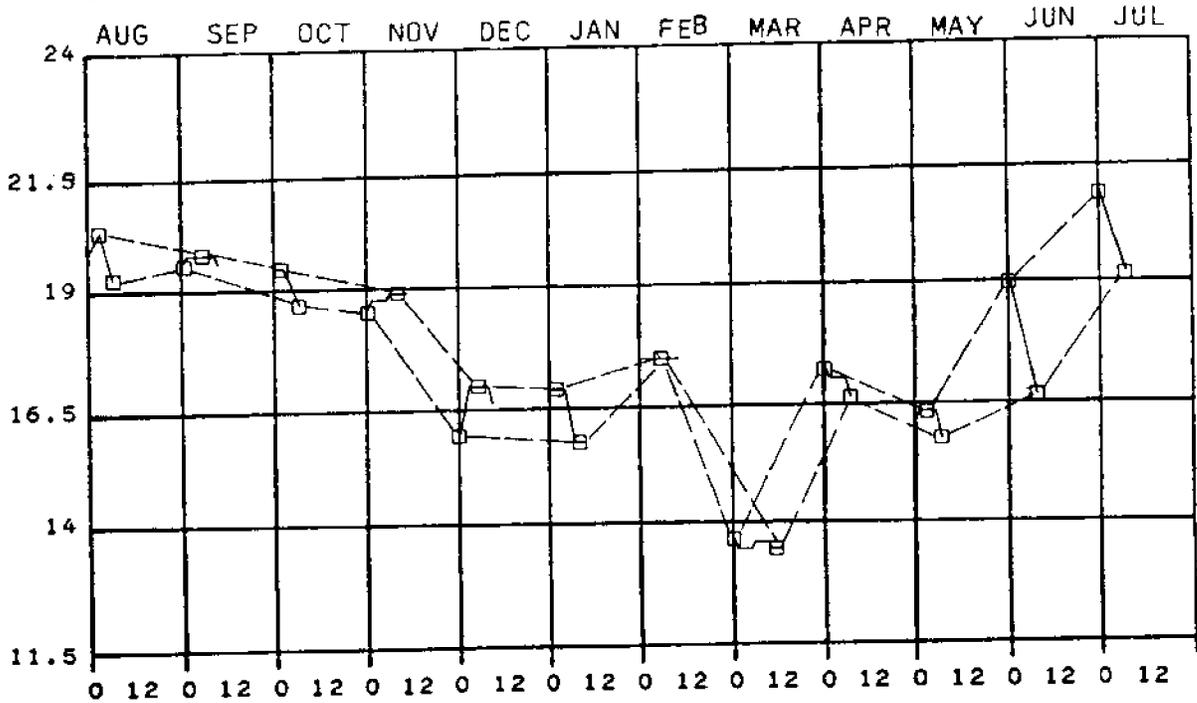
Table 2.2a,b

STATION M2

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M2

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

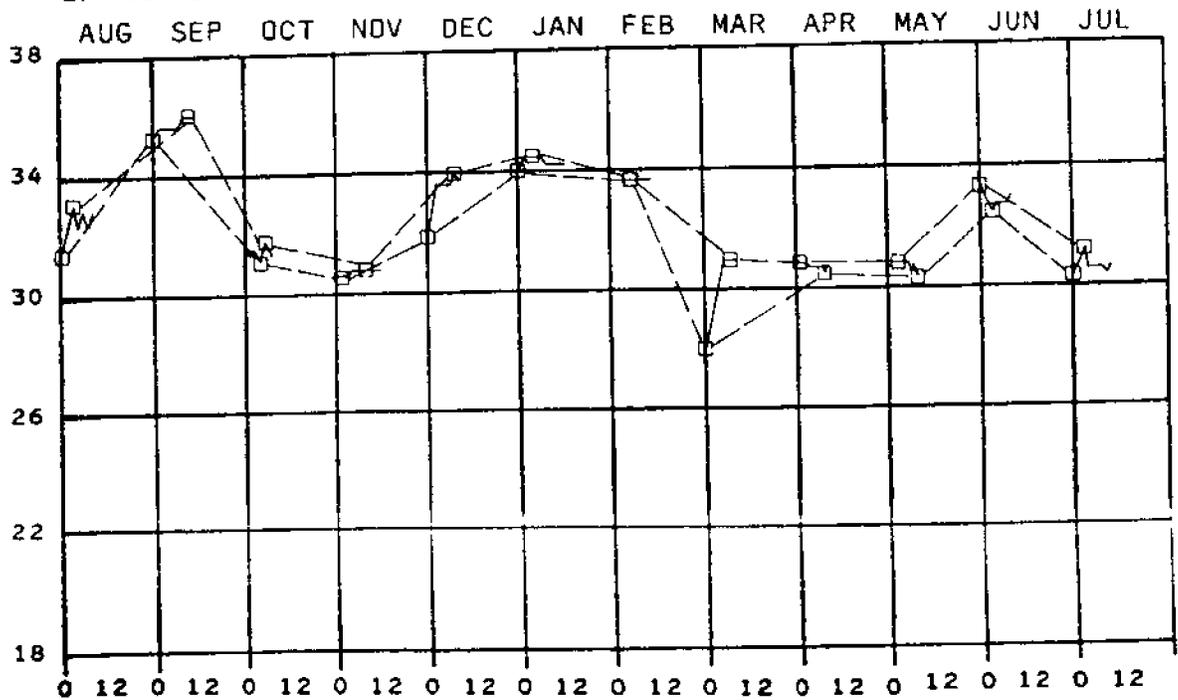
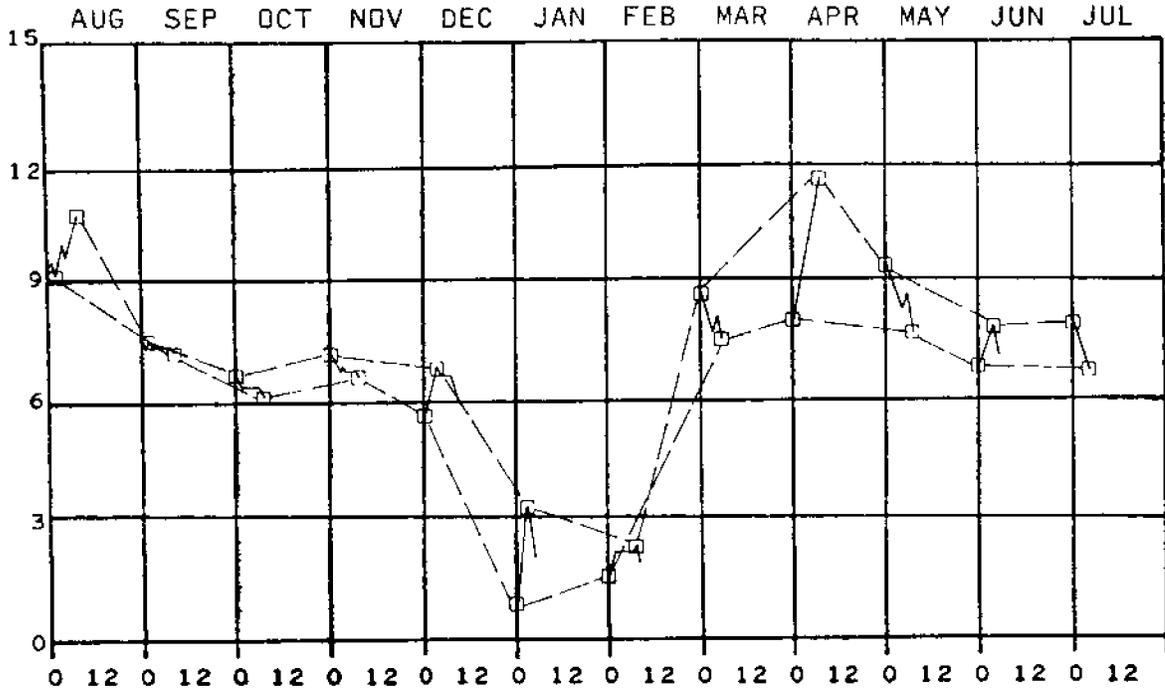


Table 2.2c,d

STATION M2
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M2
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

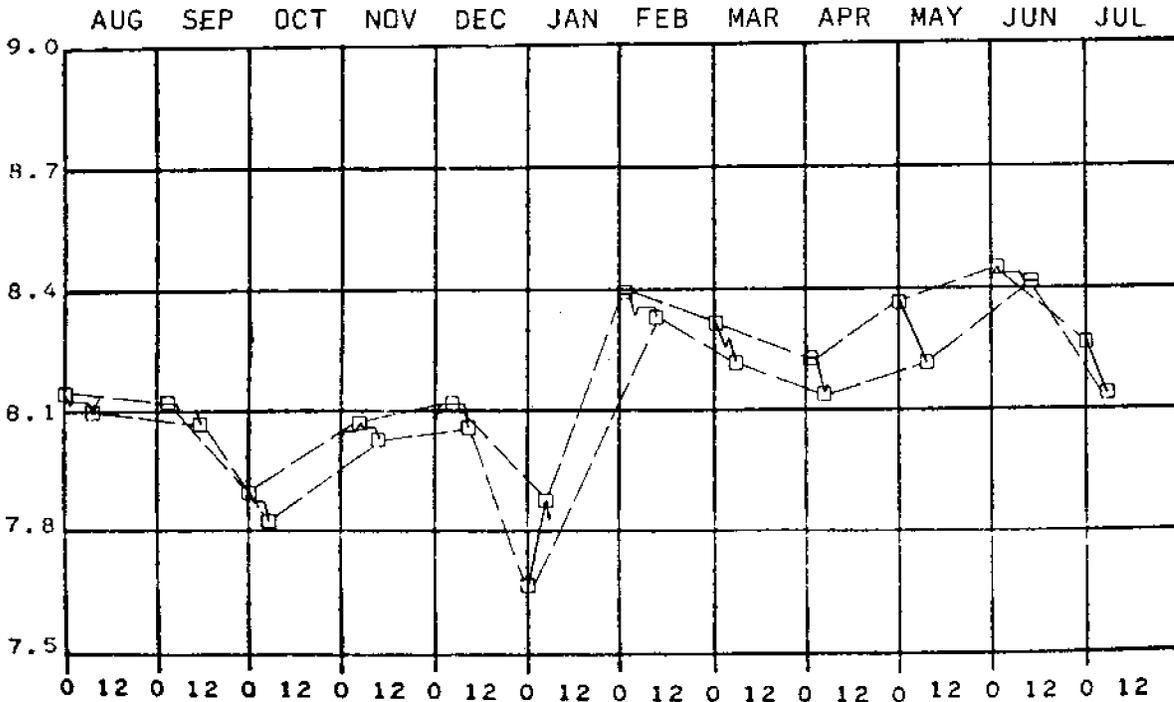


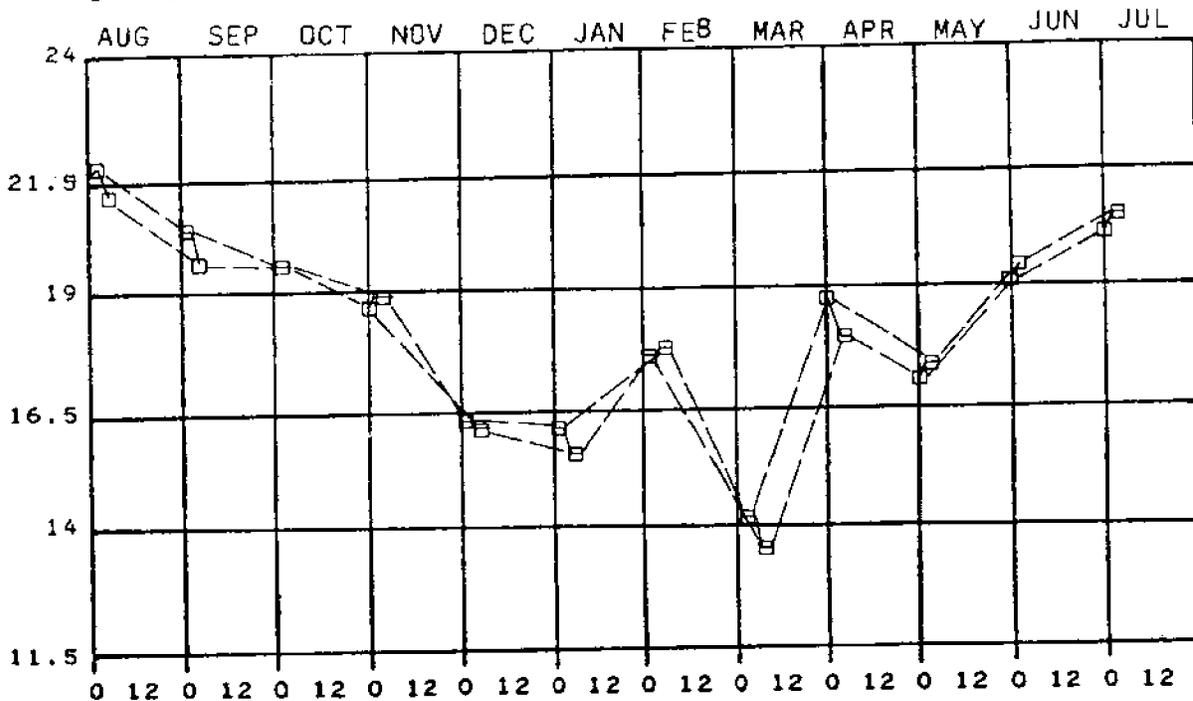
Table 2.3a,b

STATION M3

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M3

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

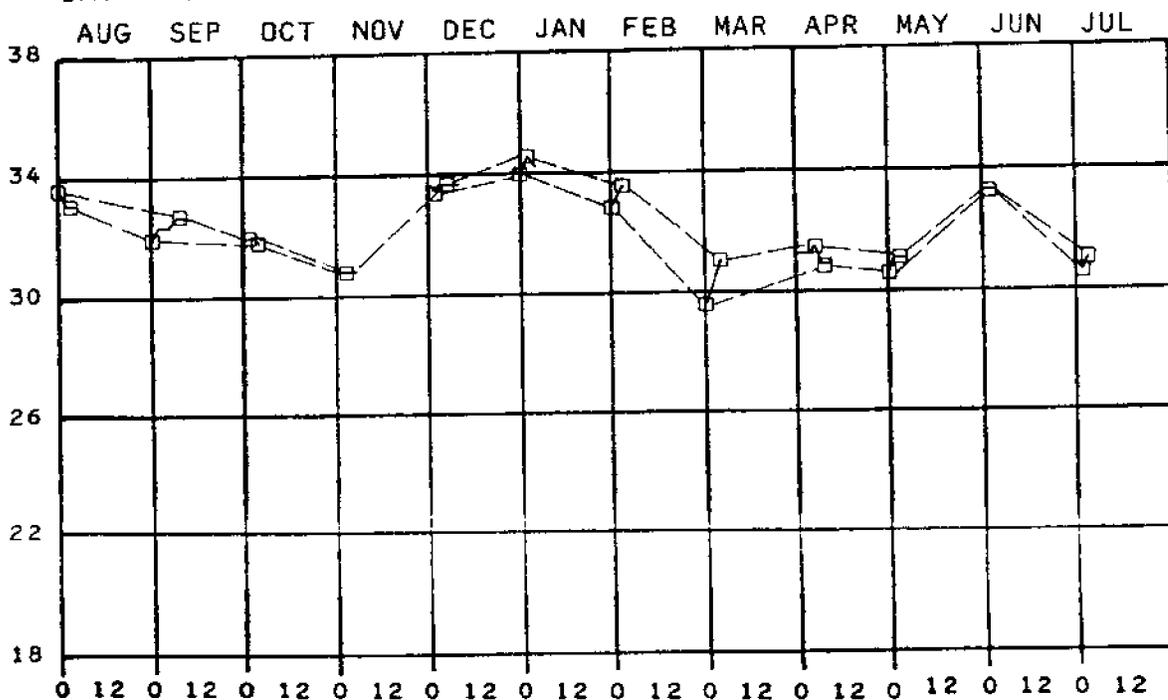


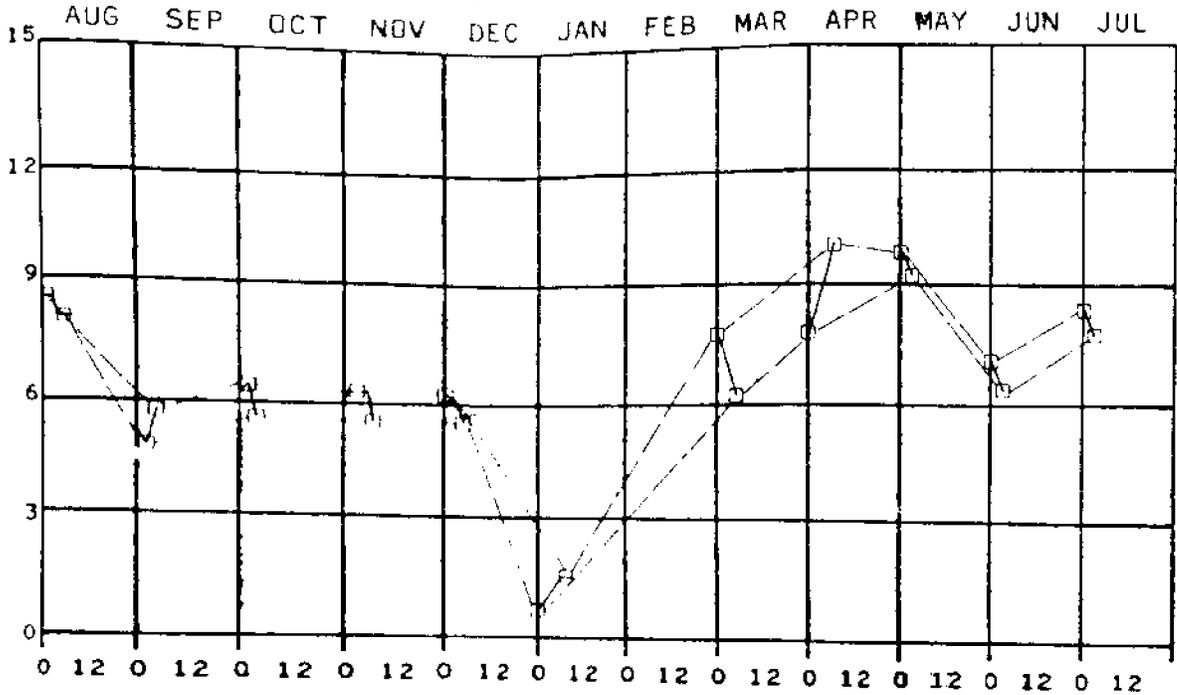
Table 2.3c,d

STATION M3

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M3

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

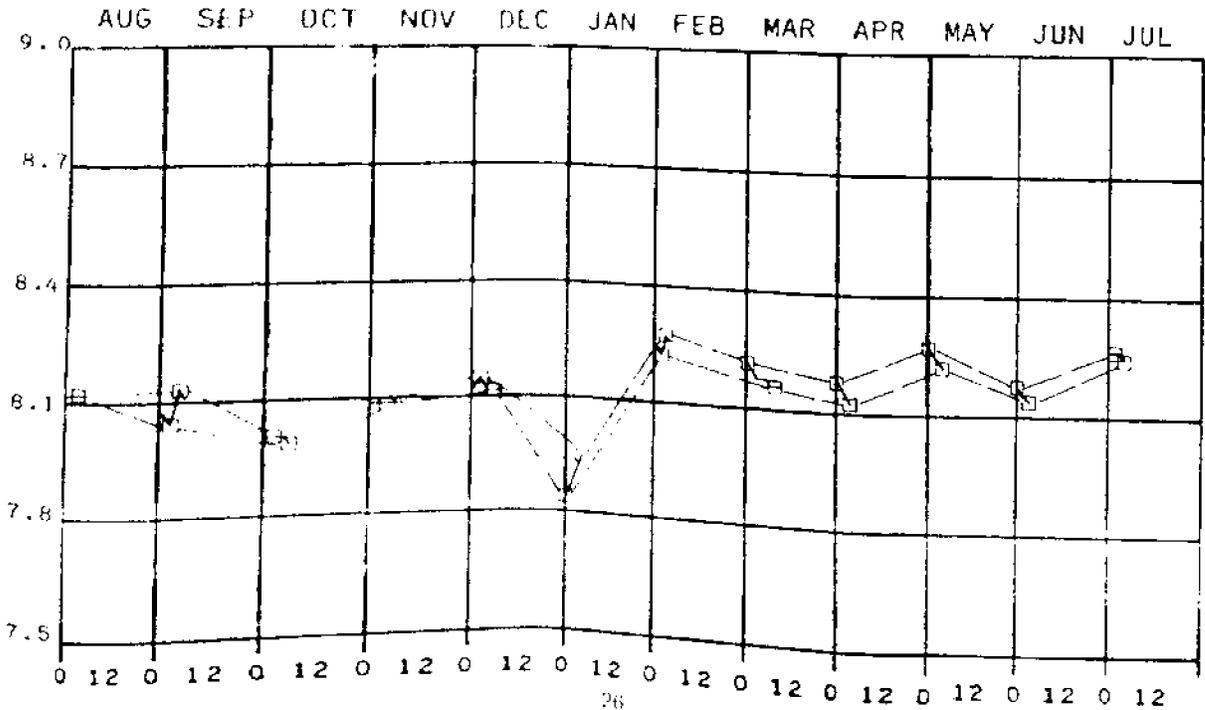


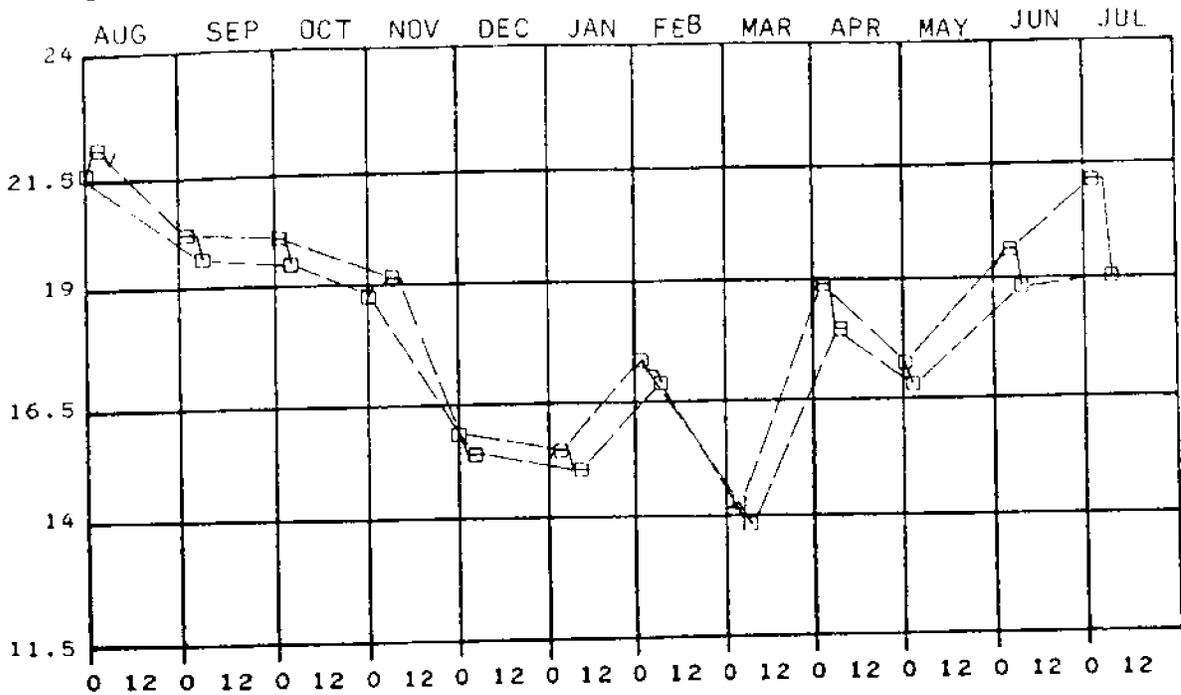
Table 2.4a,b

STATION M4

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M4

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

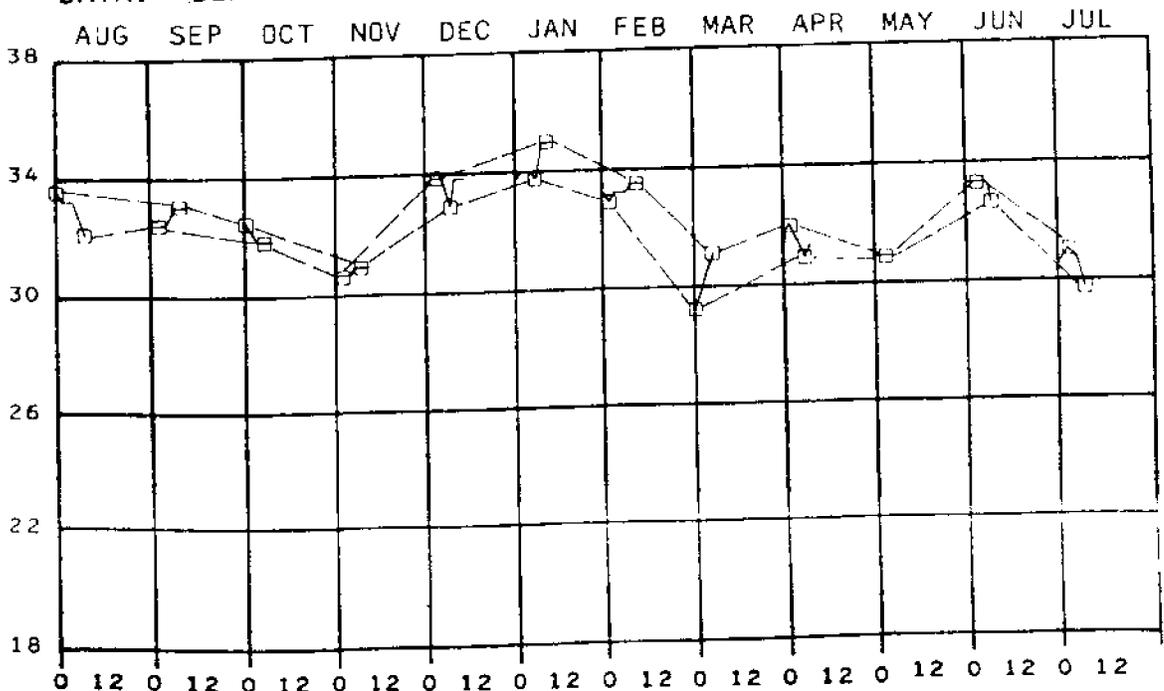
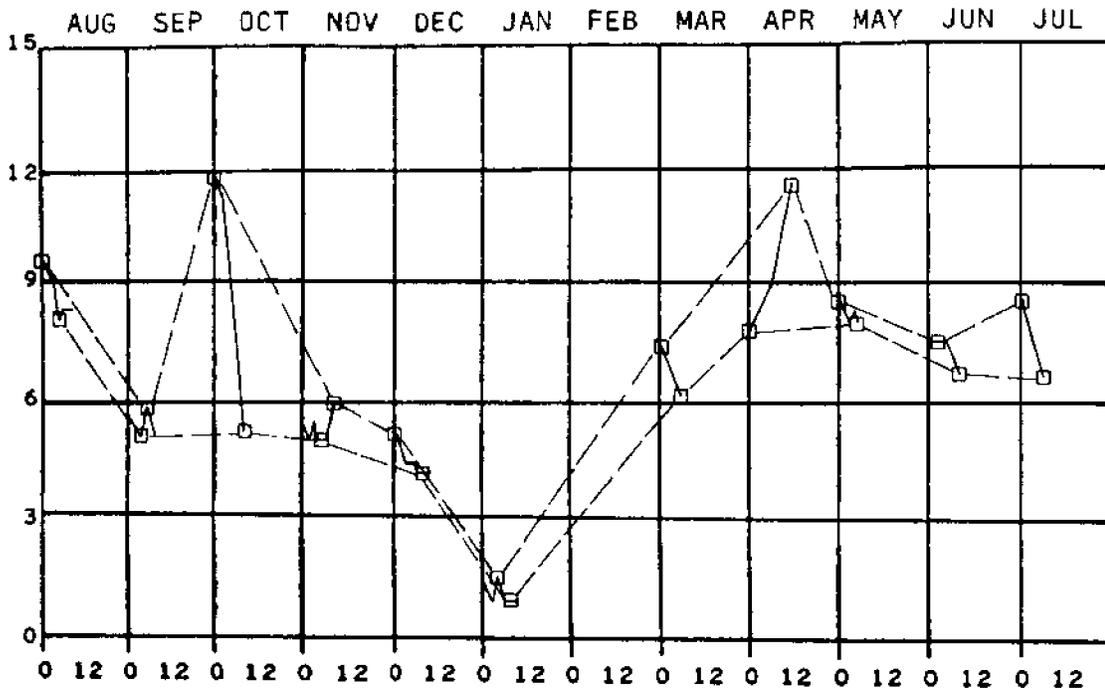


Table 2.4c,d

STATION M4
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M4
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

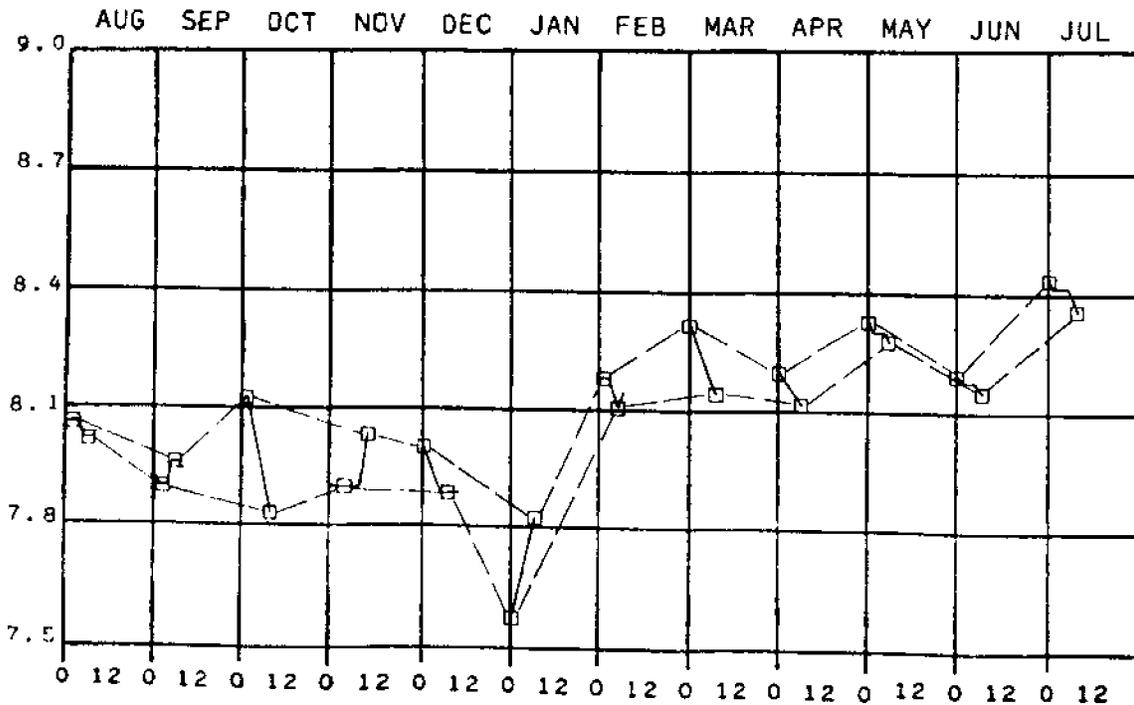


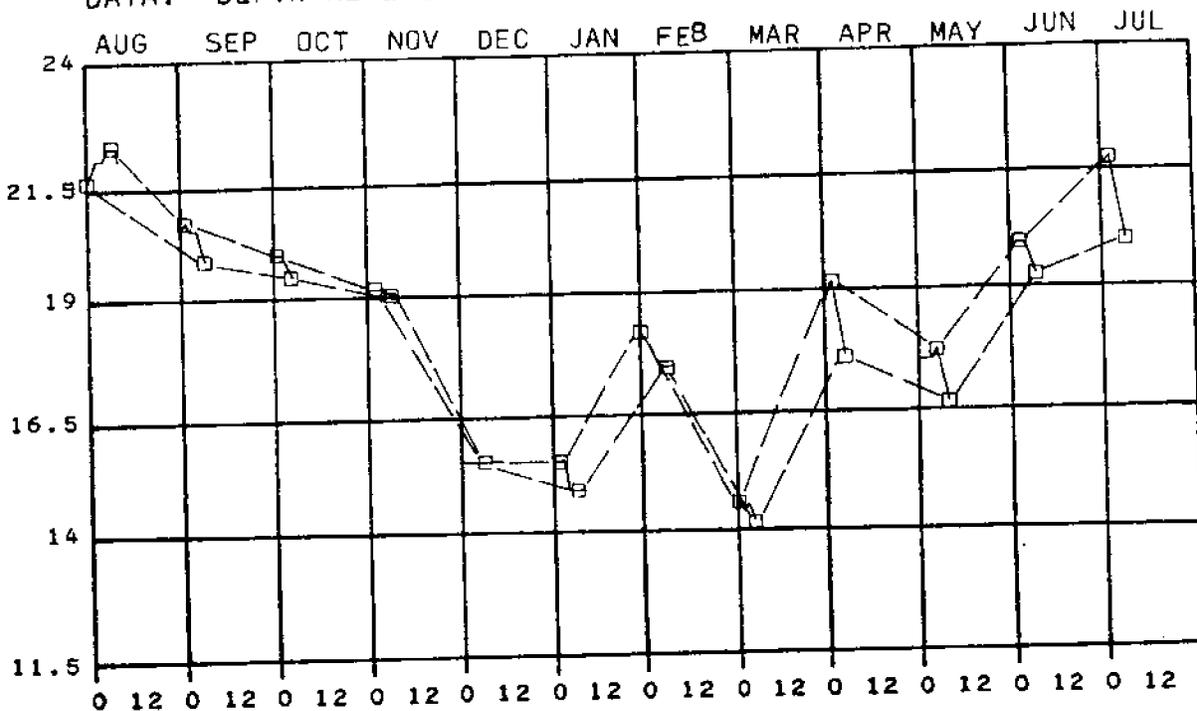
Table 2.5a,b

STATION M5

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M5

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

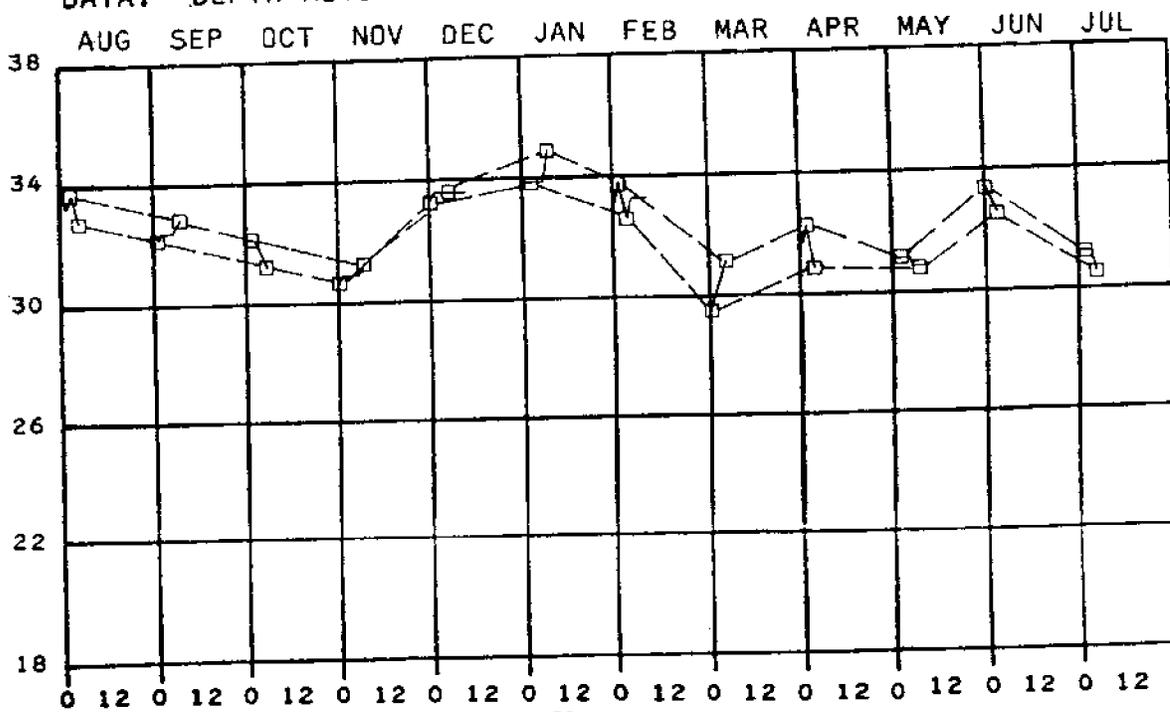


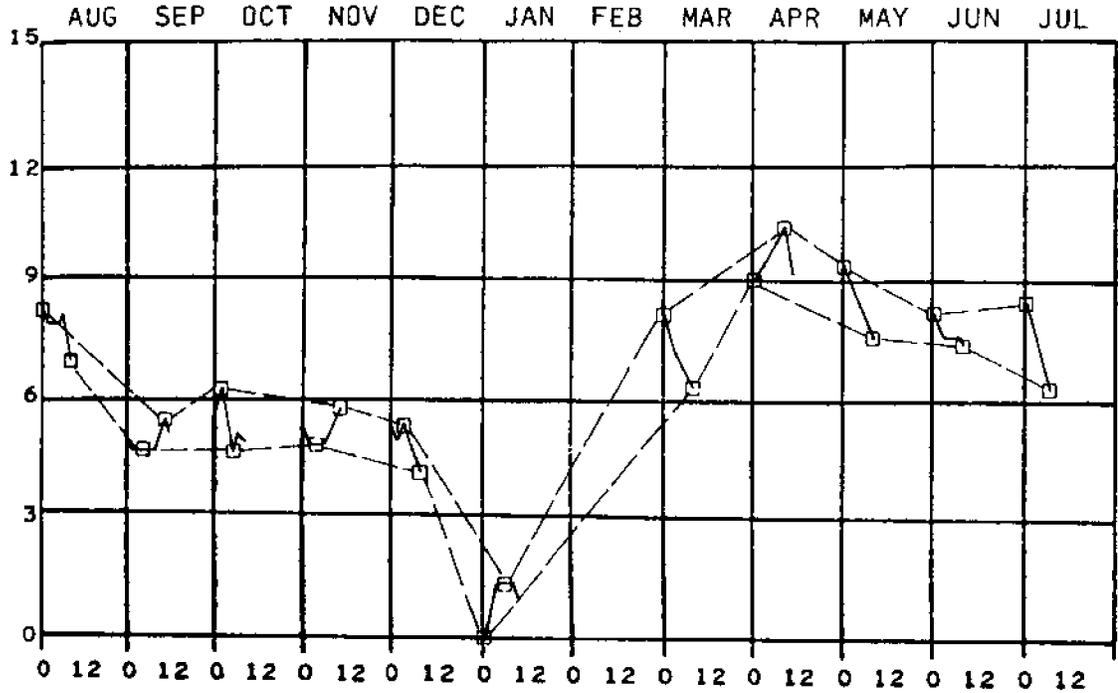
Table 2.5c,d

STATION M5

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M5

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

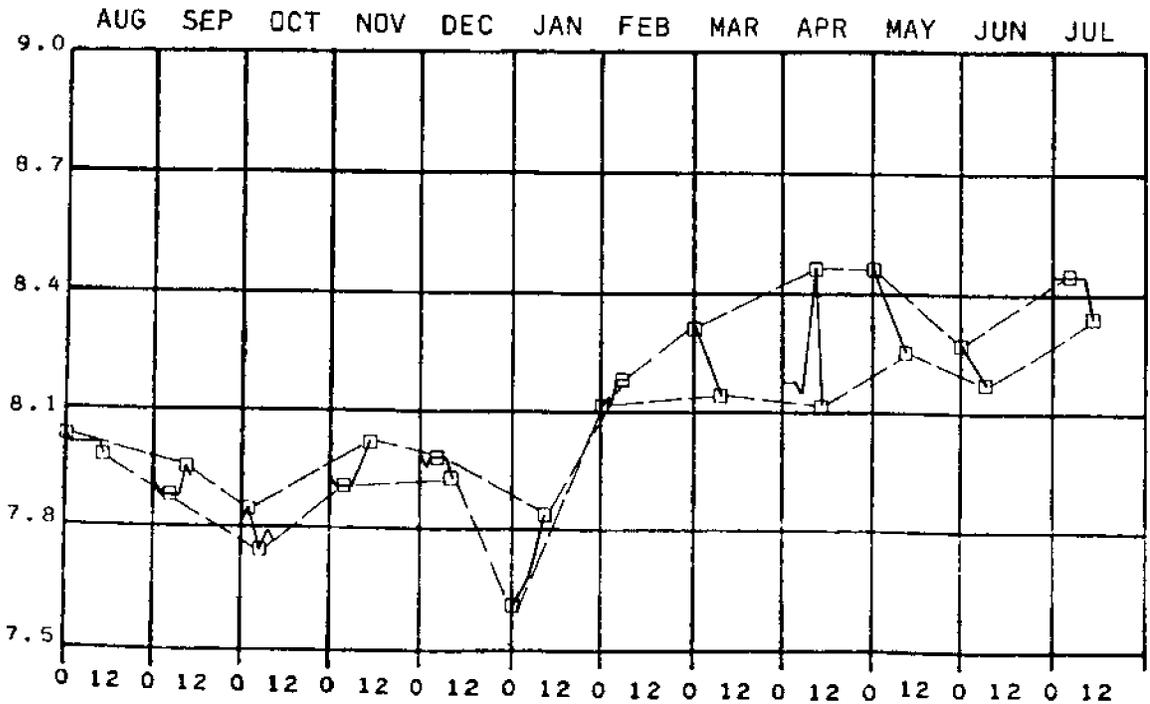


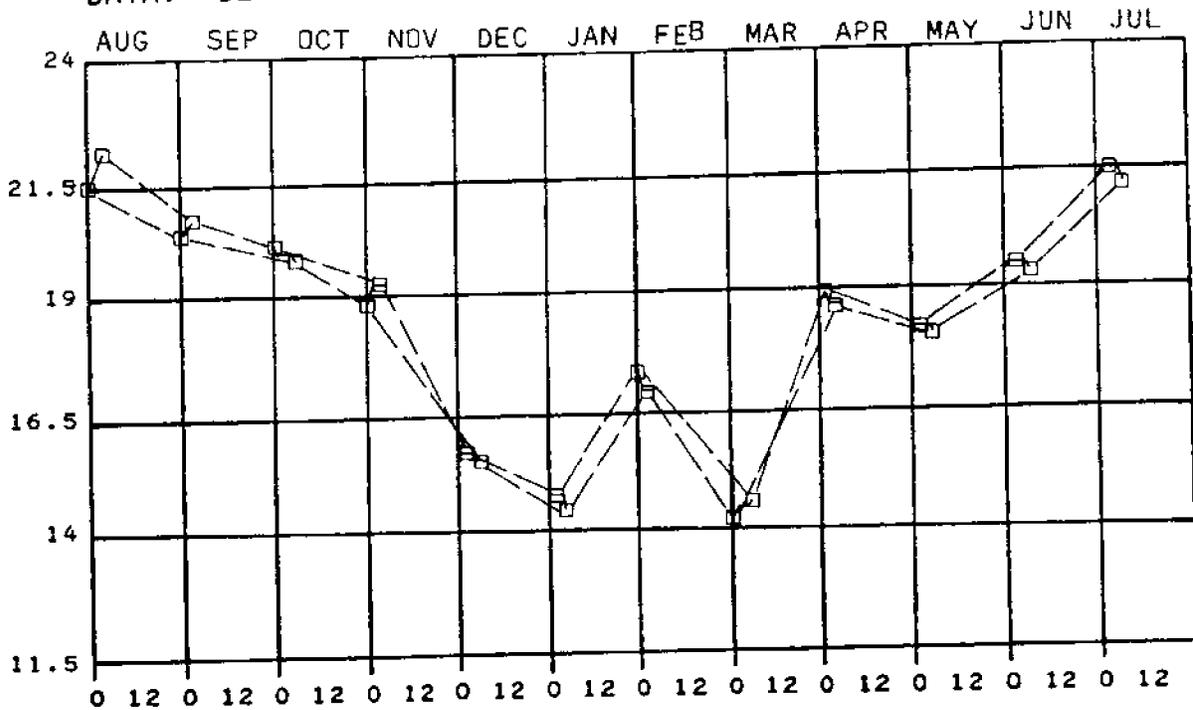
Table 2.6a,b

STATION M6

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M6

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

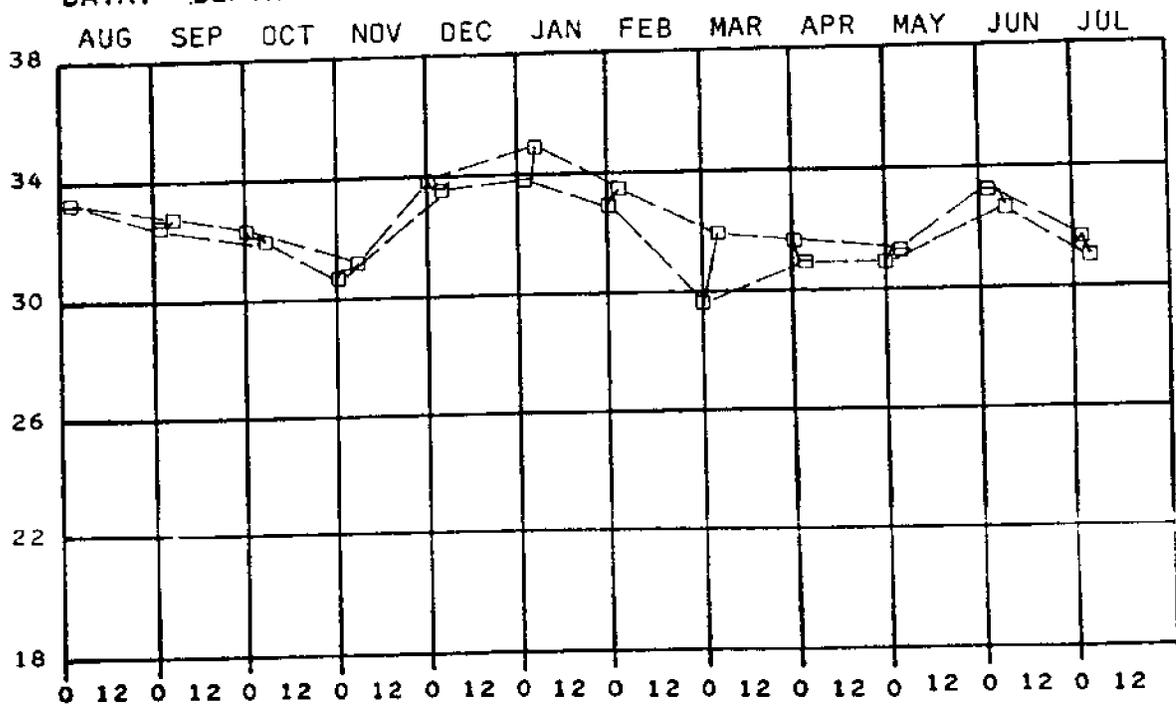


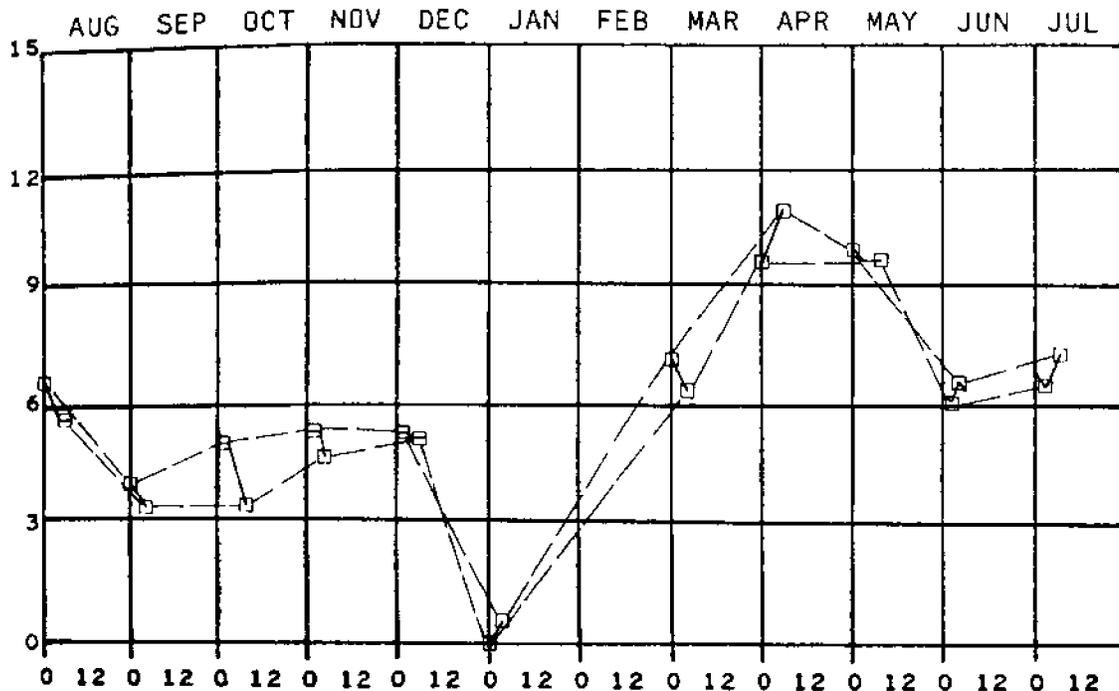
Table 2.6c,d

STATION M6

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M6

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

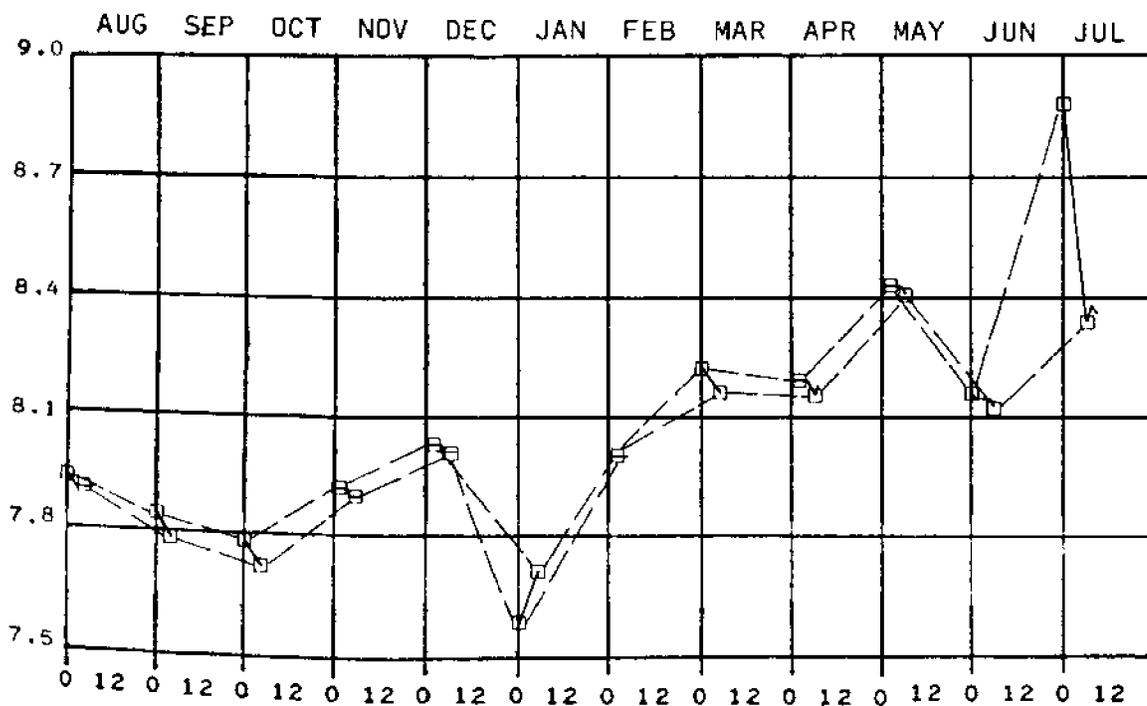


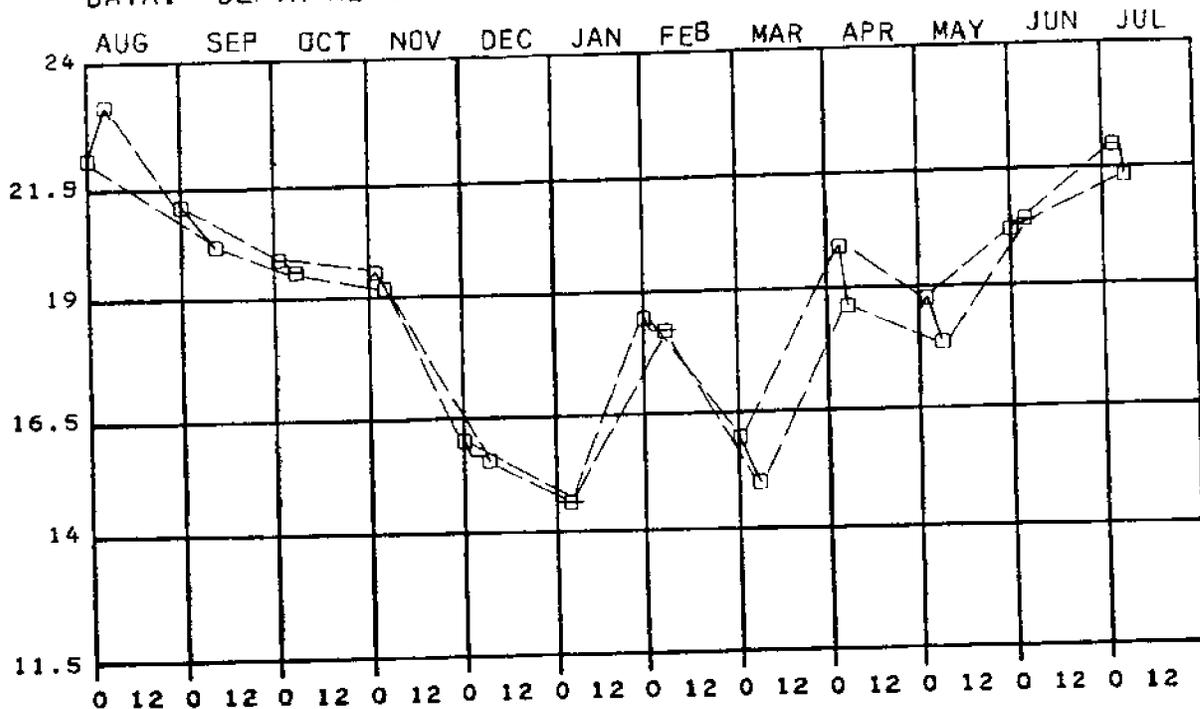
Table 2.7a,b

STATION M7

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M7

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

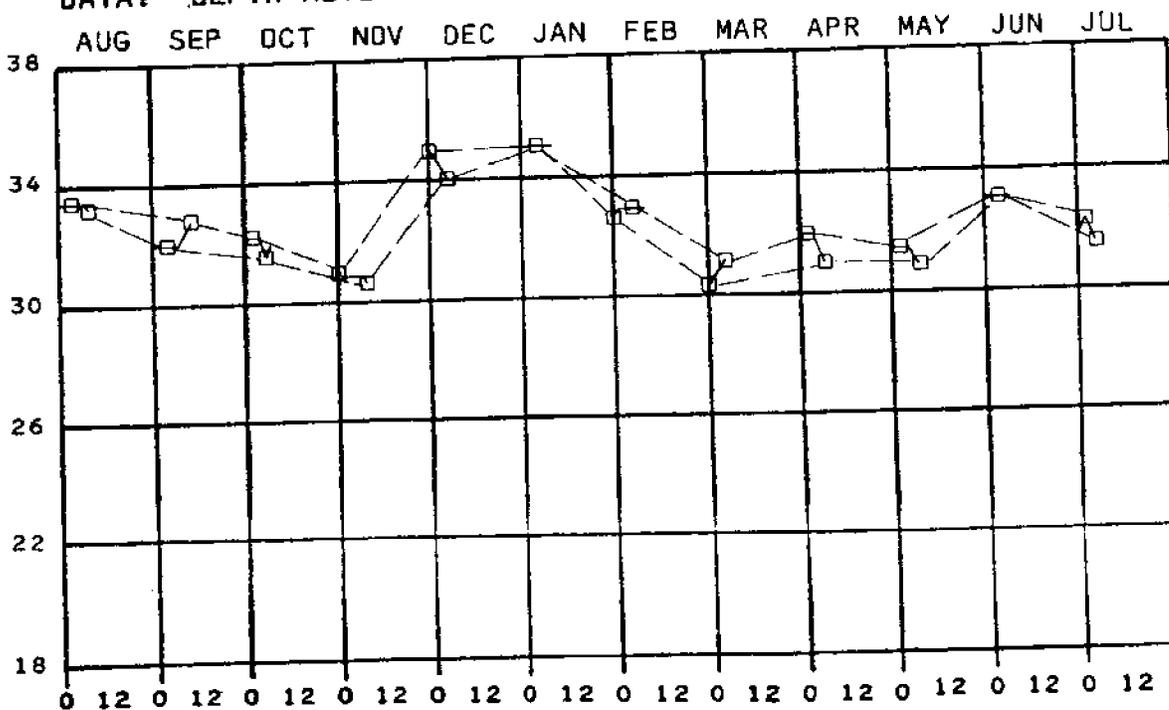


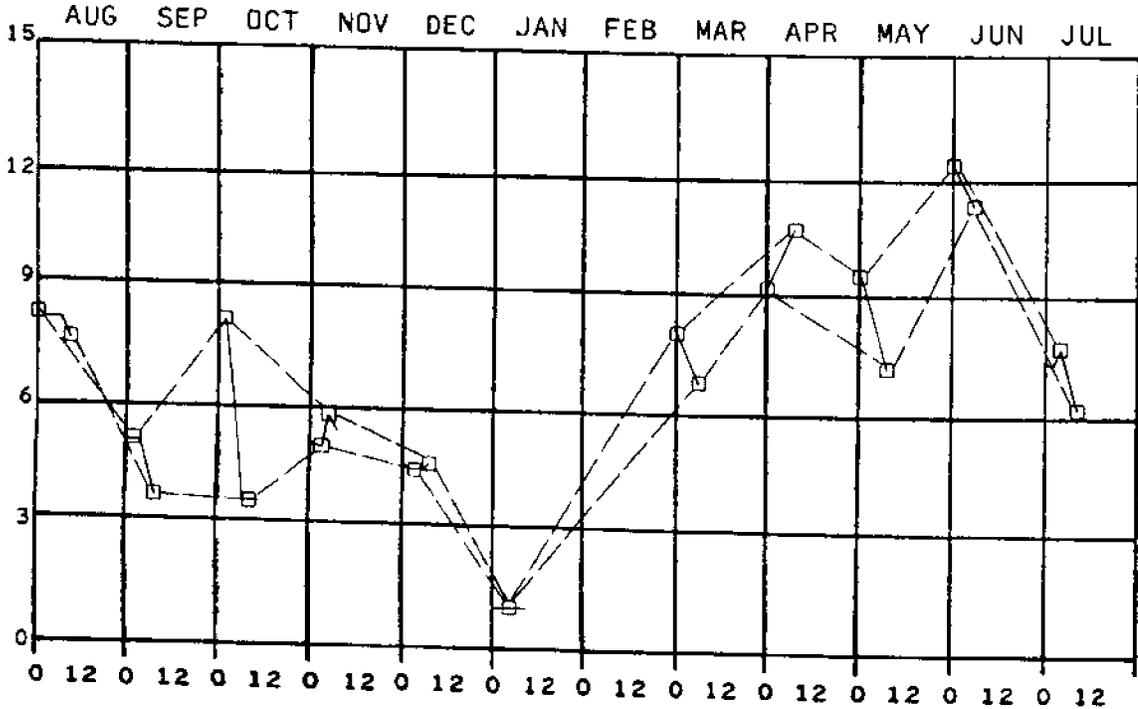
Table 2.7c,d

STATION M7

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M7

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

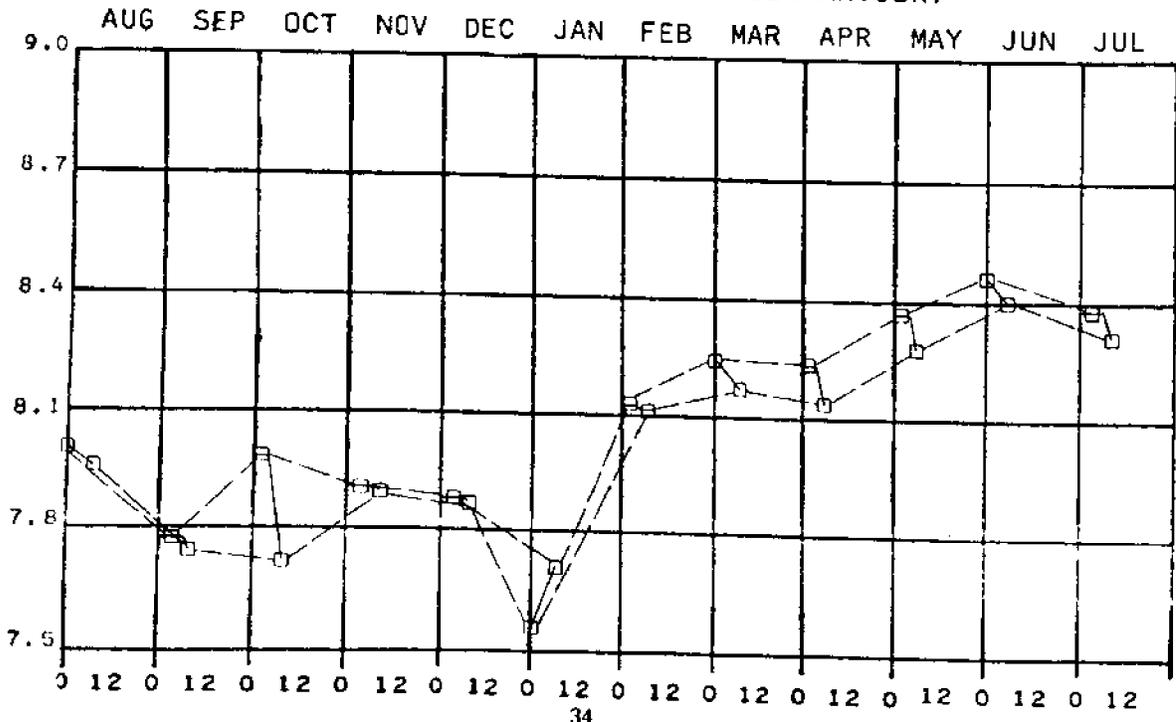


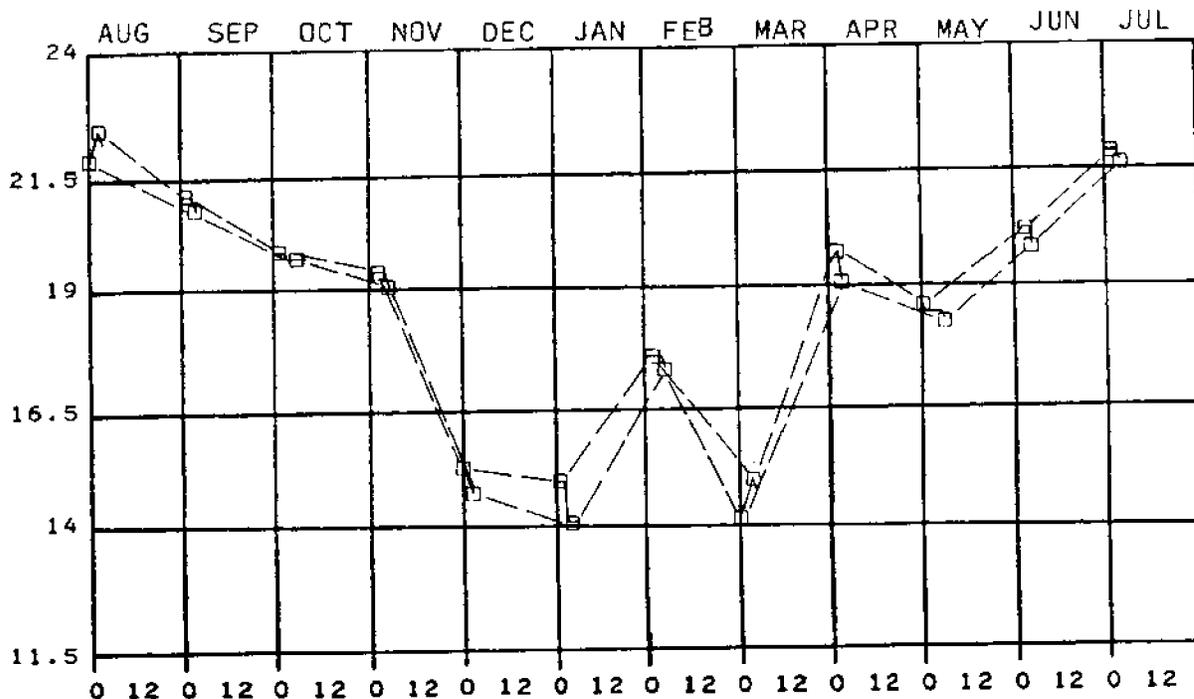
Table 2.8a,b

STATION M8

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M8

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

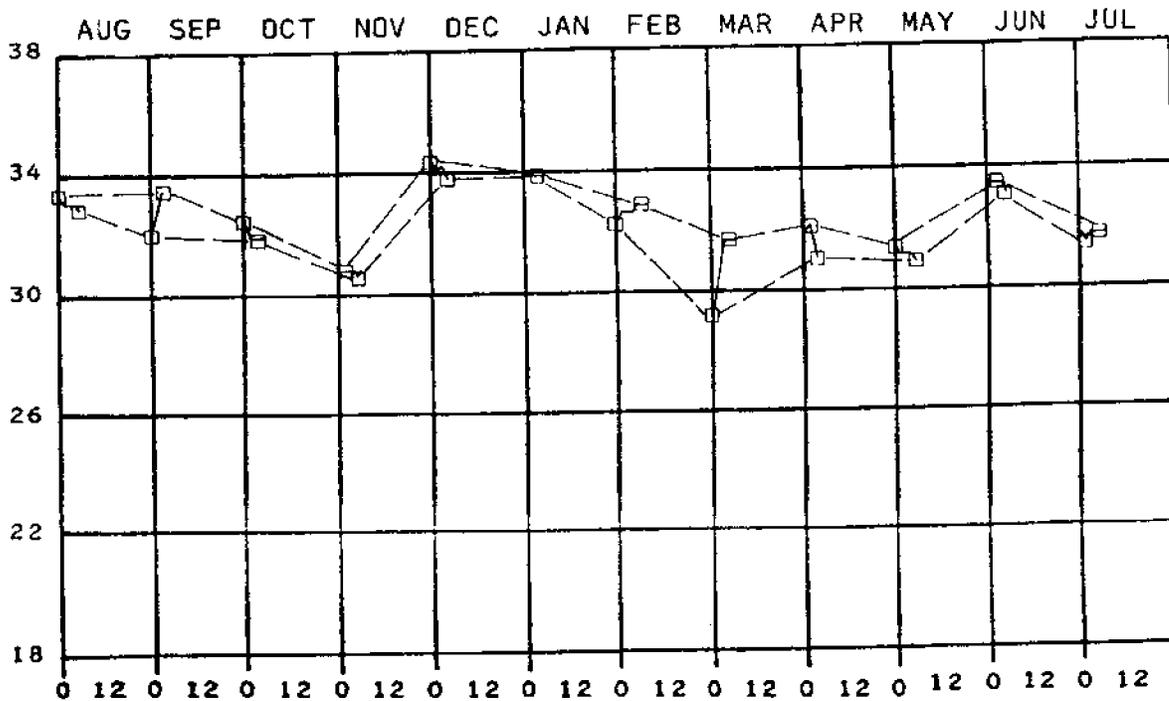
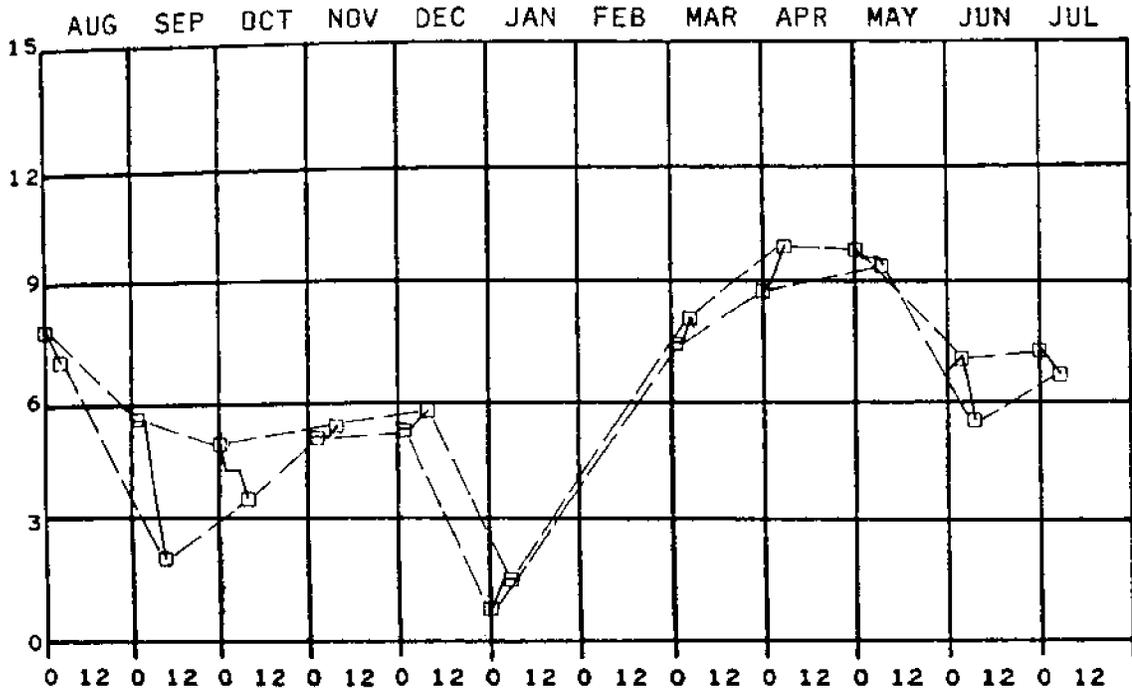


Table 2.8c,d

STATION M8
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M8
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

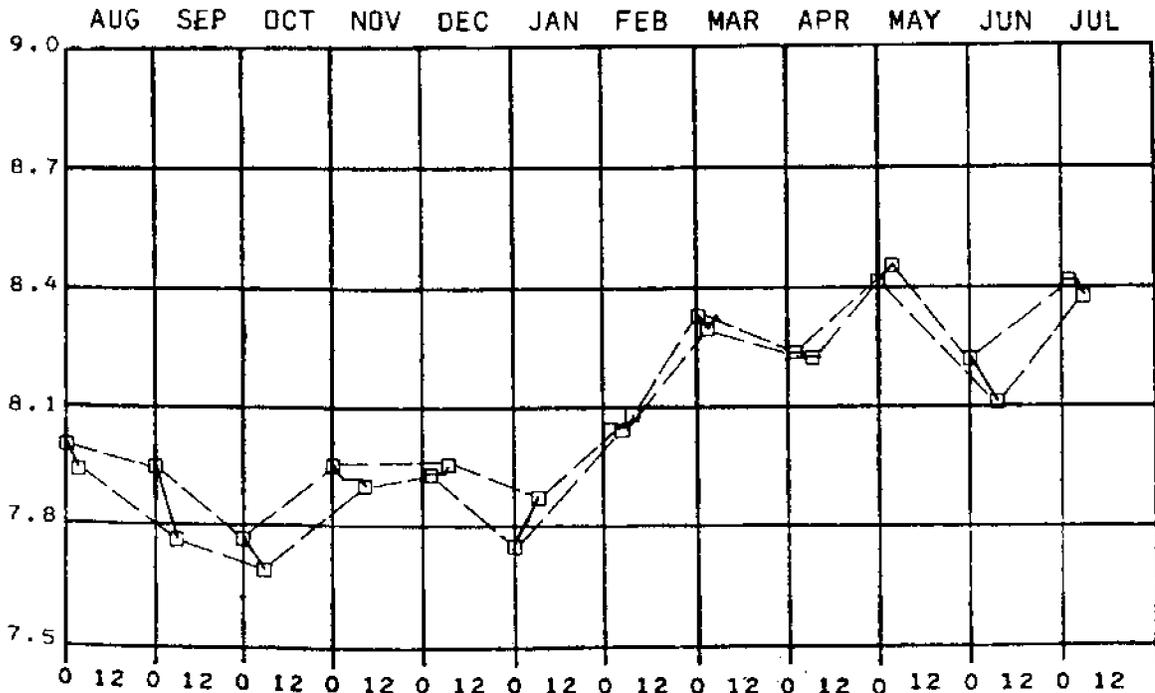


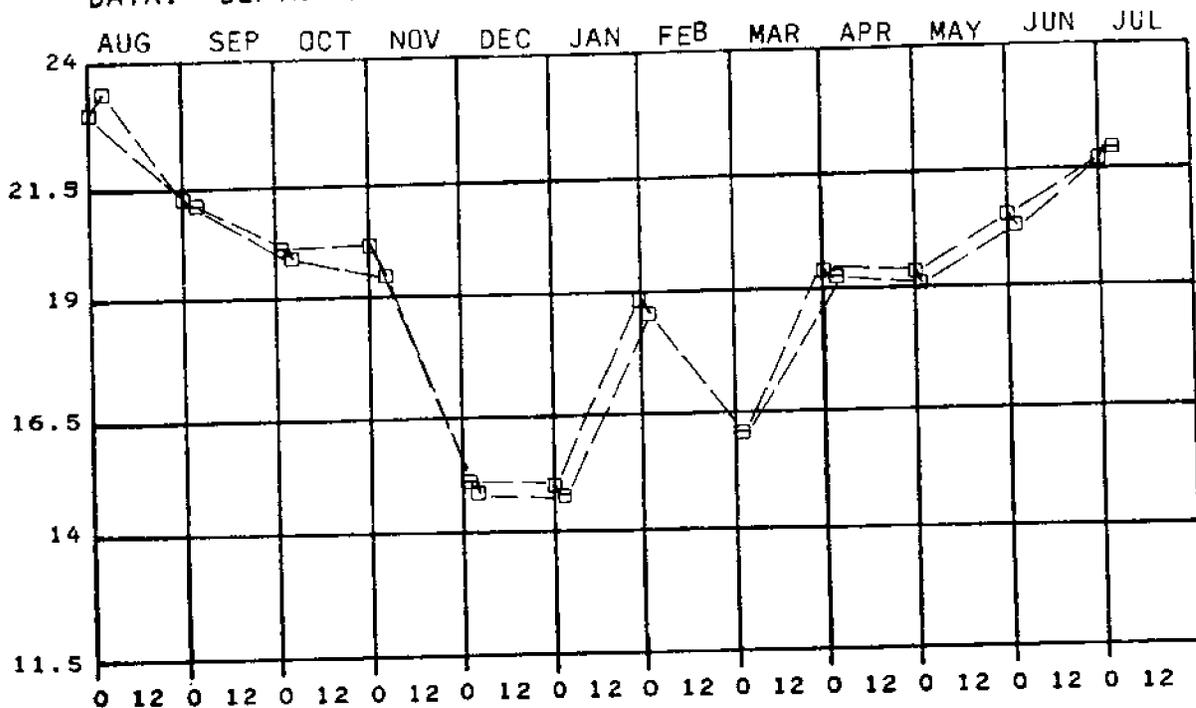
Table 2.9a,b

STATION M9

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M9

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

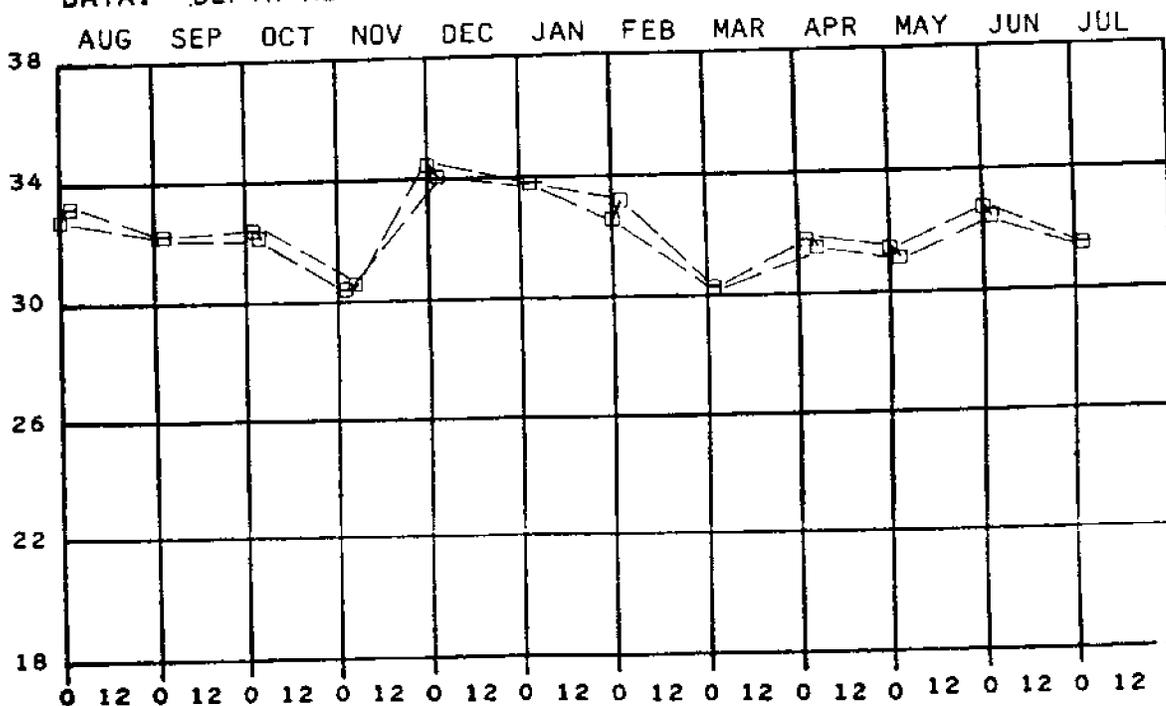
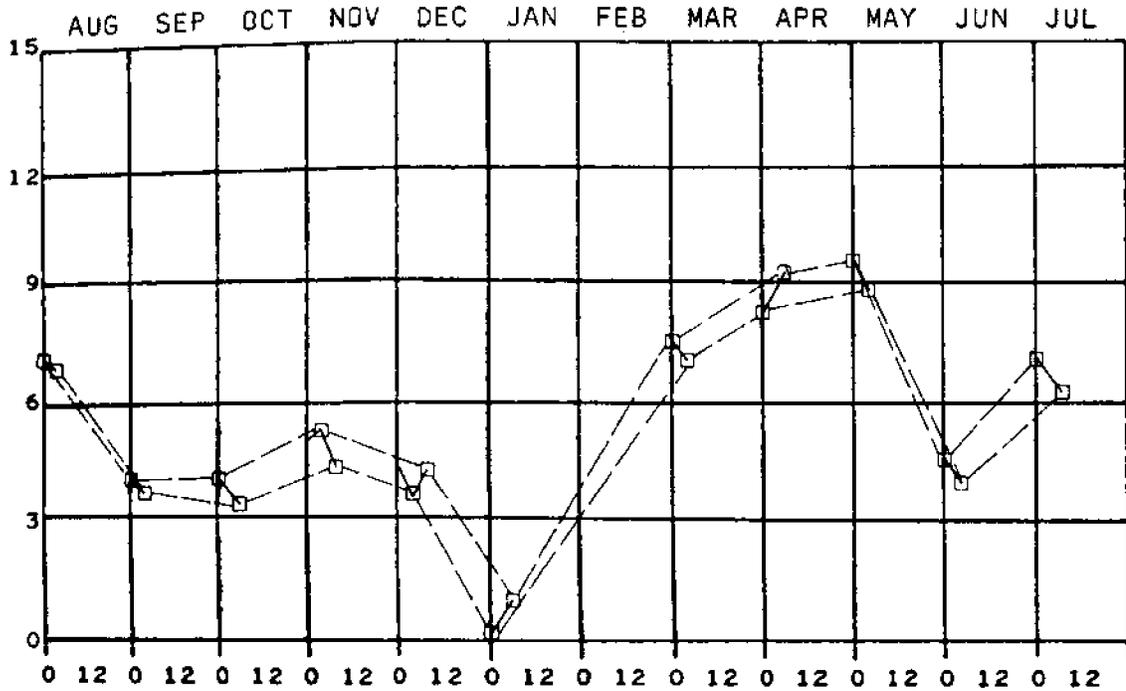


Table 2.9c,d

STATION M9
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M9
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

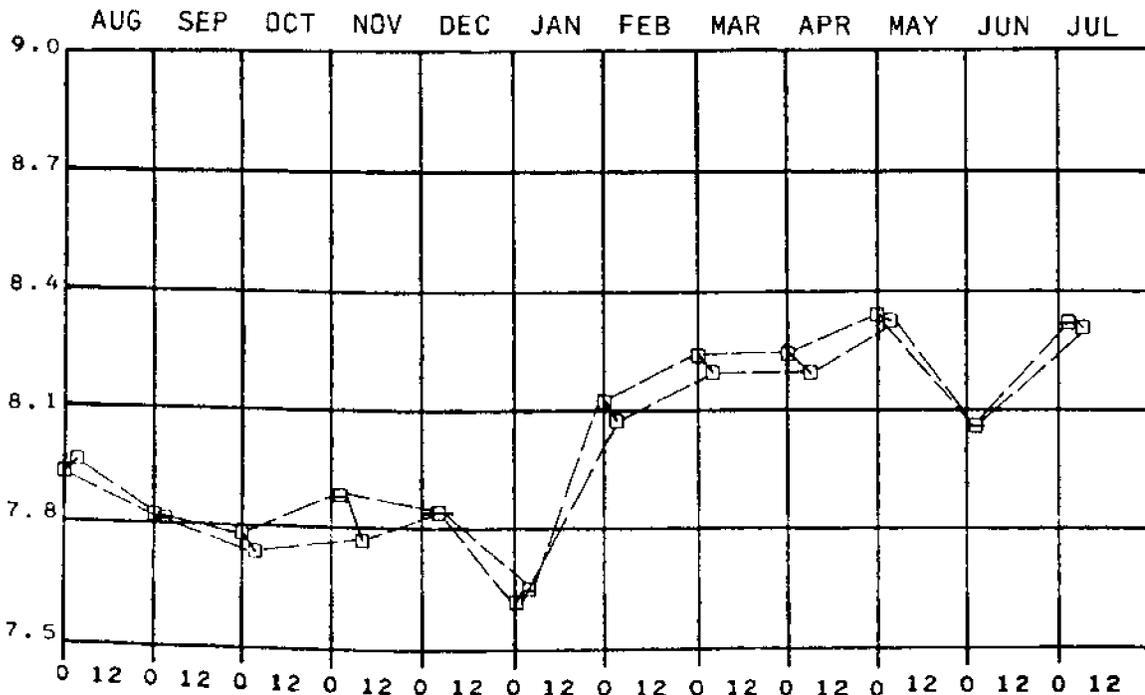


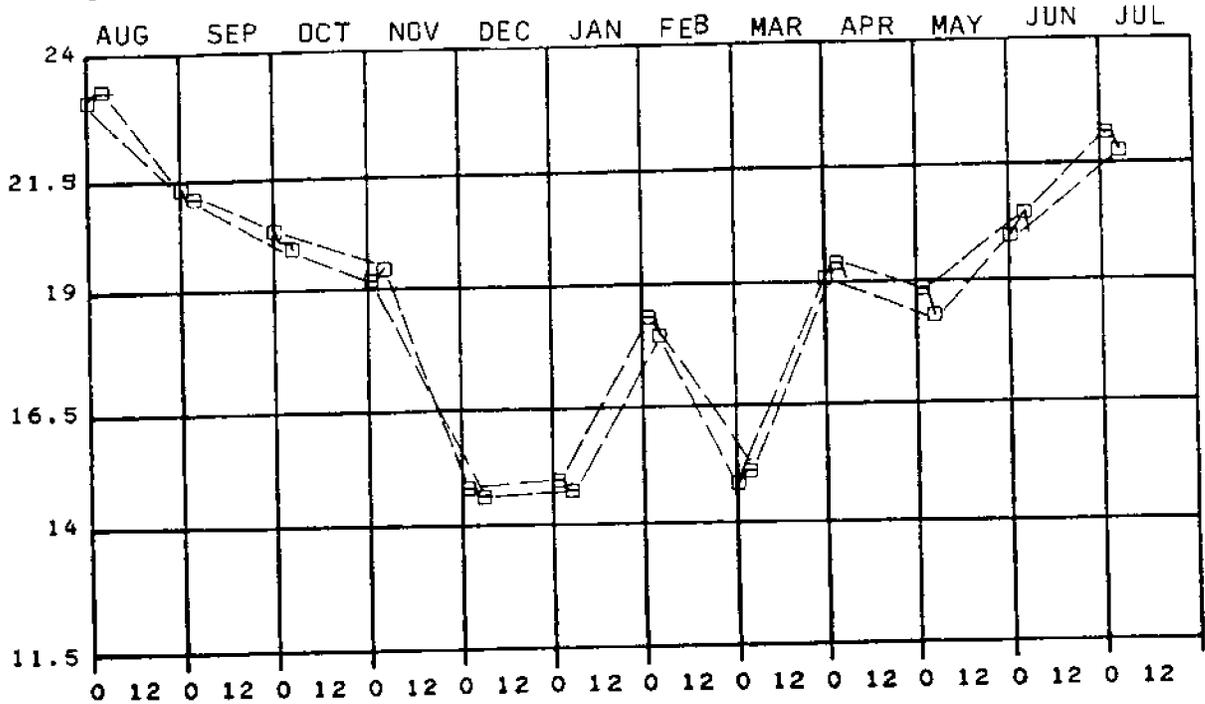
Table 2.10a,b

STATION M10

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M10

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

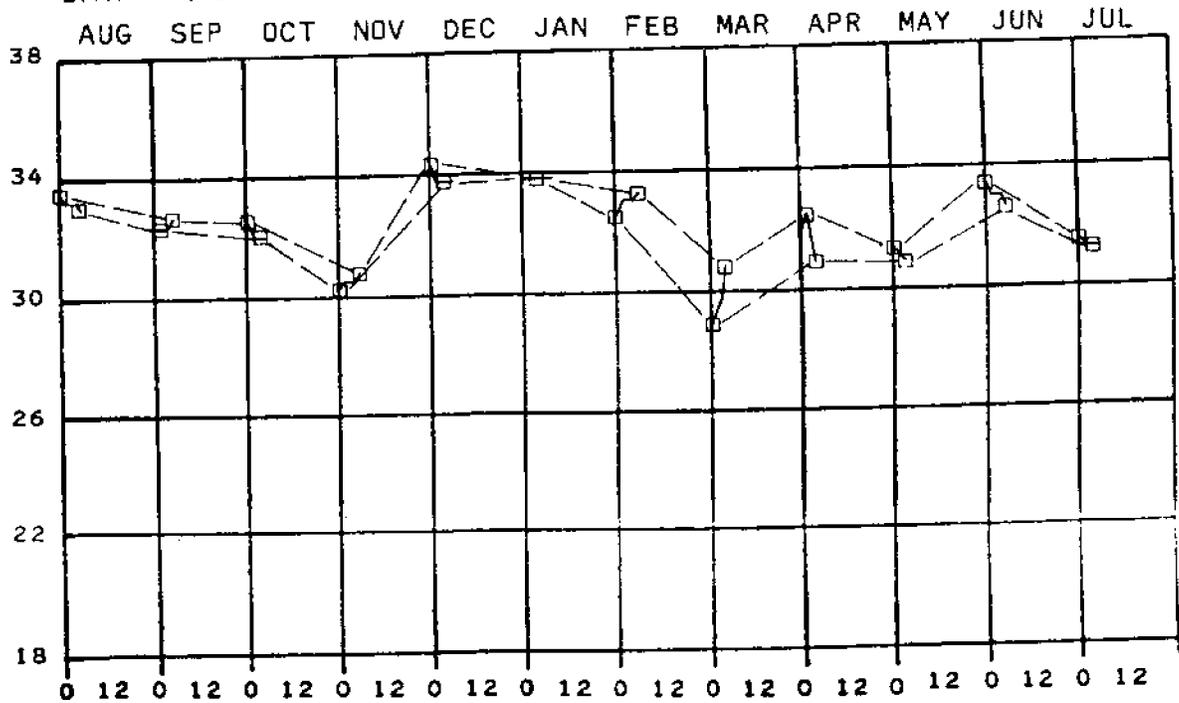
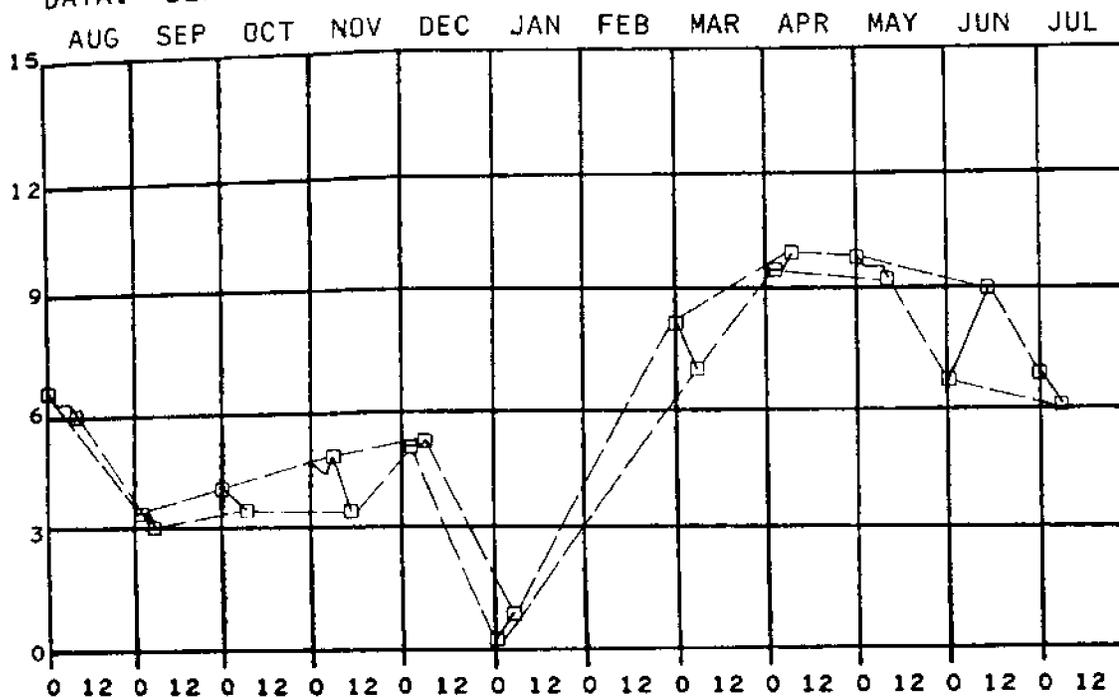


Table 2.10c,d

STATION M10
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M10
 DATE: 8/19/76 THROUGH 7/21/77
 EACH SUBGRAPH BY MONTH
 DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

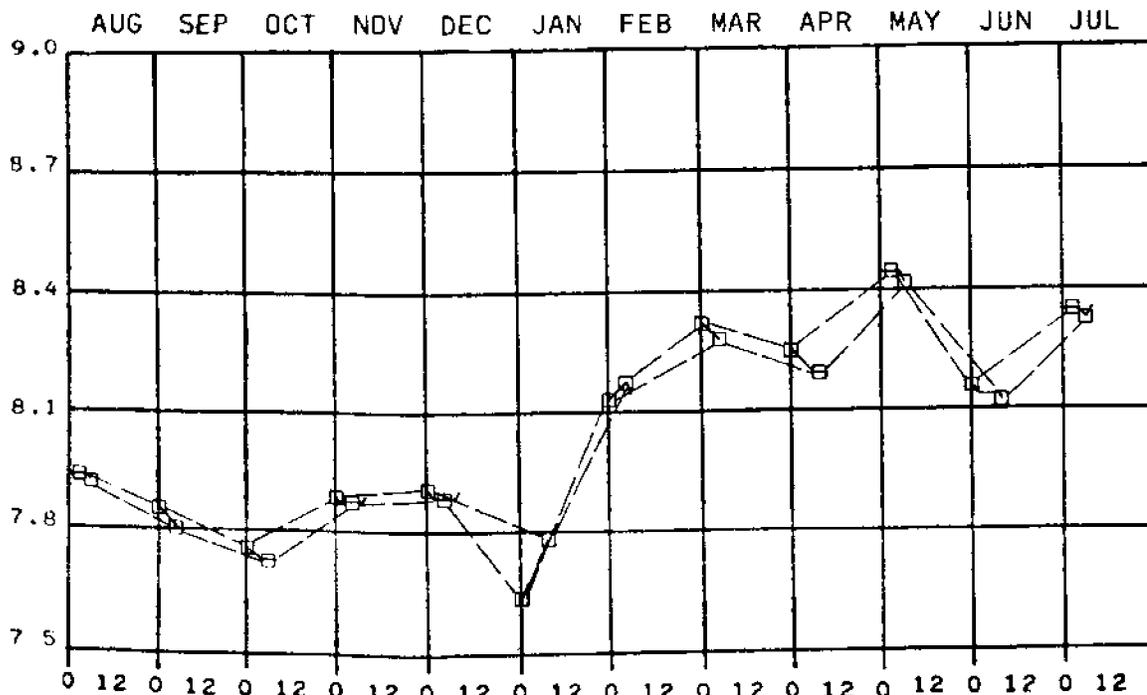


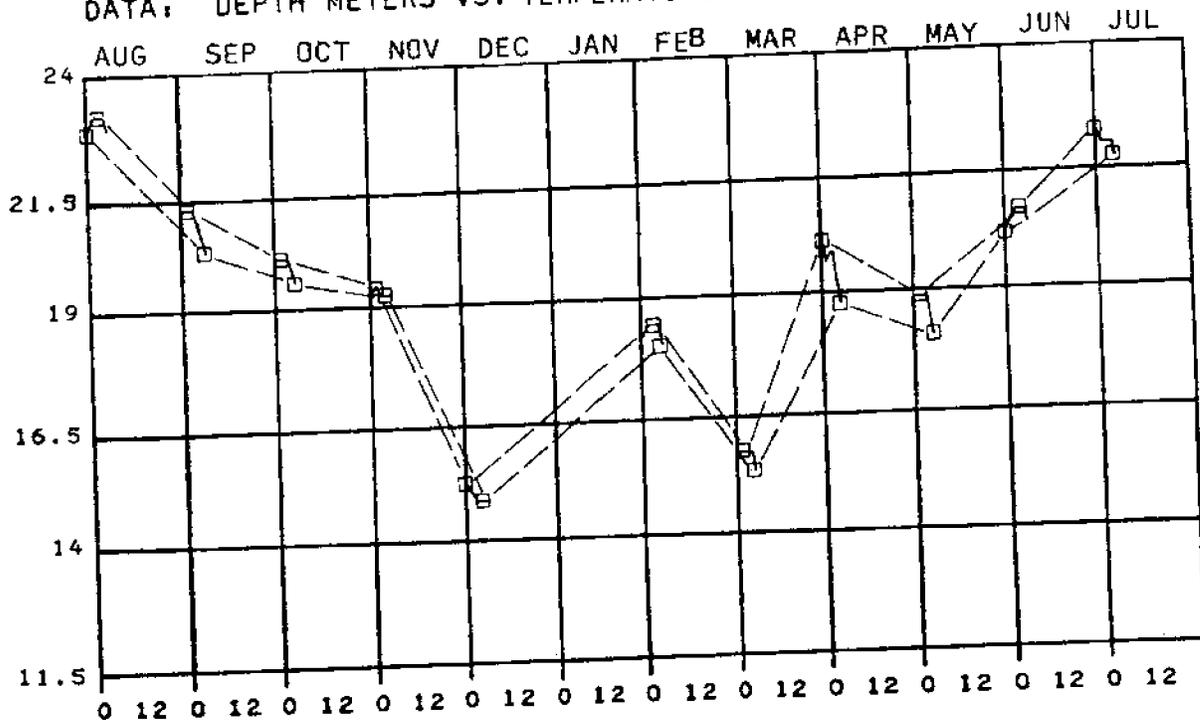
Table 2.11a,b

STATION M11

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M11

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

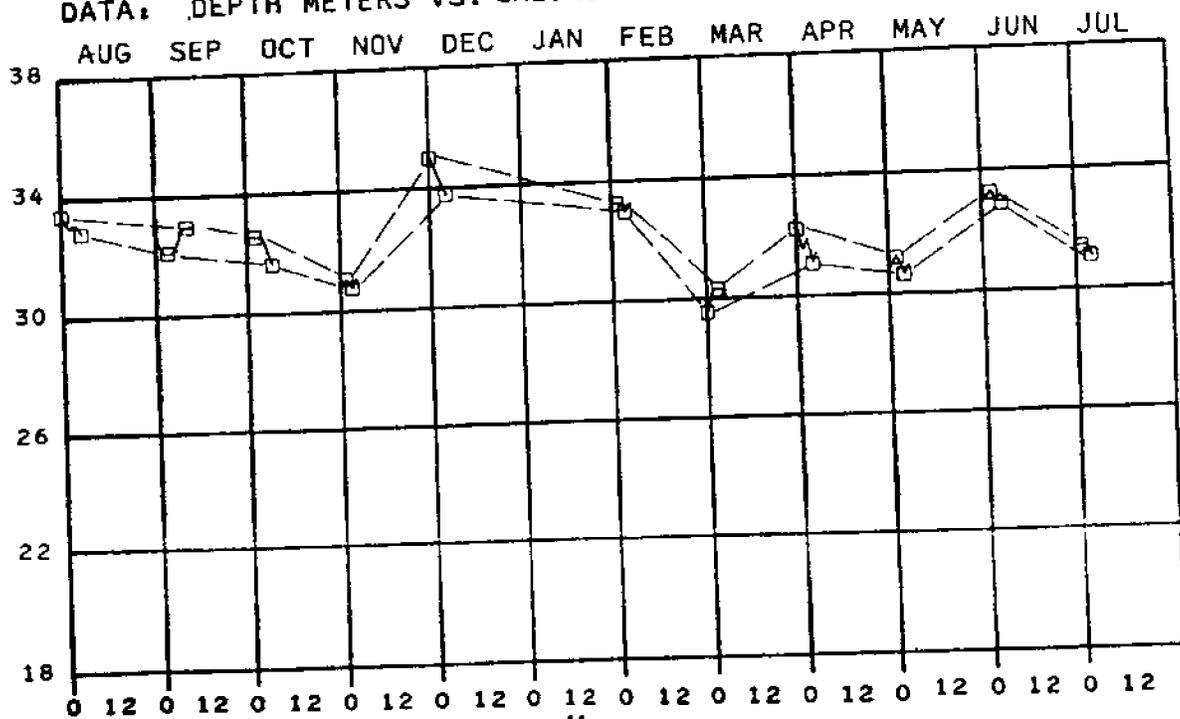


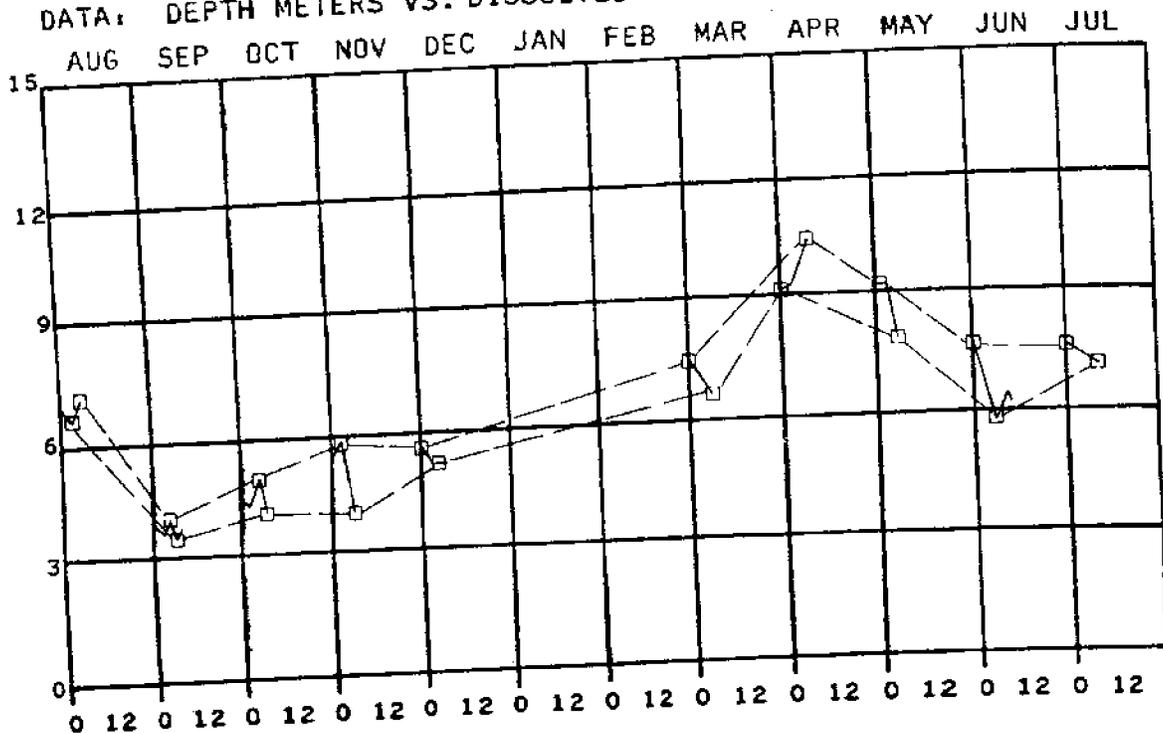
Table 2.11c,d

STATION M11

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M11

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

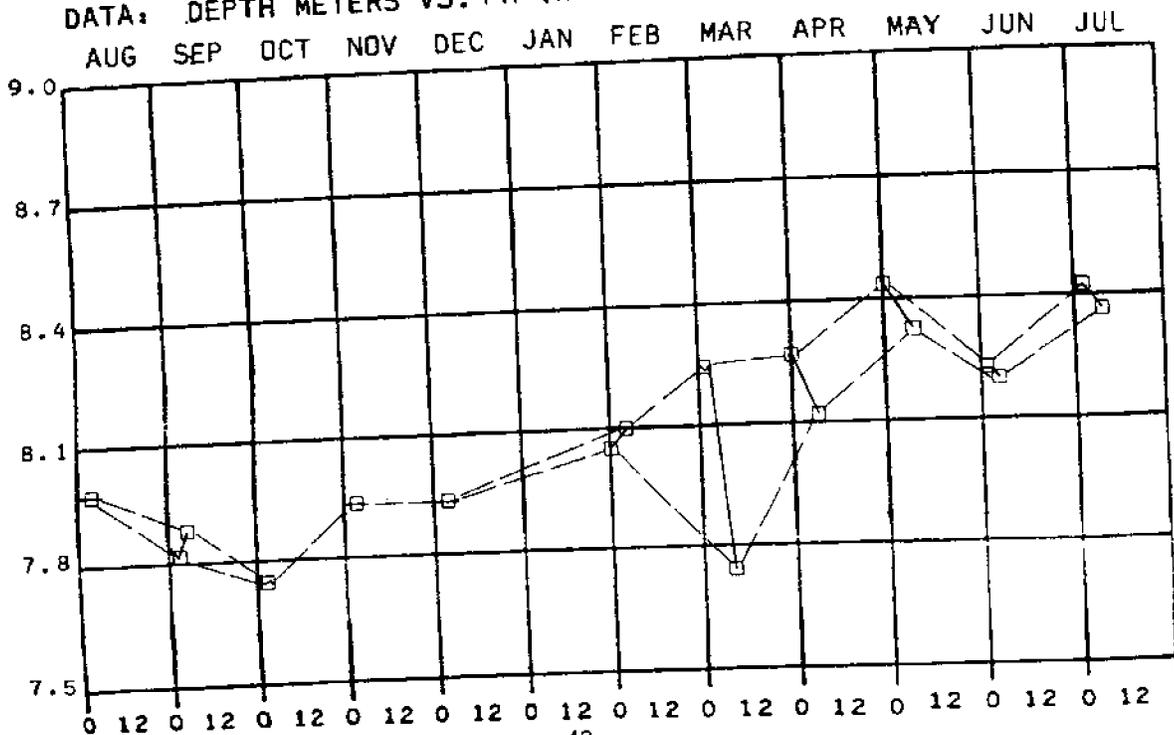


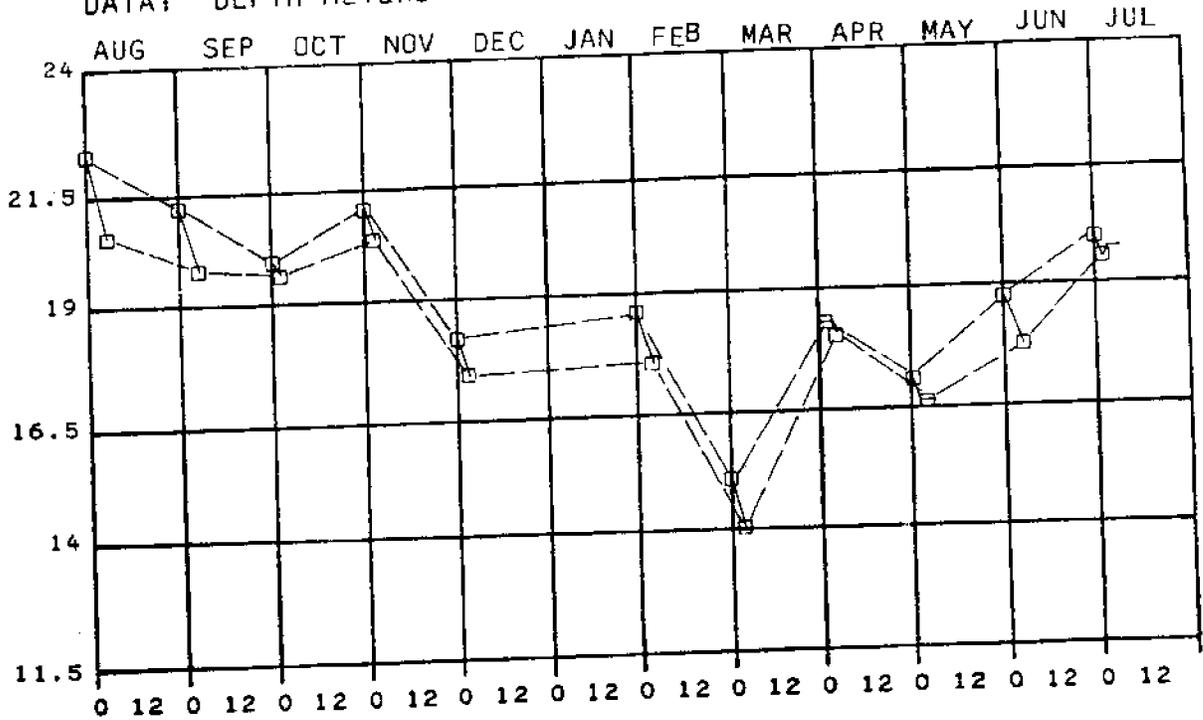
Table 2.12a,b

STATION M12

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE (°C)



STATION M12

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

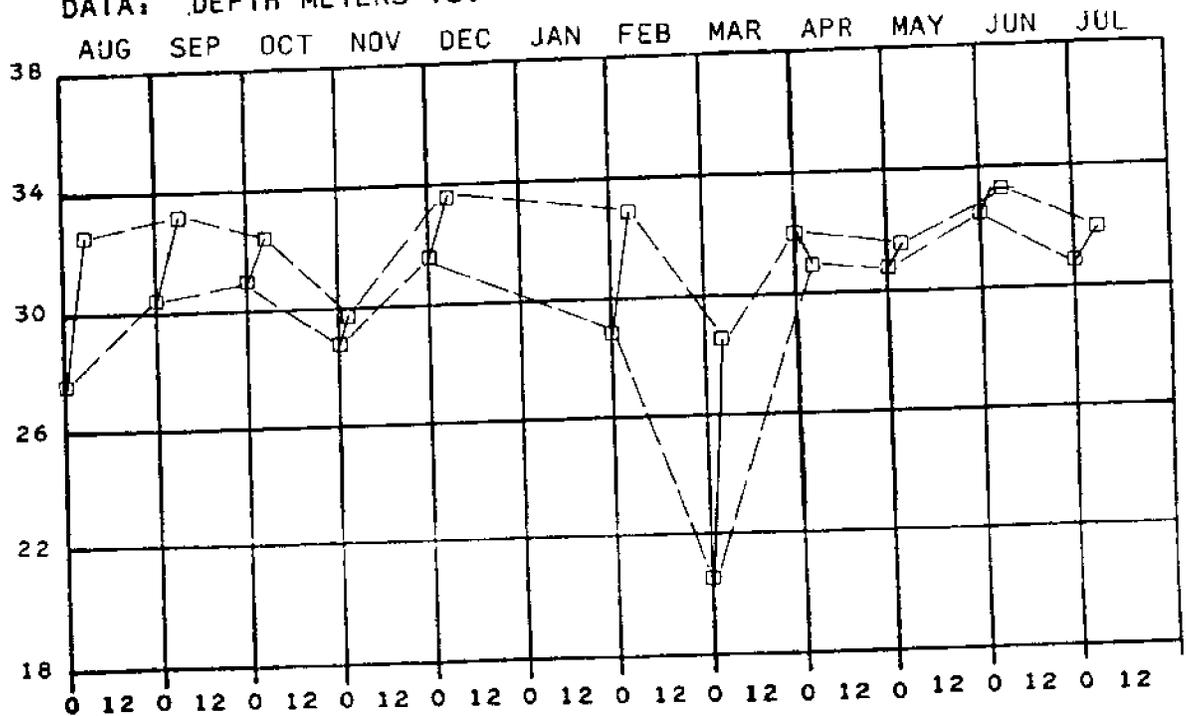


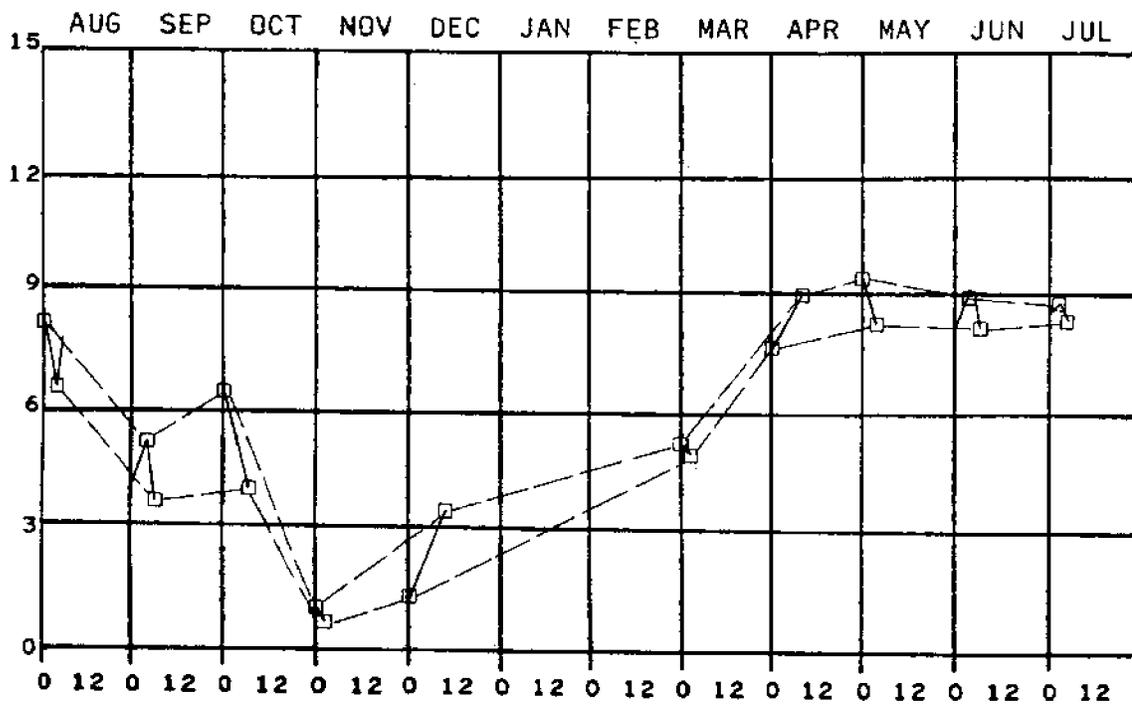
Table 2.12c,d

STATION M12

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)



STATION M12

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)

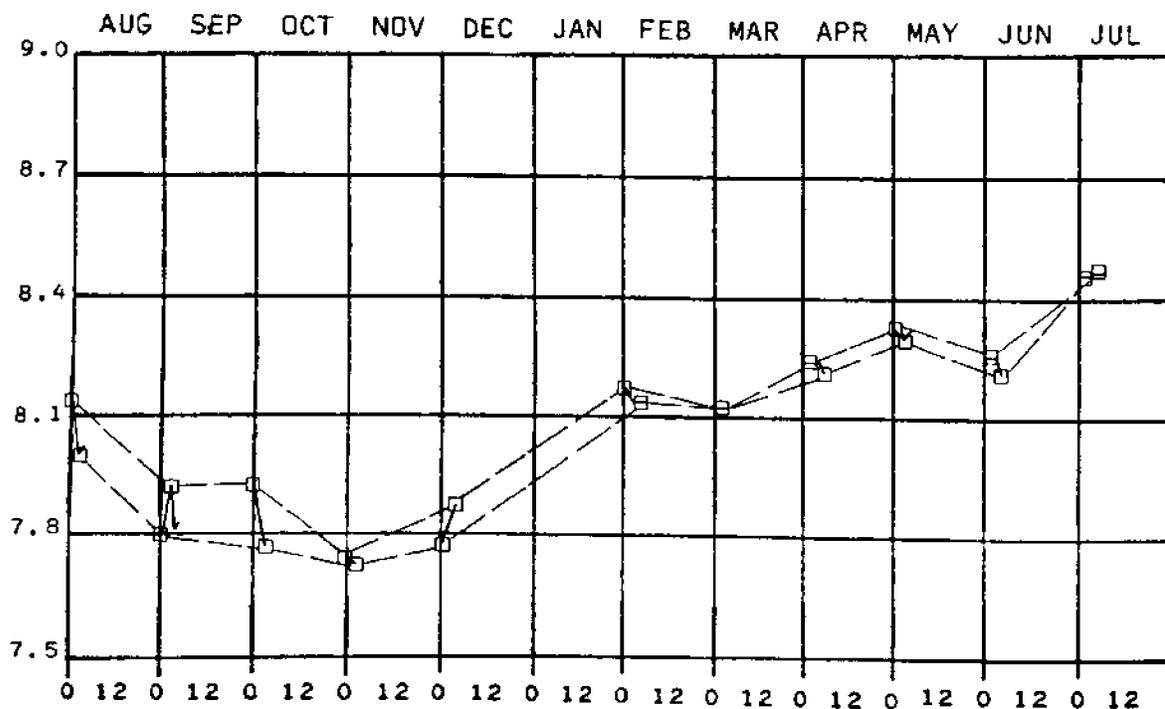
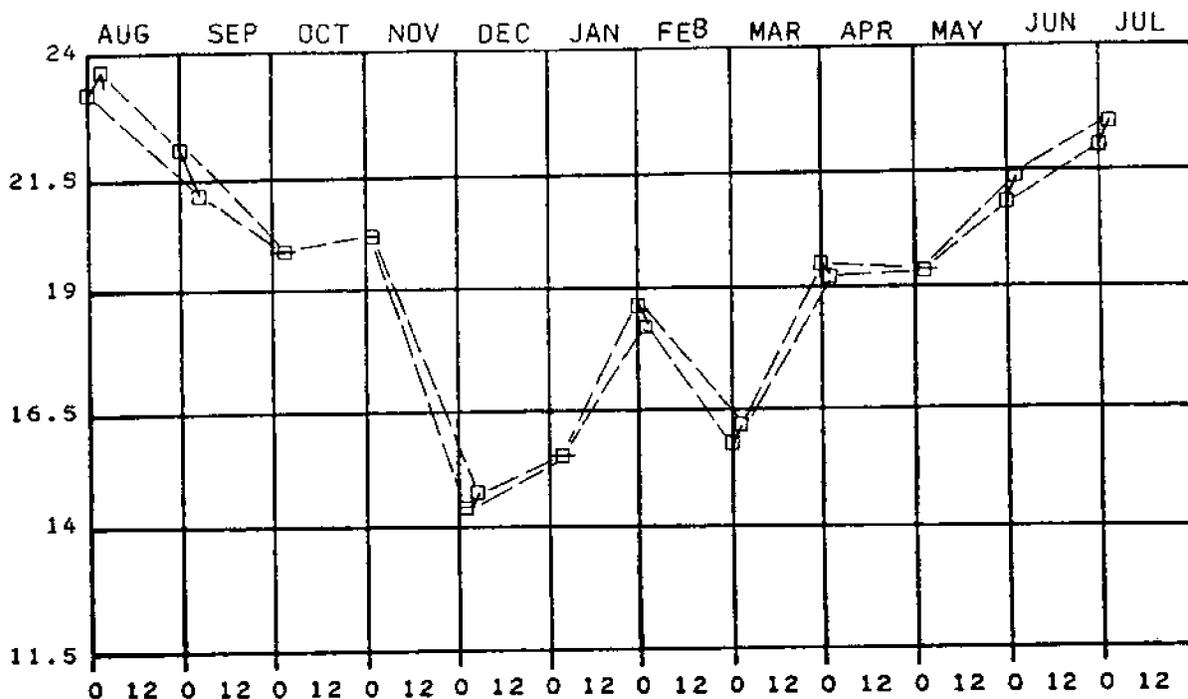


Table 2.13a,b

STATION M13

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. TEMPERATURE ($^{\circ}$ C)

STATION M13

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. SALINITY (PPT)

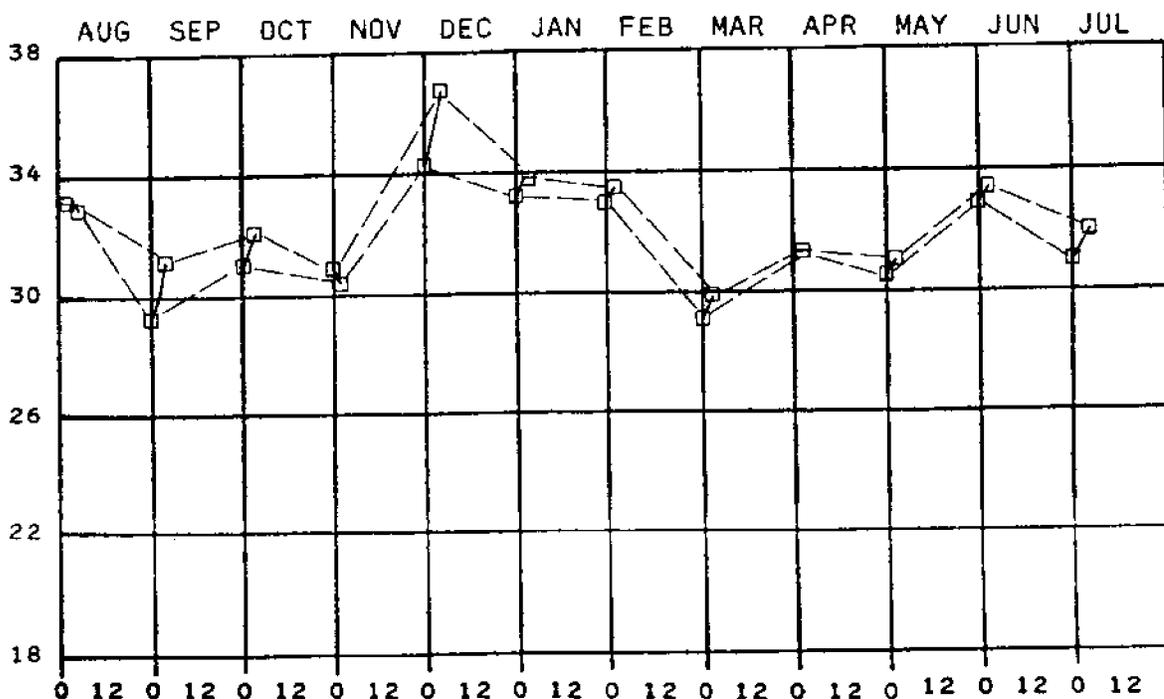


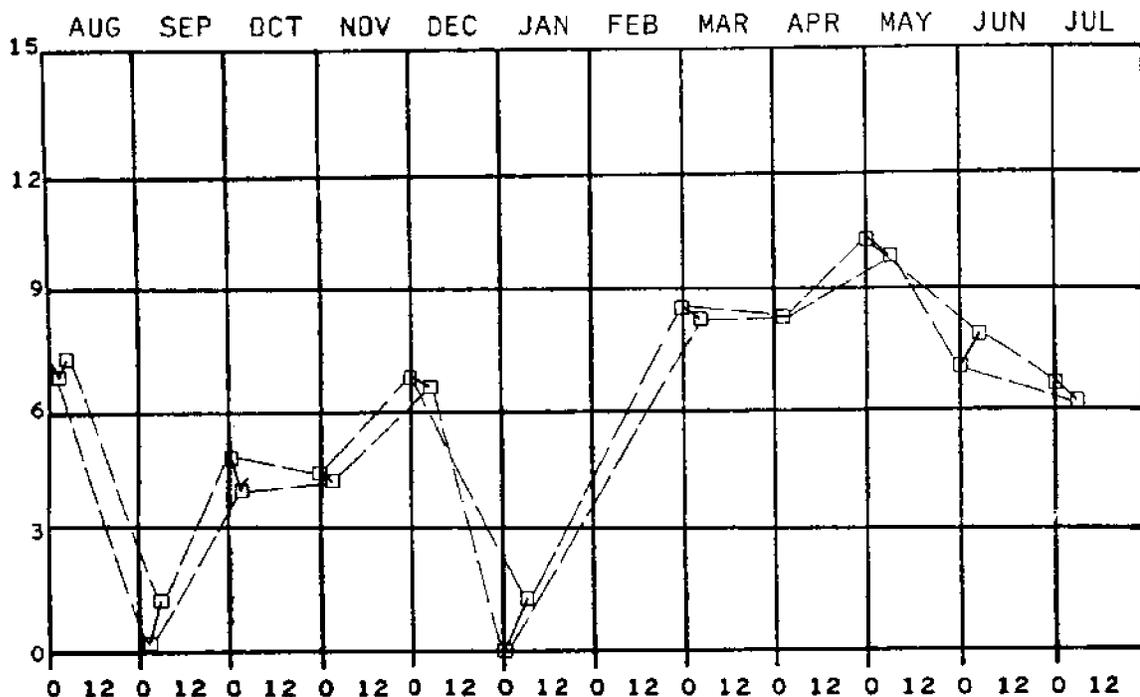
Table 2.13c,d

STATION M13

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. DISSOLVED OXYGEN (PPM)

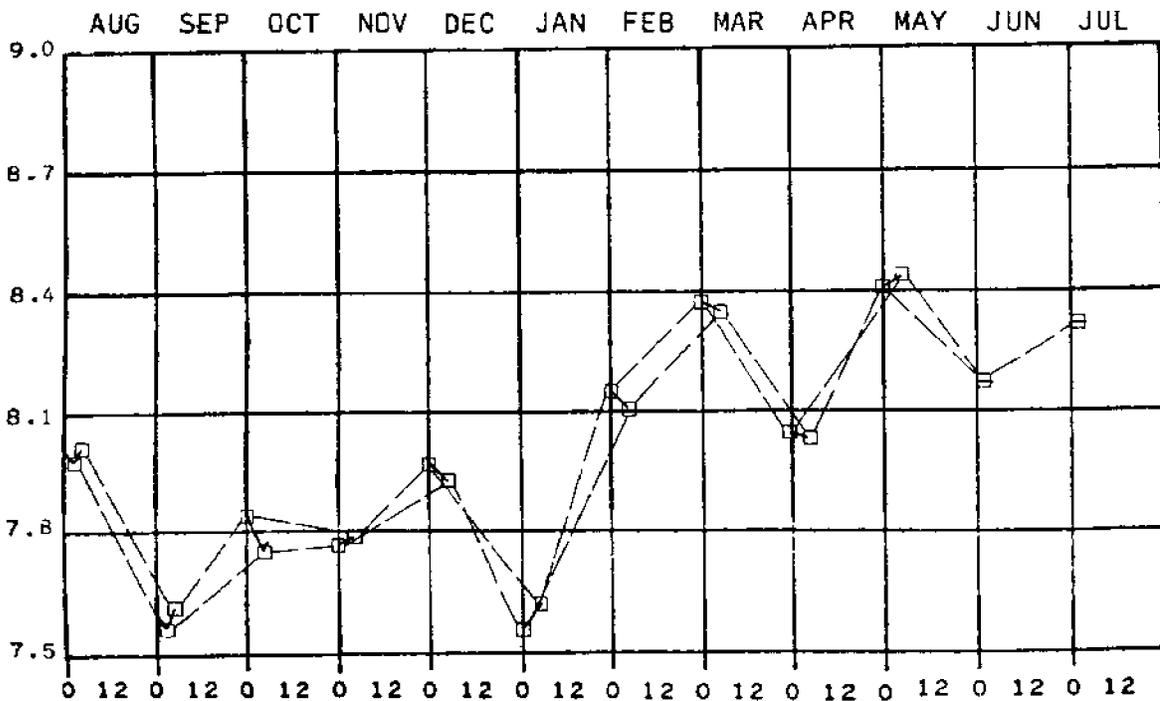


STATION M13

DATE: 8/19/76 THROUGH 7/21/77

EACH SUBGRAPH BY MONTH

DATA: DEPTH METERS VS. PH (H ION CONCENTRATION)



CHAPTER 3

POLLUTANTS IN WATER AND SEDIMENT

POLLUTANTS IN WATER AND SEDIMENT

Water

Because the question of the input of pollutants via storm drains is so important to the biotic quality of the marina, water samples were collected on 18 March at six stations and on 21 March at four stations, after a rainfall of 0.89 on 16 March. Tables 3.1 and 3.2 show the results of chemical analyses.

In the three day interval, the immediate oxygen demand (IOD) decreased at stations 4 and 7 but increased at stations 10 and 12, where runoff is heavy. Oil and grease levels decreased somewhat at stations 4, 7 and 20 while organic and total (Kj) nitrogen decreased at all stations sampled both times.

Of the heavy metals, cadmium, chromium, copper, iron, mercury, manganese, nickel, lead and zinc levels in the water decreased at most stations presumably due to the rainfall runoff.

However, levels of pesticides increased at all four stations analyzed. PCB's also increased, possibly indicating a land source for this contaminant. Arsenic and mercury may have increased slightly at station 7 and nickel increased at station 10.

Biological oxygen demand (BOD) analyses were also carried out on samples from the four stations on 21 March. Table 3.5 shows these results. These can be compared with unpublished data from Los Angeles Harbor, where waste effluents enrich the waters. There the BOD readings are about 10 times higher near the outfalls, but are very similar to the marina readings in the rest of the outer Los Angeles Harbor. (AHF, 1976).

Sediments

To determine the physico-chemical constituents of the sediments of MDR, analyses were performed in Dr. K. Y. Chen's Environmental Engineering laboratory at the University of Southern California. Measurements were made of moisture content (MC), dry matter (DM), total organic carbon (TOC), chemical oxygen demand (COD), immediate oxygen demand (IOD), total volatile solids (TVS), sulfide, oil and grease, organic nitrogen, total nitrogen, phosphorus, and the following

heavy metals: arsenic, cadmium, chromium, copper, iron, mercury, manganese, nickel, lead and zinc.

The results of these analyses indicate a high percentage of organic material for station 1 near the mouth of the Ballona Creek flood control channel. Chemical oxygen demand, the oxygen uptake by chemical substances in the substrate, was very high for each station. The presence of oil and grease and certain heavy metals in high concentration, indicate that the adjacent flood control channel (Ballona Creek) and the storm drains which empty into the marina may have a significant influence on the habitat (Table 3.4).

Previous studies (Bowerman et al., 1971) carried out in the marina were not directed toward identifying biological impacts from the storm drainage. In the present investigations the monthly sampling of both biota and water quality assisted in showing seasonal trends. Also, the unusual rainfall pattern led to more specific identification of impacts, when sampling was done before and after the September, January and March storms.

Data on concentrations in water and sediments may be compared with those from Los Angeles-Long Beach Harbor reported earlier by Harbors Environmental Projects (Chen, 1974; Allan Hancock Foundation, 1976).

Table 3.1 . Water Analysis for Marina del Rey, March 18, 1977.

Parameter	MDR 4	MDR 7	MDR 10	MDR 12
pH	8.0	8.0	8.1	8.8
Alkalinity	119	119	121	119
COD	188	192	192	172
P	0.1	0.09	0.08	0.09
TOC	7.5	6.8	8.5	5.1
IOD	0.7	0.5	0.65	0.55
ΣS^{-}	nil	nil	nil	nil
NO ₃ -N	0.92	1.05	0.90	0.98
Oil & Grease	1.3	0.6	1.4	2.0
Org-N	0.35	0.35	0.84	0.49
Kj-N	0.35	0.35	0.84	0.49
As	0.007	0.005	0.006	0.006
Cd	0.003	0.004	0.008	0.003
Cr	0.122	0.090	0.160	0.214
Cu	0.022	0.023	0.025	0.016
Fe	0.180	0.075	0.165	0.075
Hg	0.008	0.004	0.002	0.005
Mn	0.032	0.025	0.073	0.125
Ni	0.003	0.015	0.004	0.005
Pb	0.012	0.009	0.028	0.021
Zn	0.051	0.056	0.082	0.028
op' DDE	0.002	0.003	0.003	0.003
op' DDD	-	0.002	0.001	-
op' DDE	-	-	0.008	-
pp' DDE	0.007	0.007	0.007	0.008
pp' DDD	-	0.006	0.003	-
pp' DDT	-	-	0.008	-
Total DDT	0.009	0.018	0.03	0.011
PCB 1242	-	0.07	-	0.16
Total PCB	-	0.07	-	0.16

All units in ppm unless specified.

Table 3.2. Water Analysis for Marina del Rey, March 21, 1977.

Parameter	MDR 4	MDR 7	MDR 10	MDR 11	MDR 12	MDR 13
pH	8.1	8.1	8.0	8.1	8.0	8.1
Alkalinity	121	119	121	119	123	119
COD	192	200	192	188	204	188
P	0.1	0.08	0.1	0.08	0.1	0.09
TOC	6	6	5	5.8	7.2	4.8
IOD	0.4	0.3	1.4	1.5	1.4	1.2
$\Sigma S^{=}$	nil	nil	nil	nil	nil	nil
NO ₃ -N	0.85	0.41	0.89	0.88	1.58	0.67
Oil & Grease	0.20	0.5	0.3	1.5	2.0	2.5
Org-N	0.21	0.21	0.21	0.21	0.28	0.49
Kj-N	0.21	0.21	0.21	0.21	0.28	0.49
As	0.005	0.007	0.006	0.005	0.005	0.006
Cd	0.002	0.002	0.002	0.001	0.001	0.002
Cr	0.072	0.012	0.010	0.215	0.115	0.120
Cu	0.005	0.005	0.006	0.007	0.001	0.005
Fe	0.015	0.027	0.026	0.022	0.027	0.050
Hg	0.006	0.005	0.001	0.001	0.001	0.001
Mn	0.021	0.015	0.043	0.144	0.037	0.045
Ni	0.001	0.001	0.011	0.001	0.001	0.001
Pb	0.002	0.007	0.003	0.002	0.003	0.010
Zn	0.008	0.014	0.025	0.018	0.003	0.018
op'DDE	0.009	0.004	0.008	0.001	0.005	0.002
op'DDD	-	0.002	0.004	-	-	0.006
op'DDT	-	-	0.015	-	-	-
pp'DDE	0.013	0.008	0.012	0.003	0.01	0.004
pp'DDD	-	0.006	0.008	-	-	0.009
pp'DDT	-	-	0.04	-	-	-
Total DDT	0.032	0.020	0.087	0.004	0.015	0.021
PCB 1242	-	0.26	-	-	0.18	-
Total PCB	-	0.26	-	-	0.18	-

All units in ppm unless specified.

Table 3.3. Water Analysis

	Ranges in Open Sea Water (ppm) (ppm) (AHF, 1976)	Ballona Creek at Lincoln Blvd.*	
		March 15, 1977 I	(mg/l) II
As		0.005	
Cd	0.003-0.24	0.013	0.014
Cr	0.05-0.8	0.052	0.028
Cu	0.1-0.8	0.032	0.032
Fe	0.4-3.0	0.14	0.16
Hg	0.03-0.15	0.00039	0.00056
Mn	0.4-3.0	0.033	0.033
Ni	0.02-0.75	0.080	0.080
Pb	0.03-0.12	0.15	0.16
Zn	0.2-0.5	0.063	0.070
Ag		0.012	0.012

* Data courtesy of the Los Angeles Flood Control District.

Table 3.4. Sediment Analysis, Marina del Rey.

Station Parameter	MDR 1	MDR 2	MDR 3	MDR 4	MDR 5	MDR 6	MDR 7	MDR 8	MDR 9	MDR 10	MDR 11
MC %	30.49	44.28	21.44	32.68	52.09	50.45	62.08	50.96	50.98	40.27	51.33
DM %	69.51	59.72	78.56	67.42	47.91	49.55	37.92	49.04	49.02	59.73	48.67
TOC %	212	3.94	0.21	0.76	0.94	0.48	1.35	0.60	0.70	0.80	0.66
COD	41900	108900	14500	29800	52800	41800	66700	45500	34100	92700	44800
IOD	1260	1460	629	744	2370	715	5010	1230	1520	1530	1500
TVS %	5.56	8.55	1.87	4.05	8.01	5.41	9.57	6.94	5.98	10.29	8.32
S=	870	2070	6	23	395	305	2430	360	158	2430	122
Oil & Grease	6920	6300	1050	1180	3010	1830	2030	1460	1580	5170	1440
Org-N	860	1200	3.2	665	730	775	1950	890	1050	1080	780
Total-N	860	1200	3.2	665	730	775	1950	890	1050	1080	780
P	721	776	391	677	1050	591	880	938	1070	910	1170
As	5.25	6.27	2.72	5.56	21.6	10.1	13.9	20.8	15.3	22.9	17.6
Cd	1.12	1.19	0.132	0.589	0.666	0.426	0.621	0.588	0.308	1.03	0.611
Cr	88.1	96.9	27.1	70.6	122	69.8	95.5	94.1	84.8	128	129
Cu	46.3	67.8	10.9	51.8	141	105	161	118	107	270	125
Fe	14800	16900	5230	18700	34400	19800	24800	32300	33100	38100	39100
Hg	0.350	0.426	0.355	0.489	1.140	2.43	2.04	1.45	1.56	1.60	1.43
Mn	216	257	86	259	397	255	310	382	342	333	441
Ni	22.0	32.8	9.1	29.8	56.1	27.2	52.4	46.3	41.6	64.8	59.8
Pb	56.0	74.5	33	96.5	150	63.9	112	63.7	108	359	94.1
Zn	298	393	32	117	227	139	232	195	206	449	218

All units in ppm unless specified.

Table 3.5. Biological Oxygen Demand, 21 March 1977

.89 rainfall 16 March 1977

<u>Station</u>	<u>DO₂ ppm</u>	<u>Salinity ppt</u>	<u>Temperature OC</u>	<u>BOD 5</u>
4	4.25	34.0	15.2	0.68
7	4.00	33.0	15.5	0.54
10	2.80	35.0	16.5	0.0
11	4.20	34.0	15.6	0.54
12	3.00	34.0	16.0	0.68

CHAPTER 4

PHYTOPLANKTON PRODUCTIVITY

PHYTOPLANKTON PRODUCTIVITY

Primary productivity is one measure of the ability of photosynthetic organisms to convert non-living nutrients into biological material, as well as an index of the fertility of the waters being studied. Since phytoplankton form the base of all macroscopic food chains, their productivity is directly related to the amount of food available for invertebrates and fishes.

Unlike the other biological analyses used in this study, primary productivity represents a rate of the biological process of photosynthesis under standardized light conditions, rather than a measurement of a quantity of biotic material present.

The process of photosynthesis is sensitive to environmental changes and to the presence and concentrations of substances such as fertilizer salts, toxins or other chemical substances. Consequently, this measurement is useful in assessing the quality of environments such as Marina del Rey for two important reasons: primary productivity is an indirect measure of food production, and it is directly related to oxygen production by phytoplankton.

Methods

Primary productivity at the stations in Marina del Rey was determined by measuring the amount of radioactively-labeled carbon (^{14}C) incorporated by phytoplankton incubated under controlled illumination for about three hours in ambient temperature sea water. Standing crops, the number of phytoplankters present per volume of water, were determined by filtration of all plankton in one liter of water through Millipore HA filters, followed by extraction of the pigments chemically. The amount of chlorophyll *a* is determined by spectrophotometry. Since chlorophyll *a* pigment is directly proportional to the biomass of phytoplankton, a measure of standing crop can be obtained accurately.

The primary productivity and standing crop values obtained for Marina del Rey are quite variable, ranging from high productivity levels which indicate a bloom to depressed values which indicate very low production. There was a general positive relationship between high dissolved oxygen levels and high primary productivity. Low productivity would occur at the times of very low dissolved oxygen following rainfall. Low standing crops of phytoplankton or low assimilation rates for primary production measurements indicate that little photosynthetic production of oxygen was occurring as compared

with the high chemical oxygen demand (COD) due to the storm-water debris. Freshwater flow may inhibit phytoplankton productivity or may temporarily flush the phytoplankton out to sea.

Samples of surface water were collected monthly at stations 1 through 11 for determination of phytoplankton productivity and pigments. The data through August 1977 are shown in Table 4.1. The three figures shown for each data and station are: productivity as milligrams of carbon fixed per hour of incubation per cubic meter (P), chlorophyll *a* as milligrams per liter (C), and assimilation ratio (A) which is derived by dividing productivity by the chlorophyll concentration. This last datum gives information on the amount of biological material that can be produced (productivity) per unit of standing crop (Chlorophyll *a*).

Results

Similar general patterns of seasonal variation were found in these data as occur elsewhere along the southern California coast. The low winter values, starting in December, are followed by a spring bloom of modest proportions in April. Following a minor drop in productivity in May, there are summer and fall patterns of secondary blooms which are localized and sporadic. In the inner stations, winter lows are apparent as early as November.

Notable are the low productivity readings for July 29, 1976 at station 7, when most other stations had average to high values, and very low values for March 17, 1977 at station 10. The low productivity and assimilation ratio values, coupled with reasonable chlorophyll data, were possibly due to the presence of some inhibiting or toxic substance in the localized waters of the station sampled. Values for almost all other stations on March 17 appear to be somewhat low as compared with February and April data, suggesting that the waters were affected by rainfall runoff, but less severely than station 10.

Averages of all of the data for the 14 months reported are presented in Table 4.2 and Figure 4.1. Stations 8 and 1 were the most productive, with average values approaching those found in Los Angeles and Long Beach Harbors (AHF, 1976). Lowest values for productivity were found at stations 3, 7 and 10. Station 3 receives waters from Ballona Lagoon through the tidal gate located on the entrance channel, and station 10 receives drainage from the bird sanctuary area and adjacent property. Station 7 also receives major storm drain flow, which probably includes substances that inhibit phytoplankton

production. This is further supported by the low assimilation values found at these sites.

The overall pattern of productivity, chlorophyll a , and assimilation rates for phytoplankton in the marina reported here show an ill-defined pattern of lower phytoplankton productivity and chlorophyll values with increased distance from the entrance. This is the reverse of the pattern described for the Los Angeles-Long Beach Harbors, where both productivity and chlorophyll values are generally higher than in Marina del Rey by a factor of 2 or 3, and where these values are consistently higher inside the harbor than outside.

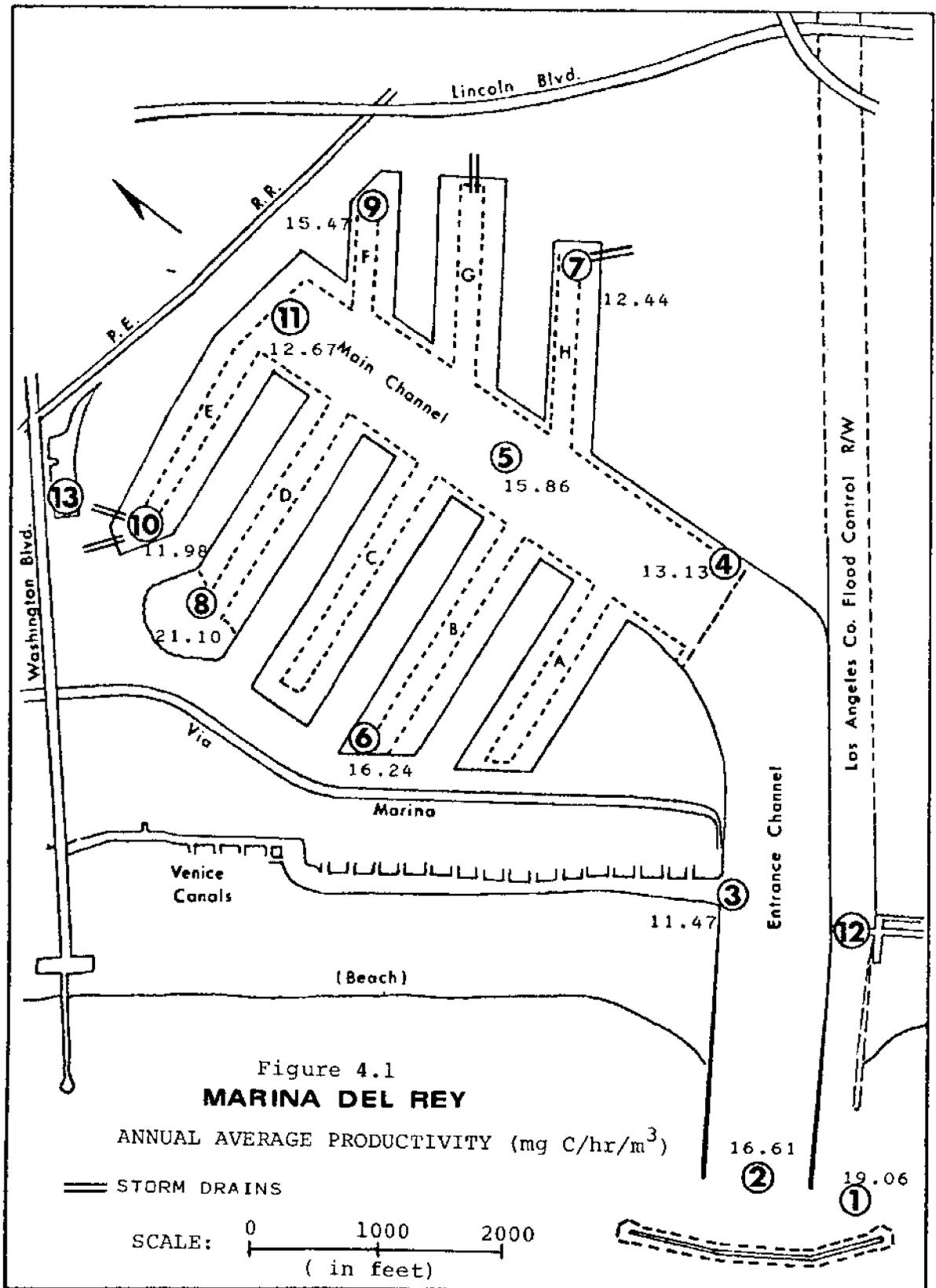


Table 4.1. Phytoplankton Productivity, Chlorophyll α , and Assimilation Ratio based on Chlorophyll α in Marina del Rey.

Station	1976										1977							
	7/29	8/19	9/16	10/14	11/19	12/16	1/20	2/17	3/17	4/21	5/19	6/23	7/21	8/18				
P	89.85	8.25	16.15	16.75	20.84	2.20	3.05	2.80	3.04	18.20	11.99	32.53	22.74	15.42				
C	6.66	2.03	9.31	3.43	8.22	4.01	2.70	1.52	1.07	3.97	3.47	2.83	5.18	3.11				
A	13.49	4.06	1.73	4.88	2.54	0.55	1.13	1.84	2.84	4.58	3.46	11.49	4.39	4.96				
P	34.68	8.03	32.66	18.89	18.35	2.09	3.00	12.90	4.74	18.35	14.15	27.90	23.29	13.55				
C	6.10	2.12	1.38	3.64	7.32	2.29	1.48	3.46	1.66	2.49	3.05	1.85	37.48	1.21				
A	5.69	3.79	23.67	5.19	2.51	0.91	2.03	3.73	2.86	7.37	4.64	15.08	0.62	11.20				
P	11.74	17.25	5.90	27.41	9.62	2.74	1.92	2.34	3.96	30.20	6.79	8.69	19.90	12.14				
C	20.56	3.46	0.89	5.71	7.26	3.21	0.40	0.37	2.62	2.84	5.57	1.17	28.85	2.97				
A	0.57	4.99	6.63	4.80	1.33	0.85	4.80	6.32	1.51	10.63	1.22	7.43	0.69	4.09				
P	17.88	10.18	8.01	23.57	13.16	3.01	3.18	13.28	1.71	23.27	15.32	22.51	15.49	13.29				
C	9.70	4.00	1.07	10.01	6.14	2.71	0.20	5.15	0.08	2.40	1.91	2.13	1.82	0.65				
A	1.84	2.55	7.49	2.35	2.14	1.11	15.90	2.58	21.38	9.70	8.02	10.57	8.51	20.45				
P	14.94	2.29	10.44	62.83	9.58	3.53	4.51	10.79	4.35	13.60	17.43	33.55	11.93	22.12				
C	2.50	4.25	0.61	3.93	4.74	1.65	0.54	1.77	2.46	0.88	5.78	3.64	-	2.09				
A	5.98	0.54	17.11	15.99	2.02	2.14	8.35	6.10	1.77	15.45	3.02	9.22	-	10.58				
P	4.59	14.69	12.63	34.98	8.17	1.17	5.76	20.11	3.66	16.18	12.49	60.54	5.83	26.56				
C	2.57	1.64	-	6.16	16.98	1.45	-	3.43	2.09	-	9.21	-	0.67	2.47				
A	1.79	8.96	-	5.68	0.48	0.81	-	5.86	1.75	-	1.36	-	8.70	10.75				
P	0.18	14.64	5.66	24.92	3.53	3.93	14.43	6.65	2.00	23.44	20.30	12.51	24.28	17.78				
C	4.08	2.89	0.49	7.26	5.59	3.26	-	2.16	1.35	1.35	5.76	33.54	1.93	1.44				
A	0.04	5.08	11.55	3.42	0.63	1.21	-	3.08	1.48	17.36	3.52	0.37	12.58	12.35				
P	50.52	6.93	46.14	22.40	12.91	-	5.04	20.95	3.40	22.06	15.39	6.43	14.98	47.12				
C	5.41	4.02	-	3.17	5.70	2.13	2.64	2.61	0.85	2.50	7.02	3.37	1.35	4.98				
A	9.34	1.72	-	7.07	2.26	-	1.91	8.03	4.00	8.82	2.19	1.91	11.10	9.46				
P	31.08	6.34	9.88	12.13	5.01	-	5.45	11.21	2.40	37.95	32.38	22.52	7.35	17.44				
C	4.93	3.40	1.81	-	4.30	1.50	1.31	3.68	1.70	1.91	4.19	5.75	4.20	2.04				
A	6.30	1.86	5.46	-	1.17	-	4.16	3.05	1.41	19.87	7.73	3.92	1.75	8.55				
P	-	4.68	9.96	41.77	8.52	3.05	5.83	5.48	0.02	33.75	17.41	14.82	7.22	3.29				
C	23.12	3.36	0.83	1.92	6.08	1.71	0.64	2.35	3.69	-	4.85	-	1.25	2.85				
A	-	1.39	12.00	21.76	1.40	1.78	8.45	2.33	0.01	-	3.59	-	5.78	1.15				
P	9.41	10.43	11.67	25.24	6.48	3.06	5.10	8.72	3.94	21.47	21.48	23.14	17.39	9.85				
C	3.52	3.65	1.16	2.58	1.67	1.22	1.62	2.28	1.06	2.06	9.43	4.80	4.58	1.04				
A	2.67	2.86	10.06	9.78	3.88	2.51	3.15	3.82	3.72	10.42	2.28	4.82	3.80	9.47				

P = Productivity
(mg C/hr./m³)

C = Chlorophyll α
(mg/l)

A = Assimilation Ratio A
(P/C)

Table 4.2. Annual Average Values found at the Marina del Rey Stations.

Station	Productivity (mg C/hr/m ³)	Chlorophyll a (mg/l)	Assimilation (P/C)
1	19.06	4.11	4.64
2	16.61	5.40	3.08
3	11.47	6.13	1.87
4	13.13	3.73	3.83
5	15.86	2.68	5.92
6	16.24	4.61	3.52
7	12.44	5.47	2.27
8	21.10	3.52	5.99
9	15.47	3.13	4.94
10	11.98	4.39	2.73
11	12.67	2.41	5.26

CHAPTER 5

ZOOPLANKTON

ZOOPLANKTON

Zooplankton are tiny organisms that are permanently or temporarily suspended in a water mass and do not produce oxygen by photosynthesis. Although some are able to swim, these organisms are generally not large enough or strong enough to swim against currents. Included in the zooplankton are numerous tiny crustaceans called copepods and cladocerans, which furnish food for many fish and invertebrates, plus the eggs, larvae and some juveniles of other crustaceans, mollusks, polychaete worms, ectoprocts, hydroids and fish.

Methods

Zooplankton were sampled using a conical nylon plankton net $\frac{1}{2}$ meter long with 253 μ mesh. The net has an attached flow meter which permits a calculation to be made of the volume of water sampled for each tow. An oblique tow was made by dropping the net with a weighted towline behind the boat and towing for 2-3 minutes. As the net is retrieved it passes through the entire water column and thus captures a sample of zooplankton species found at all depths.

Results

Large numbers of the copepod *Acartia tonsa* were found in the marina during most months. This copepod appears to favor bay and harbor habitats; its density is greatly increased in the inner Los Angeles and Long Beach Harbors (Soule and Oguri, 1976), as compared with the outer harbors. Other copepods and the cladocerans *Evadne nordmanni* and *Penila avirostris* were also present, along with numerous larval stages. While the copepod *Acartia tonsa* was present throughout the marina, the other zooplanktonic organisms seemed to prefer the main channel. Using the Margalef (1951) equation to determine the index of diversity, *i.e.*:

$$d = \frac{S-1}{\ln N}$$

where S is the number of individuals per sample, it is possible to compare zooplankton diversity for various stations. Stations 1-5 (marine entrance and main channel) generally had much higher diversity indices (mean of .69) than stations 6-11 (basins and back of marina) (mean of .26). Therefore marine environments farthest from the ocean contain conditions which are unfavorable to many zooplankton species. *Acartia tonsa* appears to be an exception. Numbers of this copepod increase in the basins and backwater areas. This may be due to lack

of competition from other zooplankton species, since it can tolerate or prefers lower salinities and shallow benthic habitats. *Penilia avirostris* was quite abundant in the outermost stations, whereas it was present only in very minor numbers in Los Angeles-Long Beach Harbors.

Copepods dominated the zooplankton, with *Acartia tonsa* being the most numerous copepod. At times (March and April) *A. tonsa* constituted 100% of the sample in the basins and back of the marina. The second dominant copepod was *Paracalanus parvus*, followed by the cyclopoid copepod *Corycaeus anglicus*. Cladocerans were represented mainly by three species: *Podon polyphemoides*, *Evadne nordmanni* and *Penilia avirostris*. The cladocerans were present mainly at the entrance and the main channel and generally were absent in the inner marina areas. Cladocerans appear to be seasonal; during the spring months (March, April, May) *E. nordmanni* and *P. avirostris* were all but absent. Ascidian larvae also appeared to be seasonal. They were present from July through November, and were absent, or nearly so, from December through May. Their center of abundance was located well within the marina, as might be expected.

During the rainy months, *i.e.*, November through February, *Acartia tonsa* showed a significant drop in concentration at the entrance of Ballona Creek (station 3). Other species did not show as definite a decrease as did *A. tonsa*.

Tables 5.1-5.4 present the zooplankton counts for the major groups or species for each month from July 1976 through May, 1977.

Table 5.1. Zooplankton found at Marina del Rey, July 29, August 19 and September 16, 1976.

Stn. Index	Divers. <i>Acartia</i> <i>Paracal.</i> <i>Podon</i> <i>Evadne</i> <i>Penilia</i>		<i>Parvus</i> <i>phemoid.</i> <i>nordmanni</i> <i>aviros.</i> <i>Larvacea</i> <i>Ascid.</i>		Barnacle <i>Corycaeus</i>			
	<i>tonsa</i>	<i>parvus</i>	<i>phemoid.</i>	<i>nordmanni</i>	<i>aviros.</i>	<i>Nauplius</i> <i>anglicus</i>		
7-1	227	136	14	24	68	291	4	34
-2	182	105	20	24	39	147	4	22
-3	462	7	2	10	-	14	-	2
-4	38	1	5	1	1	1	-	-
-5	645	2	16	2	6	68	42	-
-6	1984	-	4	-	-	-	16	-
-7	48	-	-	-	-	-	-	1
-8	2136	9	-	-	-	-	32	28
-9	4595	-	-	-	-	-	148	99
-10	2603	-	-	-	-	-	143	11
-11	1153	2	9	2	-	-	108	125
8-1	61	12	15	9	232	27	3	9
-2	108	26	1	4	248	13	-	6
-3	106	27	-	2	4	1	5	1
-4	754	-	-	-	1	4	10	1
-5	1895	-	-	-	-	-	65	5
-6	2788	-	-	-	-	-	26	3
-7	3449	-	-	-	-	-	81	-
-8	7190	-	-	-	-	-	94	-
-9	9567	-	-	-	-	-	174	-
-10	7392	-	-	-	-	-	84	-
-11	350	-	-	-	-	-	40	18
9-1	352	55	6	17	122	12	-	-
-2	158	19	2	68	797	10	-	2
-3	1080	38	4	2	4	-	6	6
-4	2002	22	30	-	-	-	9	9
-5	756	12	17	3	-	-	4	1
-6	2595	-	-	-	-	-	6	3
-7	3932	-	-	-	-	-	-	26
-8	584	-	1	-	-	-	10	6
-9	920	-	2	-	-	-	16	2
-10	3021	4	-	-	-	-	51	4
-11	504	2	38	-	-	-	5	3

* Stations are given by month and station (i.e., 7-2 = July, station 2).
For complete listing of sampling dates, see Table 5.2.

+ Dominant species only. (Numbers given are animals/m³)

Table 5.2. Zooplankton found at Marina del Rey, October 14, November 19 and December 16, 1976.

Stn.	Divers. Index.	<i>Acartia Paracal. tonsa</i>	<i>Parvus parvus</i>	<i>Podon phemoid.</i>	<i>Evadne nordmanni</i>	<i>Penilia aviros.</i>	Larvacea	Ascid.	Barnacle <i>Corycaeus</i>	Nauplius <i>anglicus</i>
10-1	1.0	358	126	2	115	127	7	-	2	45
-2	.73	555	187	-	39	108	30	-	-	49
-3	1.2	242	12	1	3	6	-	1	1	8
-4	1.4	241	5	7	23	13	1	30	15	5
-5	1.4	255	6	1	1	1	2	8	65	21
-6	.38	2400	-	-	3	-	-	126	-	6
-7	.32	11760	-	-	-	-	-	13	201	27
-8	.51	2415	6	-	-	-	-	13	6	6
-9#										
-10	.23	6305	-	-	-	-	-	78	-	8
-11	.61	604	2	-	-	-	-	27	38	28
11-1	.78	1173	81	114	473	315	-	7	26	-
-2	.72	2870	111	65	521	430	-	-	26	13
-3	1.1	510	81	58	39	12	7	-	2	2
-4	.58	4996	27	47	20	7	-	7	-	-
-5	.79	1773	13	108	10	-	-	6	3	6
-6	.69	1401	3	3	-	3	-	6	-	3
-7	.13	2678	-	-	-	-	-	6	-	-
-8	.54	1646	3	6	-	3	-	6	-	-
-9	.24	4159	8	-	-	-	-	3	-	-
-10	.30	19487	21	42	-	-	-	8	-	-
-11	.12	3335	-	7	-	-	-	64	-	-
12-1	.51	17283	539	-	63	-	1237	-	32	190
-2	.76	8337	593	37	185	111	593	-	56	130
-3	.59	3379	616	35	246	70	546	-	-	-
-4	.68	6490	352	-	154	88	44	-	22	22
-5	.40	19783	551	-	79	39	39	-	-	-
-6	.49	24171	235	-	188	188	47	-	47	-
-7	.09	47296	-	-	64	-	-	-	-	-
-8	.18	89094	237	-	-	237	-	-	-	-
-9	.10	15895	-	-	-	28	-	-	-	-
-10	.29	34012	85	-	42	127	-	-	-	-
-11	.10	35200	175	-	-	-	-	-	-	-

* Stations are given by month and station (i.e., 7-2 = July, station 2).

For complete listing of sampling dates, see Table 5.2.

No revolutions taken.

+ Dominant species only. (Numbers given are animals/m³)

Table 5.3. Zooplankton found at Marina del Rey, January 20, February 17 and March 17, 1977.

Stn. Index	Divers. <i>Acartia tonsa</i>		<i>Paracal. parvus</i>		<i>Podon phemoid.</i>		<i>Evadne nordmanni</i>		<i>Penilia aviros.</i>		Larvacea Ascid.		Barnacle <i>Corycaeus</i>	
		<i>tonsa</i>	<i>parvus</i>	<i>phemoid.</i>	<i>nordmanni</i>	<i>aviros.</i>							<i>Nauplius</i>	<i>anglicus</i>
1-1	.67	3714	1814	-	43	54	1738	-	119	108				
-2	.73	1381	1278	6	-	26	726	-	90	77				
-3	.76	930	1158	22	-	6	278	-	72	61				
-4	.32	11460	696	-	-	-	470	-	184	-				
-5	.40	21145	456	-	-	-	152	-	51	76				
-6	.22	8923	25	-	-	-	98	-	-	-				
-7	.11	8480	37	-	-	-	-	-	-	-				
-8	.11	11553	-	-	-	-	12	-	-	-				
-9	.11	7097	10	-	-	-	-	-	-	-				
-10	.11	11057	14	-	-	-	-	-	-	-				
-11	.27	1655	32	-	-	-	-	-	-	8				
2-1	.82	1006	1016	111	1438	80	965	-	70	131				
-2	.82	1841	1306	62	572	62	970	-	50	112				
-3	.82	944	1294	105	1574	58	804	-	23	116				
-4	.58	28623	529	1256	727	66	66	-	66	-				
-5	.53	71882	519	1482	222	-	370	-	445	74				
-6	.19	36362	137	68	-	-	-	-	-	-				
-7	.18	76108	-	-	-	-	338	-	-	84				
-8	0	13099	-	-	-	-	-	-	-	-				
-9	.11	11290	-	-	-	-	-	-	-	18				
-10	0	38322	-	-	-	-	-	-	-	-				
-11	.32	11468	56	111	-	-	-	-	-	56				
3-1	.64	2265	274	7	-	-	36	-	14	29				
-2	.70	1024	114	26	6	-	-	-	15	9				
-3	.56	1118	42	2	-	-	-	-	7	7				
-4	.13	2212	43	-	-	-	-	-	-	-				
-5	.10	22593	72	-	-	-	-	-	-	-				
-6	0	43606	-	-	-	-	-	-	-	-				
-7	0	10673	-	-	-	-	-	-	-	-				
-8	0	14521	-	-	-	-	-	-	-	-				
-9	.24	4396	7	4	-	-	-	-	-	-				
-10	0	12933	-	-	-	-	-	-	-	-				
-11	0	38324	-	-	-	-	-	-	-	-				

* Stations are given by month and station (i.e., 7-2 = July, station 2).
For complete listing of sampling dates, see Table 5.2.

+ Dominant species only. (Numbers are given as animals/m³)

Table 5.4. Zooplankton found at Marina del Rey, April 21, May 19 and June 23, 1977.

Stn.	Divers.		<i>Acartia</i>		<i>Paracal.</i>		<i>Podon</i>		<i>Evadne</i>		<i>Penilia</i>		<i>Larvacea</i>		<i>Ascid.</i>		<i>Barnacle</i>		<i>Corycaeus</i>		
	Index	<i>tonsa</i>	<i>parvus</i>	<i>parvus</i>	<i>nordmanni</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>	<i>aviros.</i>							
4-1	.19	32531	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-2	.08	121997	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-3	.13	1447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-4	.08	165868	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-5	0	137017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-6	0	39708	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-7	0	132164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-8	0	14388	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-9	0	76406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-10	0	41489	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-11	0	24907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5-1	.62	585	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-2	.50	2708	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-3	.51	2304	56	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-4	.18	61700	50	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-5	.27	54536	191	127	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-6	.58	899	58	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-7	.18	79703	251	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-8	.56	1139	21	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-9	.28	44808	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-10	.48	4207	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-11	.26	109788	-	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6-1	1.2	26	35	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-2	.83	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-3	.53	26	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-4	.47	530	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-5	.68	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-6	1.1	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-7	.72	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-8	1.1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-9	.43	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-10	.93	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-11	.53	279	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Stations are given by month and station (i.e., 7-2 = July, station 2).
For complete listing of sampling dates, see Table 5.2.

CHAPTER 6

BENTHIC ECOLOGY

BENTHIC ECOLOGY

The invertebrates that live in or on the substrate at the bottom of an area such as Marina del Rey give an indication of long term water and sediment quality conditions, as well as indicating the kind of foods available for fishes. Where bottom substrates are subject to a high organic load, low dissolved oxygen (DO), or the presence of hydrogen sulfide (H₂S), few organisms are present and the area may be considered quite polluted. Areas which support only a few more resistant invertebrates such as the polychaete *Capitella capitata* may be subject to conditions which bring toxic organic substances into the system, which carry biological or chemical substances that oxidize and reduce the dissolved oxygen concentration, or which change the salinity. Areas that are less subjected to polluting substances usually support more diverse assemblages of benthic species.

In Marina del Rey a fairly good diversity of benthic invertebrates was observed for most stations. The very tolerant worm *Capitella capitata*, however, was present in large numbers at station 1 at the south entrance of the breakwater. Since this station lies off the Ballona Creek flood control channel, organic materials and other oxygen-reducing substances are transported down-channel, while salinity changes are induced by the tidal prism. Such impacts must cause this area to be unsuitable to a normal benthic assemblage.

Also, the Southern California Edison effluent of hot brines and, at times, anti-fouling chemicals, are released into Ballona Creek nearby. The extent to which this might affect the marina is not precisely known, but the impact appears to be limited to the flood control channel.

Appendix D contains species lists and counts obtained from the benthic sampling. Because of boat problems at the Department of Small Craft Harbors, sampling was carried out only three times, starting October 28, 1976.

Computer analysis of data will be carried out to determine distribution patterns and seasonality when the second year of data is completed.

CHAPTER 7

SETTLING AND FOULING ORGANISMS

SETTLING AND FOULING ORGANISMS

A number of marine invertebrates have planktonic larval stages which settle out of the water column after certain stages are completed; these are known as the meroplankton. Some of these organisms may be capable of crawling about as adults, or they may settle out of the water column and become firmly attached to pilings, wharfs, rocks, boat hulls, and almost any other substrate available in a harbor. The literature on fouling is extensive because such organisms cause great economic costs for maintenance of boats and harbor facilities.

Samples taken by plankton tows may represent very transitory populations which respond rapidly to changing localized water conditions. Benthic samples may indicate a more reduced fauna than is representative of the actual potential for supporting life in the water column if toxic substances have accumulated in bottom sediments or antifouling substances are in use. For these reasons HEP has utilized settling racks suspended from buoys or docks at 3 meters depth to assess the numbers and species of organisms that are carried in marina waters but may not survive there extensively as adults. Eggs, larvae and small adult organisms pass through the plastic mesh screen cover and settle on glass slides mounted horizontally in a wood frame. Larvae metamorphose and establish themselves in the "habitat"; some polychaetes even build tubes from detritus. The settling rack technique is more fully discussed in AHF, 1976.

In Marina del Rey eight stations were selected for settling racks, which were deployed for two-month intervals in order to get a longer growth period on each rack. In waters such as Los Angeles-Long Beach Harbors, nutrient levels are too high to permit this because racks would be covered over with hydroids at certain seasons within one month.

Racks were deployed at stations 1, 3, 4, 6, 7, 8, 9 and 11. Occasionally a rack is lost due to storms or vandalism, so not all stations are represented for all periods. Racks were deployed beginning in August 1976, at bimonthly intervals. Data are presented in Appendix E; dates given are those on which racks were recovered at the end of the bimonthly period.

The dominant fauna in August-October was the tunicate *Ciona intestinalis*, at stations 3, 4, 6, 7 and 8, with counts above 300 up to 1500 at station 8. Also present at station 1

in counts of about 200-300 were *Hydroides pacifica*, *Caprella equilibra* and *Jassa falcata*. At stations 7 and 9, 200-300 *Polydora ligni* occurred, while at stations 8 and 11 the isopod *Paracerceis sculpta* was dominant.

In October-December, 1976 nearly 300 *Jassa falcata* occurred at station 1 but were dominated by 1650 bay mussels, *Mytilus edulis*. The amphipod *Erethonius brasiliensis* was most numerous at stations 3 and 4, while *Ciona* were numerous at station 6.

In December-February, 1977 over 500 of the polychaete *Polyphthalmus pictus* were present at station 1, but nearly 4500 *Jassa falcata* were there also, along with 1400 *Mytilus*. Over 1000 *Corophium acherusicum* occurred at station 8.

In February-April, 1977 over 6,000 *Jassa falcata* occurred at station 1, and 279 were at station 3. At stations 4, 7 and 9, Spirorbidae were dominant; at station 4, *Erethonius* was also numerous. At all other stations and dates no species reached counts of 200 or more.

In Los Angeles-Long Beach Harbors, in 1973 and 1974 settling racks, *Jassa falcata* was the most numerous, *Corophium acherusicum* was second and *Ciona intestinalis* was third. *Mytilus edulis* was eighth.

CHAPTER 8

ICHTHYOLOGY

ICHTHYOLOGY

The fishes living within a harbor area such as Marina del Rey are very good indicators of the quality of the habitat. Although fish populations can be quite transitory, normally resident populations become established in harbor and bay areas if conditions are suitable.

One of the main reasons for this study was to determine if indeed a depauperate fish fauna was present within the marina, and, if so, what factors were responsible. The sport-fishing catch from the fishing dock and the park seemed to indicate the presence of few fishes; however, no investigation of fish populations within Marina del Rey has ever been made.

A preliminary survey of the fish fauna was made on June 23, 1977 consisting of three ten-minute bottom trawls and a 15-foot semi-balloon otter trawl, plus three hour-long sets with a 100-foot multisized gill net. The trawls were made in the outer main channel near station 2, in the inner main channel near station 5, and in Basin D near station 8 (see Figure 8.1). The two sampling methods were used in order to census both demersal species and those found in the water column itself.

A total of 630 individuals were captured, including representatives of 13 species. Approximately 500 young anchovies (50-80 mm in length) were captured in Basin D, and this one trawl thus greatly increased the total number of fish sampled in the study. Other species present in sizeable numbers were white croaker (40), California halibut (33), and spotted sand bass (12). The latter two species were all young fish, but the presence of these desirable sportfishes within the marina is encouraging.

The regular monthly water quality survey also was carried out on June 23, 1977, and dissolved oxygen concentrations were found to be quite high throughout the marina. Apparently under such circumstances the marina is a suitable habitat for schooling fish such as the northern anchovy. The protected water and high concentrations of certain copepod species appear to be quite suitable for the anchovy. Other species such as the white croaker and the California halibut may be resident within the marina throughout the year. Further sampling of the fish fauna over several seasons will allow this to be determined.

Table 8.1 presents data from the June, 1977 fish census. The master species list from nearby King Harbor is given in Table 8.2 (Courtesy of Dr. John S. Stephens).

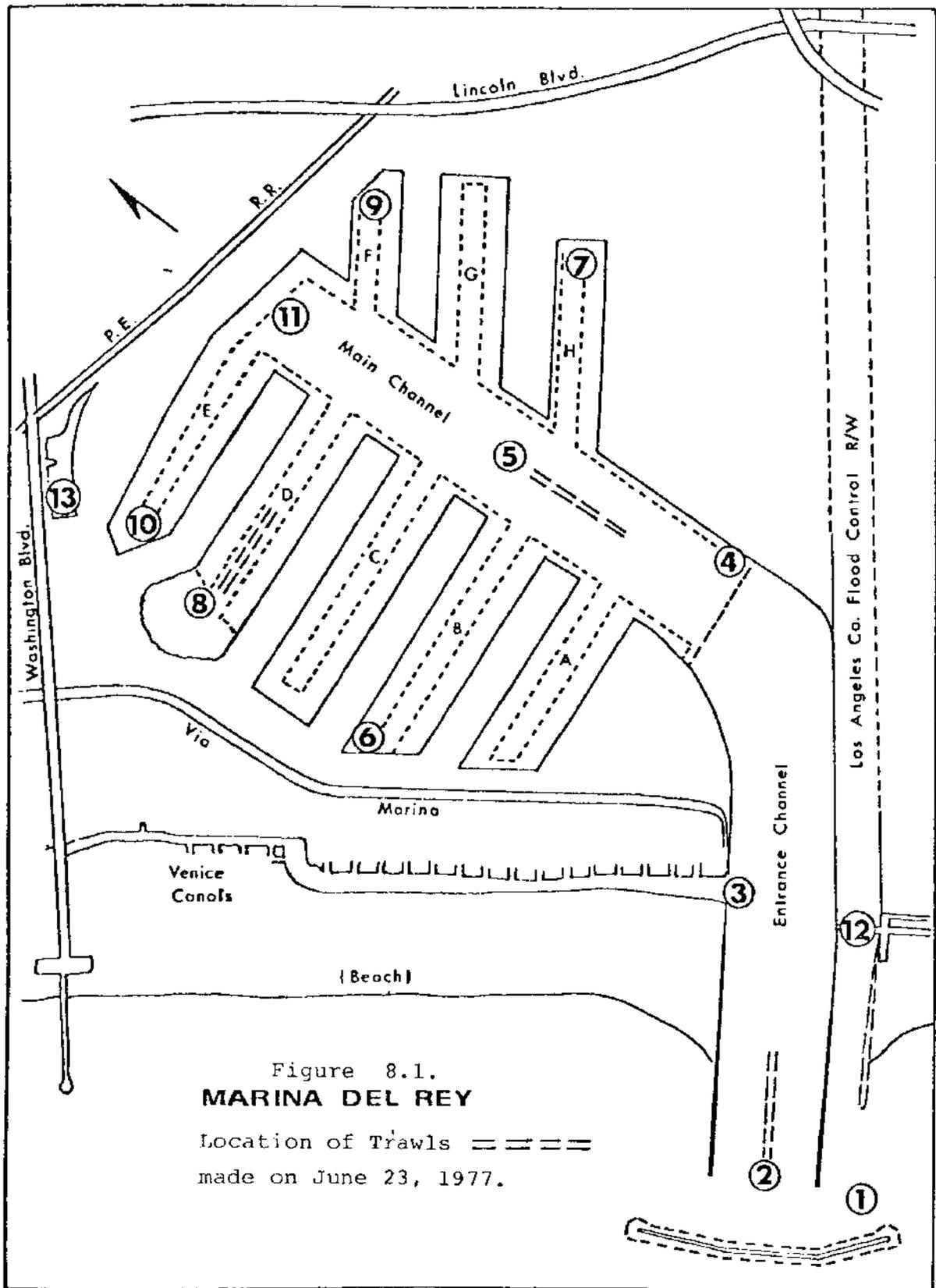


Figure 8.1.
MARINA DEL REY

Location of Trawls = = = =
made on June 23, 1977.

Table 8.1. MARINA DEL REY FISH CENSUS

June 23, 1977

OTTER TRAWLS (10 min.)

Trawl 1. From station 2 up channel, midway between jetties

<u>Species</u>	<u>Size</u>	<u>Number</u>
<i>Paralichthys californicus</i>	40-60 mm	15
(California halibut)	150-200 mm	10
<i>Hypsopsetta guttulata</i>	180 mm	1
(Diamond turbot)		
<i>Embiotica jacksoni</i>	150 mm	1
(Black surfperch)		
<i>Syngnathus leptorhynchus</i>	300 mm	1
(Bay pipefish)		
<i>Cymatogaster aggregata</i>	80-100 mm	3
(Shiner surfperch)	juveniles	12
<i>Paralabrax maculatofasciatus</i>	juveniles	9
(Spotter sand bass)		
Unidentified juvenile surfperch		1
" larvae		1
<i>Rimicola muscarum</i>	10 mm	1
(Kelp clingfish)		

Trawl 2. From station 5 toward station 11, main channel

<i>Genyonemus lineatus</i>	200-250 mm	10
(White croaker)	juveniles	25
<i>Paralichthys californicus</i>	150-200 mm	5
(California halibut)		
<i>Paralabrax maculatofasciatus</i>	juveniles	3
(Spotted sand bass)		
<i>Urolophus halleri</i>	450 mm	2
(Round stingray)		
<i>Engraulis mordax</i>	50-80 mm	15
(Northern anchovy)		

Table 8.1. (continued)

Trawl 3. Basin D from station 8 outward. (Time: 1220-1230 PDT)

<u>Species</u>	<u>Size</u>	<u>Number</u>
<i>Paralichthys californicus</i>	150 mm	2
(California halibut)	450 mm	1
<i>Genyonemus lineatus</i>	200-250 mm	3
(White croaker)		
<i>Engraulis mordax</i>	50-80 mm	500
(Northern anchovy)		(estimate)
<i>Leptocottus armatus</i>	100 mm	1
(Staghorn sculpin)		
<i>Hypsopsetta guttulata</i>	160 mm	1
(Diamond turbot)		

GILL NET SETS (1 hour)

Gill net set 1. Parallel to breakwater at station 2.
(In at 0815 PDT)

<i>Atherinopsis californiensis</i>	320 mm	4
(Jack smelt)		
<i>Genyonemus lineatus</i>	220 mm	1
(White croaker)		

Gill net set 2. Near station 5 parallel to sea wall of park.
(In at 0935 PDT)

<i>Sphyræna argentea</i>	450 mm	1
(California barracuda)		

Gill net set 3. Near station 8 in Basin D. (In at 1050 PDT)

<i>Genyonemus lineatus</i>	200 mm	1
(White croaker)		

Table 8.2. Common Fish Species of King Harbor.

<i>Anisotremus davidsonii</i>	<i>Pleuronichthys coenosus</i>
<i>Artedius</i> spp.	<i>Pleuronichthys decurrens</i>
<i>Atherinops affinis</i>	<i>Pleuronichthys ritteri</i>
<i>Brachyistius frenatus</i>	<i>Pleuronichthys verticalis</i>
<i>Caulolatilus princeps</i>	<i>Porichthys myriaster</i>
<i>Cheilotrema saturnum</i>	<i>Quietula y-cauda</i>
<i>Chromis punctipinnis</i>	<i>Rhacochilus toxotes</i>
<i>Citharichthys stigmaeus</i>	<i>Rhacochilus vacca</i>
<i>Clinocottus analis</i>	<i>Rhinobatus productus</i>
<i>Coryphopterus nicholsii</i>	<i>Sarda chilensis</i>
<i>Cymatogaster aggregata</i>	<i>Sebastes auriculatus</i>
<i>Embiotica jacksoni</i>	<i>Sebastes carnatus</i>
<i>Engraulis mordax</i>	<i>Sebastes miniatus</i>
<i>Gibbonsia elegans</i>	<i>Sebastes mystinus</i>
<i>Gibbonsia metzi</i>	<i>Sebastes paucispinis</i>
<i>Girella nigricans</i>	<i>Sebastes serranoides</i>
<i>Gobiesox rhessodon</i>	<i>Sebastes vexillaris</i>
<i>Halichoeres semicinctus</i>	<i>Seriphus politus</i>
<i>Hermosilla azurea</i>	<i>Scorpaena guttata</i>
<i>Heterodontus francisci</i>	<i>Scorpaenichthys marmoratus</i>
<i>Heterostichus rostratus</i>	<i>Squatina californica</i>
<i>Hexagrammos stelleri</i>	<i>Synodus lucioceps</i>
<i>Hippoglossina stomata</i>	<i>Trachurus symmetricus</i>
<i>Hyperprosopon argenteum</i>	<i>Urolophus halleri</i>
<i>Hypsoblennius gentilis</i>	<i>Xystereurys liolepis</i>
<i>Hypsoblennius gilberti</i>	
<i>Hypsoblennius jenkinsi</i>	
<i>Hypsopsetta guttalata</i>	
<i>Hypsurus caryi</i>	
<i>Hypsypops rubicundus</i>	
<i>Leiocottus hirundo</i>	
<i>Lythrypnus dalli</i>	
<i>Medialuna californiensis</i>	
<i>Menticirrhus undulatus</i>	
<i>Micrometrus minimus</i>	
<i>Myliobatus californica</i>	
<i>Neoclinus blanchardi</i>	
<i>Neoclinus stephensae</i>	
<i>Neoclinus uninotatus</i>	
<i>Odontopyxis trispinosa</i>	
<i>Ophiodon elongatus</i>	
<i>Orthonopias triacis</i>	
<i>Oxyjulis californica</i>	
<i>Oxyiebrius picta</i>	
<i>Paraclinus integripinnis</i>	
<i>Paralabrax clathratus</i>	
<i>Paralabrax maculatofasciatus</i>	
<i>Paralabrax nebulifer</i>	
<i>Paralichthys californicus</i>	
<i>Parophrys vetulus</i>	
<i>Phanerodon furcatus</i>	
<i>Pimelometopon pulchrum</i>	
<i>Platyrrhinoidis triseriata</i>	

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APPENDIX A

THE DEVELOPMENT OF THE MARINE
COMMUNITIES IN
MARINA DEL REY, CALIFORNIA*

by

Donald J. Reish, Ph.D.

* This section is adapted from unpublished field notes made by Dr. Reish in 1960-1962, with Dr. Reish's comments on comparative ecological succession studies at Marina del Rey and Alamitos Bay, California.

THE DEVELOPMENT OF THE MARINE COMMUNITIES
IN MARINA DEL REY, CALIFORNIA

Description of the Environment in the Vicinity of Marina del Rey Prior to the Construction of the Marina

The environment in the area occupied by the Marina del Rey consisted of ancient sand dunes, some of which were under cultivation and others were covered largely with xerophytic vegetation. Four areas inland from the ocean contained sea water with varying degrees of salinity but only one of these, Lake Los Angeles, was within the area to be occupied by the marina. The other three marina areas, the Venice Canals, the mouth of Ballona Creek and Del Rey Lagoon, were not included in the area occupied by the marina.

None of these marine areas were surveyed for biota prior to construction of the marina, and no published data exists in the literature on the marine biota of either Lake Los Angeles or Ballona Creek prior to construction of the marina. However, Woodwick (1953) listed some of the species present in the Venice Canals and Del Rey Lagoon. He recorded the polychaetes *Polydora nuchalis*, *Streblospio benedicti* and *Capitella capitata*.

Construction of Marina del Rey, 1960-1962

Dredging to construct Marina del Rey began in 1960; the rock jetties had been put into place prior to the initiation of dredging activities. A floating dredge was brought in and began dredging at the channel entrance. After a short time, a dirt dam was constructed ocean-side of the dredge to minimize disturbance from currents; water was pumped in as dirt was removed. The concrete retaining walls outlining the basin were constructed, and later rock was brought in to prevent undercutting of the walls by currents. Dredging and basic construction of the marina was completed in 1962. An offshore protective jetty was added about 1965 for further protection of the boats within the marina against surge.

Unpublished Data

According to unpublished field notes by Reish in the summer of 1960, the Ballona Creek side of the middle jetty contained barnacles and *Littorina* in the upper tidal zone with mussels below. On the Playa del Rey side of the channel (south side) the rocks were covered with the alga *Enteromorpha* in the upper tide zone, with nothing but brown scum below.

On July 1, 1960, the middle jetty in the old area had brown algae, mussels, and barnacles, while a new area had only algae in the upper tidal zone. In the sandy intertidal area, many *Ligidia* were found on the sand, with thousands of *Polydora ligni* and *Corophium acherusicum* in the sand.

On September 1, 1960 green algae were still present on the jetties. The Ballona jetty had mussel beds, barnacles, and *Littorina* above the algae; however, some barnacles were dead.

By November 14, 1960 new areas dredged were being colonized by algae. On the Ballona Creek side of the jetty, no algae were found, but small mussel beds were present, with barnacles, limpets and *Littorina* above them. Farther out on the jetty no *Littorina* were seen. Black patches were seen between mussel beds. In places *Gigartina*, a red alga, was found, but no kelp.

Near the bend in the main channel excavation (present station 4 area) juvenile *Polydora* were abundant in a chlorinity of 17.9 ‰. Near the bridge, in the marina channel opposite the present station 12, one adult *Polydora* was found, along with a few copepods and many large *Capitella capitata*. At the end of present slip B, adult and juvenile *Polydora* were found (Figure A1).

On February 12, 1961 on the Playa del Rey side of the creek, mussels, barnacles, limpets and a few *Littorina* were present, with little *Enteromorpha*. Seaward of this there were patches of *Ulva* as well. In the lower tide area sea anemones, *Gigartina* and *Sabellaria* were found. The marina area was closed off for construction of retaining walls, but sand taken from opposite the bridge contained a few *Capitella capitata*, some oligochaetes and many *Polydora ligni* with eggs. Chlorinity was 18.8 ‰. *Mitella* occurred in the mussel beds, and starfish *Pisaster*, and the crab *Pachygrapsus* was found on the Playa del Rey side of Ballona Creek jetty. Little algae was seen. Within the marina at the end of slip C, many tubes of *Polydora* were found, as well as live specimens of *Polydora ligni*, *Capitella capitata* and *Corophium acherusicum*.

By June, 1961, mussel beds were growing in the marina, as well as barnacles, limpets, *Pisaster*, *Littorina*, *Pachygrapsus*, *Sabellaria*, and algae. *Enteromorpha* was reduced to small tufts. Opposite the tide gates, the mud was black and foul. *Capitella*, *Corophium*, and many copepods were present. Chlorinity there was 19.0 ‰.

On August 1, 1961, the oldest exposed areas had mussels and limpets; the next oldest has limpets only, and the youngest had limpets and algae. In the mussel zone, some *Pisaster* were seen, along with *Mitella*, *Pachygrapsus* and limpets. In the barnacle zone were two species of barnacles, limpets, and *Littorina*. In the inner area at the end of the main channel at E, a green algal scum was growing and marks showed where mussels had been previously attached. A few *Mitella* and *Pachygrapsus* were seen.

Collections made in Ballona Creek at Jefferson Boulevard contained the following:

Capitita ambiseta
Podarke pugettensis
Polydora ligni (common)
Corophium acherusicum (common)
 Phoronid (common)
Hydroides norvegica
Capitella capitata
Ctenodrilus serratus
 Nereid
 Flatworm

In the jetty area, in six feet of water with sandy bottom were found:

Polynoid
 Phyllodocid
 Amphipods
 Spionids
 Phoronids
 Capitellids
Prionospio

On September 1, 1961, mud samples taken in 3 feet of water near the present station 4 included the following:

Hydroides norvegica
Neanthes succinea
Polydora ligni (dominant)
Podarke pugettensis
Callianassa californica
 Phoronid

The chlorinity was 20.3 ‰ at that location.

Near the bridge by the marina jetty in 3 feet of water included:

Neanthes succinea, with eggs (dominant)
Polydora ligni
 Phoronid
Prionospio cirrifera
Callianassa californica
Dorvillea articulata
Capitella capitata
Podarke pugettensis

Chlorinity was 20.3 ‰.

At the end of Slip B, the chlorinity was 20.8 ‰. Muds contained *Polydora ligni*, *Capitella capitata*, and a phoronid with eggs.

In September, 1961, the marina main channel was dredged open to the sea. Dr. Reish carried out these studies without funding, and only with the help of his associates. Consequently, no collections were made again until October 5, 1962. Three locations were sampled: Station 1 at the entrance to Slip A; Station 2 at the entrance to Slip B; and Station 3 at the inner end of Slip B.

Fauna found at Station 1, in fine mud, were as follows:

Capitita ambiseta
Spiochetopterus sp.
Nerinides acuta
Polydora ligni
Spiophanes ? fimbriata
Prionospio cirrifera
Tharyx sp.
Eteone sp.
Capitella capitata
Macoma nasuta
Chione californiensis
 Phoronid
 Red-eyed amphipod
 Flatworm

Station 2 yielded a fauna which was not quite as diversified as that found at Station 1. One difference which was noted was that the mud here (also fine) had very little H₂S present.

Capitella capitata
Dorvillea articulata
Capitita ambiseta
Macoma nasuta
Prionospio cirrifera
 Phoronid

Station 3 showed a fauna similar to that in Station 1; This station also had an H₂S layer present in the fine mud.

Capitita ambiseta
Polydora ligni
Tharyx parvus
Ampharete arctica
Nephtys caecoides
Tellina sp., white
Chione undatellum
Macoma secta
Solen sp.
 Phoronid

Another set of samples was taken in December of 1962, from Stations 1 and 3. The great increase in diversity is evident, although the numbers of specimens present in the samples are not generally large. The dominant organism by far is *Capitita ambiseta*, which is present in large numbers.

The fauna from Station 1 are as follows:

Dorvillea articulata
Nephtys caecoides
Pectinaria californiensis
Armandia bioculata
Polydora ligni
Tharyx parvus
Eumida sanguinea
Capitella capitata
Capitita ambiseta
Prionospio pinnata
Spiophanes missionensis
Goniada littorea
Amphicteis scaphobranchiata
Macoma nasuta
Chione undatella
Phoronopsis sp.
 Cumacean

The fauna from Station 3 shows a species diversity nearly as great as at Station 1:

Capitita ambiseta
Polydora ligni
Capitella capitata
Prionospio cirrifera
Spiophanes missionensis
Armandia bioculata

Halosydna johnsoni
Prionospio pygmaeus
Ampharete arctica
Nephtys caecoides
Pectinaria californiensis
Hiatella arctica
Solen sicarius
Phoronopsis sp.
Protothaca staminea

Comparative Ecological Colonization Studies

Some biological samples were taken during construction of the marina, but the picture is incomplete because of the inability to take a boat into the area to do benthic sampling. Fortunately, a detailed study was made in Long Beach Marina, located in Alamitos Bay, simultaneously and by the same individual, so that the fragmentary data from Marina del Rey coincides in time with that taken in Alamitos Bay. Since the settlement of benthic animals was followed during the construction of Basin 1 of Long Beach Marina in 1956-1958 and the construction in 1959-1961 of Basins 2-4 (Reish, 1963) those findings can be used to indicate what occurred on the benthos in Marina del Rey.

Prior to a discussion of the settlement of marine animals on the bottom of Marina del Rey, it is important to consider the reproductive cycles of many of these animals. In more northern latitudes than that of Los Angeles County, marine animals have a very limited reproductive season, which is generally in the spring. Settlement of larvae then takes place shortly thereafter or later, depending upon the type of larval life. However, the reproductive cycle of many of these invertebrate animals is different in southern California. Many species are capable of reproducing throughout the year or have very long reproductive periods (Reish, 1959, 1961a). The type of colonization that would take place within the bottom of a new marina would reflect the difference in latitude.

For the organisms, a new marina represents a new area available for colonization which had not been there previously. Any new structure, such as a dock, piling, jetty, etc., or a newly dredged bottom offers new available substrate. Marine organisms produce far more larvae than can ever survive, so that a new area offers a home for at least some of these.

While no one has studied colonization of organisms in a new marina in more northern latitudes it seems logical to

assume that development of a marine benthic community would be slow because of the limited reproductive seasons of the nearby populations. However, in southern California, colonization on the bottom would be rapid. This was the case for Long Beach Marina in Alamitos Bay, as described below.

Long Beach Marina was an expansion of an existing bay into a land area. The initial samples were taken two weeks after the particular area was dredged, but no animals were observed. However, it is possible that the very young stages were present within the sample, but passed through the openings of the screen when the sample was washed. The first animals were collected seven weeks after dredging, at which time seven species comprising 18 specimens were collected. At 14 weeks, 94 specimens, representing 13 species, were collected. The number of species and specimens continued to increase over the next year.

Biomass, or the weight of the animals collected, was determined at each collecting period in order to find out the rate of change of this important parameter. The data for the settlement of marine organisms could then be summarized over a time period, according to the number of species present, the number of specimens, and biomass. All three parameters followed the same pattern over time: a rapid initial rise was followed by a decrease, then an increase but not to the former level, followed by a plateau. The increase in the number of species occurred first and the rapid increase in biomass occurred last. Apparently, what took place was a rapid settlement of many species of larvae. Since there were no adults present to feed upon them, most of them presumably survived, accounting for a large increase in the number of specimens present. Since all of these animals were small, the biomass was small. But as those young animals grew, not only did they increase in weight (biomass), but also they began to compete with one another for space, food, etc., so that the population decreased as a result of the increase in biomass. But later the biomass decreased, to a lesser extent, with the loss of some of the organisms. The second increase, which led to a plateau in number of species, specimens and biomass, probably represented a second period of reproduction and settlement. However, these larvae had to compete with the existing population, which then led to a steady state in the population on the bottom.

No community succession of benthic organisms was observed, although there was succession in colonization. Settlement of one assemblage of animals was necessary for a settlement of subsequent assemblages. In fact, some of the earliest animals to settle were the dominant members of the community two years

later, and were the same as those in nearby regions which were not dredged. The polychaetous annelids *Capitita ambiseta*, *Prionospio cirrifera*, *Cossura candida*, *Lumbrineris minima*, and *Haploscoloplos elongatus* were abundant soon after dredging was completed and dominated the benthic community throughout the 2.7 years of study. A total of 78 different species of macro-invertebrates were collected, of which 63 percent were polychaetes, 17 percent were molluscs, 12 percent were crustaceans, and the remaining 8 percent were sea anemones, turbularians, nemerteans, sipunculids, phoronids, and echinoderms.

The population of benthic animals has remained relatively constant during the ensuing 15 years. Two major red tides have occurred during this time, which have caused massive kills of marine organisms throughout Alamitos Bay, including those living on and in the benthos. The death of the benthic fauna was the result of the depletion of dissolved oxygen throughout the water column. After the recovery from the red tide, resettlement of the benthos was again rapid, but in this case it was largely by the pollution indicator polychaete *Capitella capitata*. The natural population soon after began to settle, and *Capitella* disappeared about six months after the outbreak of the red tide.

The population of benthic animals is similar within Long Beach Marina in Alamitos Bay and Marina del Rey. It remains relatively similar throughout the year, with variations occurring as the result of a local change, a particularly successful reproductive period by one or more species, etc. If the area has adequate water circulation and is relatively free of pollution, then the benthic population should remain normal or "healthy" for as long as these conditions prevail. If, however, changes in construction are made which limit water circulation, or if polluting substances are allowed to be discharged into the marina, then the population will change. One sensitive species will die and be excluded, leaving only the pollution-tolerant species. It is possible by taking benthic samples and studying the species present, to assess the health of the area.

Construction of new rock breakwaters, a groin, concrete pilings and boat floats provides a new surface for settlement of marine organisms. Settlement of organisms takes place in a series of stages, or succession, in which one stage with a characteristic group of organisms is followed by a second stage with its characteristic group of organisms. This process continues until a biological equilibrium, or climax community, is reached. In southern California protected waters, the length of time required for the development has been observed to be two to three years.

The first macroscopic organisms to appear on these structures are the green algae *Enteromorpha* and *Ulva* (sea lettuce). The growth of these species usually becomes a nuisance within a few months, depending upon the season, because of their rapid growth and the absence of any herbivores (algal-eating animals). As these algae grow, large quantities will break off, float or sink, and later decompose, which causes odors and perhaps dissolved oxygen depletion in areas of limited water circulation. As the herbivores appear the algae is eaten, resulting in a state of equilibrium. The condition of massive green algal growths attached to these structures will then be controlled by the herbivores unless there is a massive die-off of animals due to dissolved oxygen depletion. During the period of heaviest algal growth, which is of about two months duration, it may be necessary to remove the green algae floating on the surface in order to prevent serious odor problems and possible dissolved oxygen depletion. It should be emphasized that surfaces of rocks, pilings, and floats should not be scraped, as this will remove the newly settled young herbivores.

Animals begin to settle on these structures during the extensive algal growth period so that within two to three years the following organisms might be present in the following zones:

Rocks and Pilings:

Splash Zone - *Ligia occidentalis* (rock louse) = *Ligidia*
Pachygrapsus crassipes (striped shore crab)
 Neither organism is very common on pilings.

High Tide Zone - *Chthamalus fissus* (small acorn barnacle)
Littorina sp. (Periwinkle snail)
Acmaea spp. (limpets)

Mid-Tide Zone - *Balanus glandula* (acorn barnacle)
Acmaea spp. (limpets)
Mytilus edulis (bay mussel) - large beds
 On the rocks facing the ocean, *Mytilus edulis* is present in small patches; different species of acorn barnacles are more common.

Minus Tides - On the rocks within the marina and pilings *Mytilus edulis* is the dominant organism with many other species of organisms living among them. The accidentally introduced

brown seaweed from Japan, *Sargassum muticum*, may form an extensive subtidal zone. The fronds of this alga may break off and become a nuisance by becoming entangled within the props of boats. It may be necessary to remove this alga from time to time. Patches of *Mytilus edulis*, some *Pisaster ochraceus* (ochre starfish), and *Strongylocentrotus purpuratus* (purple sea urchin) occur.

Boat Floats:

Since the boat floats rise and fall with the tides, there is no tidal zonation. The community of marine organisms on a boat float is dominated by *Mytilus edulis*, *Ulva* and *Enteromorpha*, and various species of tunicates (sea squirts), such as *Ciona intestinalis* and *Styella plicata*, whose presence may vary with the season. Once established, these organisms will become permanent residents of these zones. Many smaller organisms are found living among these larger species, especially the amphipods and polychaetes.

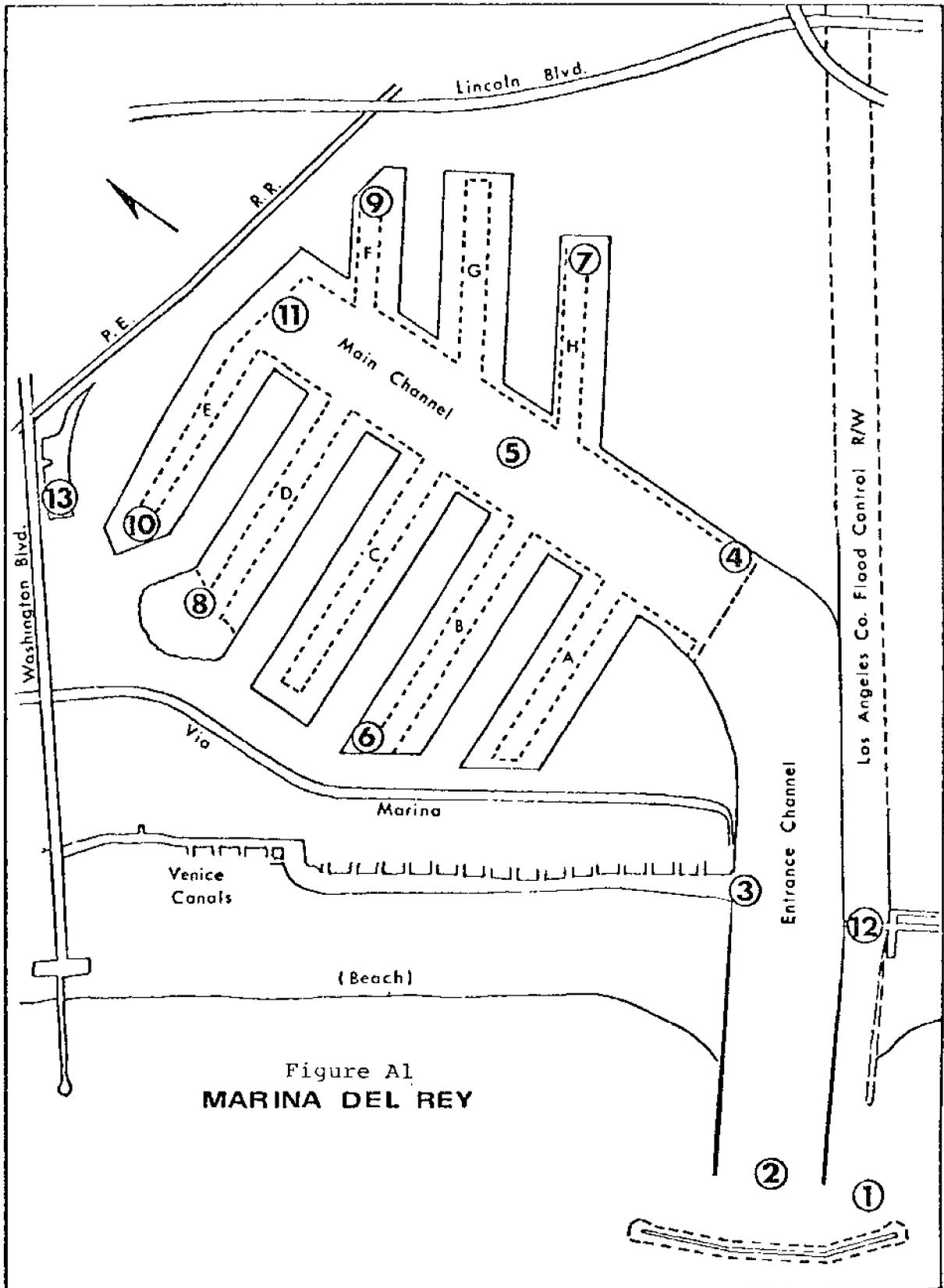


Figure A1
MARINA DEL REY

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APPENDIX B

Temperature, Salinity, Dissolved
Oxygen, pH and Turbidity
Data

August, 1976

through

July, 1977

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 835

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.80	29.40	8.90	8.15	74.00
1	20.40	32.20	10.30	8.14	80.00
2	20.40	32.70	10.70	8.15	80.50
3	20.10	32.70	10.50	8.13	83.00
4	20.00	32.80	10.60	8.14	85.00
5	19.70	32.90	10.70	8.14	88.00
6	19.30	32.70	10.90	8.14	85.00
7	18.00	32.40	10.90	8.12	-1.00

DATE: 9/16/76

TIME: 1015

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.90	35.60	7.20	8.08	86.50
1	19.90	35.70	7.20	8.08	85.50
2	19.90	32.80	7.10	8.07	84.50
3	19.90	32.80	7.10	8.07	85.00
4	19.90	32.90	7.10	8.07	83.50
5	19.80	32.90	7.10	8.07	78.00
6	19.70	32.70	6.90	8.05	75.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 10/14/76

TIME: 1012

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.80	30.90	6.20	7.93	76.00
1	19.70	31.10	6.20	7.92	82.00
2	19.60	31.20	6.40	7.91	83.00
3	19.50	31.20	6.40	7.91	84.50
4	19.40	31.20	6.20	7.89	82.50
5	19.10	30.90	5.60	7.86	80.50
6	18.90	30.90	5.70	7.83	81.00
7	18.80	31.30	5.70	7.82	80.50

DATE: 11/19/76

TIME: 845

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.30	30.60	8.00	8.12	-1.00
1	18.70	30.80	8.20	8.13	-1.00
2	18.70	30.90	8.10	8.14	-1.00
3	18.90	31.00	8.30	8.14	-1.00
4	18.90	31.00	8.00	8.12	-1.00
5	19.00	31.00	7.90	8.12	-1.00
6	19.00	30.90	7.60	8.08	-1.00
7	18.90	30.90	7.30	8.08	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 12/16/76

TIME: 825

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	16.50	32.60	5.70	8.10	74.00
1	16.60	32.60	5.80	8.10	73.50
2	16.60	32.70	6.20	8.12	77.00
3	17.10	33.00	6.60	8.13	80.00
4	17.10	33.60	6.70	8.12	83.00
5	17.10	33.70	6.70	8.12	84.00
6	17.00	33.80	6.80	8.12	86.50
7	16.90	33.90	6.90	8.11	86.00
8	16.90	33.90	6.50	8.10	87.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 1/20/77

TIME: 913

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	16.80	34.9	3.90	7.82	-1.00
1	16.90	34.2	3.60	7.88	-1.00
2	16.90	34.2	3.20	7.91	-1.00
3	16.90	34.2	3.20	7.80	-1.00
4	16.90	34.2	3.20	7.76	-1.00
5	16.90	34.2	3.20	7.74	-1.00
6	16.90	34.2	3.00	7.73	-1.00
7	16.80	34.2	2.80	7.80	-1.00
8	16.00	34.2	2.80	7.82	-1.00
9	15.50	34.1	2.90	7.81	-1.00
10	15.50	34.0	2.80	7.77	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 835

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	18.00	33.80	3.00	8.42	80.00
1	18.00	33.60	2.70	8.39	79.50
2	18.00	33.60	2.68	8.37	79.00
3	17.90	33.70	2.60	8.35	79.50
4	17.90	33.60	2.60	8.34	81.00
5	17.80	33.60	2.70	8.34	83.50
6	17.50	34.50	3.00	8.35	87.00
7	17.20	33.90	2.50	8.22	83.50
8	-1.00	-1.00	-1.00	-1.00	74.00

DATE: 3/17/77

TIME: 840

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0.0	13.00	26.80	8.10	8.37	39.00
1.0	13.10	27.60	8.10	8.32	47.50
2.0	13.50	30.20	8.00	8.32	67.00
3.0	13.50	30.30	8.20	8.32	78.50
4.0	13.60	30.50	8.10	8.31	79.00
5.0	13.50	30.40	8.00	8.27	67.00
6.0	13.30	30.70	7.70	8.26	64.00
7.0	13.30	30.80	7.90	8.25	55.00
8.0	13.20	30.90	7.90	8.25	70.00

MISSING DATA VALUE IS -1.0

HARRORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 4/21/77

TIME: 920

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	18.00	31.40	11.00	8.32	64.00
1.0	17.80	31.20	11.30	8.31	65.50
2.0	17.70	31.10	11.80	8.29	67.50
3.0	17.40	31.00	12.20	8.27	68.00
4.0	17.40	31.00	12.60	8.24	71.50
5.0	16.60	30.50	12.90	8.19	73.00
6.0	16.40	30.70	12.80	8.16	74.00
7.0	16.10	30.80	12.30	8.14	70.00

DATE: 5/19/77

TIME: 845

STATION: M1

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	16.40	30.90	9.50	8.32	72.00
1	16.40	31.00	9.40	8.32	75.00
2	16.40	31.00	9.10	8.31	77.00
3	15.70	30.60	8.80	8.28	82.00
4	15.60	30.80	8.70	8.29	81.50
5	15.20	30.50	8.10	8.24	78.00
6	14.70	30.50	7.80	8.22	76.00
7	14.60	30.80	7.80	8.22	75.00

MISSING DATA VALUE IS -1.0
HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 6/23/77

TIME: 847

STATION: M1 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	18.60	32.60	7.40	8.23	77.00
1	18.20	32.40	7.50	8.24	79.00
2	18.10	32.50	7.70	8.24	82.00
3	17.40	32.50	7.80	8.27	84.50
4	17.00	32.60	7.50	8.21	85.50
5	16.90	32.80	7.40	8.20	86.00
6	16.70	32.80	7.20	8.19	86.50
7	16.20	32.60	7.00	8.17	85.50
8	15.50	32.30	6.40	8.11	80.00

DATE: 7/21/77

TIME: 835

STATION: M1 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0.0	20.36	30.30	7.96	8.50	73.50
1.0	20.20	30.30	8.38	8.50	80.00
2.0	19.90	30.40	9.06	8.56	80.00
3.0	19.80	30.50	9.49	8.60	83.00
4.0	19.80	30.50	9.58	8.55	85.00
5.0	19.10	30.20	9.50	8.55	86.00
6.0	18.87	30.12	8.90	8.48	80.00
7.0	17.93	30.25	8.11	8.45	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 848

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	20.30	31.80	9.30	8.13	78.00
1	20.40	32.80	9.40	8.12	79.00
2	20.60	33.40	9.10	8.12	79.00
3	20.20	32.90	10.00	8.12	79.00
4	20.10	33.00	9.70	8.10	80.50
5	19.70	32.90	10.00	8.11	80.50
6	19.40	33.20	10.60	8.13	82.50

DATE: 9/16/76

TIME: 915

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	20.10	35.70	7.60	8.12	88.00
1	20.20	35.80	7.50	8.12	89.00
2	20.20	35.80	7.60	8.12	90.00
3	20.20	35.80	7.50	8.11	90.00
4	20.20	35.90	7.50	8.10	90.50
5	20.20	36.00	7.50	8.10	89.00
6	20.10	36.00	7.40	8.08	87.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 10/14/76

TIME: 1025

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
1	19.70	31.60	6.70	7.93	85.50
2	19.70	31.50	6.50	7.91	84.00
3	19.60	31.60	6.50	7.91	84.00
4	19.40	31.40	6.50	7.90	87.50
5	19.00	30.70	6.40	7.86	90.00
6	18.80	30.60	6.30	7.85	89.00
7	18.60	30.50	6.20	7.84	89.00

DATE: 11/19/76

TIME: 900

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 EPM	PH H ION CONC	TURBIDITY %
0	18.70	30.90	7.40	8.05	-1.00
1	18.80	30.90	7.30	8.06	-1.00
2	18.80	31.00	7.20	8.06	-1.00
3	18.80	31.00	7.10	8.07	-1.00
4	18.90	31.00	7.20	8.08	-1.00
5	18.90	31.00	7.10	8.07	-1.00
6	18.90	31.00	7.10	8.07	-1.00
7	18.90	31.00	7.00	8.05	-1.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 12/16/76

TIME: 840

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	16.20	32.20	5.90	8.09	87.50
1	16.90	33.40	6.90	8.11	88.50
2	16.90	33.70	6.80	8.11	91.00
3	16.90	33.80	6.80	8.11	92.00
4	16.90	33.80	6.70	8.11	92.00
5	16.70	34.00	6.30	8.08	93.00
6	16.60	33.90	6.00	8.06	93.00

DATE: 1/20/77

TIME: 928

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	16.90	34.0	1.80	7.68	-1.00
1	16.90	34.2	2.90	7.71	-1.00
2	16.90	34.2	3.20	7.74	-1.00
3	16.00	34.2	3.00	7.78	-1.00
4	15.90	34.1	2.70	7.81	-1.00
5	15.50	34.1	2.60	7.84	-1.00
6	15.50	34.1	2.50	7.86	-1.00
7	15.50	34.1	2.20	7.84	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 855

STATION: M2 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	17.90	33.50	1.60	8.39	65.00
1	17.90	33.50	2.00	8.39	73.00
2	17.90	33.50	2.00	8.38	73.00
3	17.90	33.50	2.00	8.35	73.50
4	17.90	33.50	2.10	8.36	73.50
5	17.90	33.50	1.90	8.36	73.00
6	17.90	33.50	1.80	8.35	73.50

DATE: 3/17/77

TIME: 907

STATION: M2 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0.0	13.40	28.10	8.60	8.30	47.50
1.0	13.30	28.90	8.30	8.28	54.50
2.0	13.30	29.00	8.10	8.25	63.00
3.0	13.40	30.70	7.60	8.26	67.50
4.0	13.40	30.80	7.80	8.25	60.00
5.0	13.30	31.00	7.70	8.24	55.00
6.0	13.30	31.00	7.50	8.22	42.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 4/21/77

TIME: 928

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	17.50	31.20	8.40	8.22	52.00
1.0	17.40	31.20	8.70	8.22	51.50
2.0	17.40	31.10	9.30	8.20	51.00
3.0	17.10	31.10	10.10	8.18	49.00
4.0	16.90	31.00	11.00	8.14	46.50
5.0	16.80	31.10	11.60	8.15	43.50

DATE: 5/19/77

TIME: 900

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	16.20	31.10	9.50	8.35	65.50
1	16.30	31.10	9.30	-1.00	65.00
2	16.30	31.10	8.90	8.31	62.00
3	16.30	31.10	8.70	8.29	79.00
4	15.80	30.80	8.30	8.25	81.00
5	15.60	30.90	8.50	8.27	82.00
6	15.20	30.70	7.80	8.22	68.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 7/21/77

TIME: 845

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	20.50	30.40	7.14	8.45	67.00
1.0	20.40	30.70	7.25	8.46	79.00
2.0	20.20	30.50	7.45	8.45	79.50
3.0	19.80	30.50	7.55	8.45	81.00
4.0	19.60	30.40	7.40	8.42	82.00
5.0	19.20	30.50	7.26	8.42	83.00

DATE: 6/23/77

TIME: 908

STATION: M2

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.00	33.20	7.70	8.26	77.00
1	18.30	33.00	7.60	8.25	77.00
2	18.10	32.50	7.50	8.22	80.00
3	17.60	32.60	7.40	8.21	81.00
4	17.20	32.60	7.30	8.19	83.50
5	16.60	32.80	6.90	8.17	84.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 905

STATION: M3 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.70	33.50	8.70	8.04	72.00
1	21.80	33.40	8.70	8.02	74.00
2	21.70	33.00	8.00	8.02	76.00
3	21.30	33.00	8.00	8.03	73.50
4	-1.00	-1.00	-1.00	-1.00	72.50

DATE: 9/16/76

TIME: 1026

STATION: M3 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.40	32.40	5.30	7.97	79.50
1	20.40	32.50	5.20	7.96	78.50
2	20.30	32.50	5.10	7.95	77.00
3	20.20	32.70	5.70	8.03	80.50
4	19.90	32.70	5.80	8.01	79.00

DATE: 10/14/76

TIME: 1045

STATION: M3 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.90	32.20	6.30	7.87	75.50
1	19.90	32.20	6.40	7.87	76.50
2	19.90	32.10	5.80	7.84	78.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 919

STATION: M3 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.80	30.90	6.10	7.98	-1.00
1	18.90	30.90	6.20	7.98	-1.00
2	18.90	30.90	6.20	7.98	-1.00
3	18.90	30.90	5.60	7.99	-1.00

DATE: 12/16/76

TIME: 850

STATION: M3 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	16.30	33.80	6.30	8.07	63.50
1	16.30	33.70	6.00	8.15	71.00
2	16.20	33.80	5.70	8.13	69.00
3	16.20	33.80	5.80	8.03	68.50
4	16.20	33.80	5.80	8.03	68.00

DATE: 1/20/77

TIME: 947

STATION: M3 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	16.10	34.00	1.00	7.66	-1.00
1	16.10	34.50	1.50	7.70	-1.00
2	15.50	34.30	1.90	7.75	-1.00
3	15.50	34.20	1.90	7.79	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 912

STATION: M3

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.80	33.20	-1.00	8.40	74.00
1	17.80	33.30	-1.00	8.38	77.00
2	17.90	33.40	-1.00	8.44	76.50
3	17.90	33.50	-1.00	8.43	76.50
4	-1.00	-1.00	-1.00	-1.00	-1.00

DATE: 3/17/77

TIME: 925

STATION: M3

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.00	29.80	7.70	8.28	53.00
1.0	14.10	29.90	7.60	8.27	53.50
2.0	14.10	30.30	7.40	8.24	58.50
3.0	13.80	30.90	7.20	8.22	65.00
4.0	13.70	31.10	6.90	8.22	73.00
5.0	13.60	31.20	6.70	8.21	72.00
6.0	13.60	31.30	6.50	8.21	68.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 4/21/77

TIME: 940

STATION: M3

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	18.50	31.50	8.10	8.25	40.50
1.0	18.40	31.50	8.40	8.24	40.50
2.0	18.30	31.60	8.70	8.23	39.00
3.0	17.80	31.10	9.01	8.20	50.50
4.0	17.40	31.10	9.50	8.19	58.00
5.0	17.40	31.20	10.30	8.17	56.50

DATE: 5/19/77

TIME: 915

STATION: M3

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.40	31.10	9.90	8.45	32.00
1	17.60	31.30	9.80	8.41	35.00
2	17.60	31.30	9.50	8.39	36.50

B19

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 6/23/77

TIME: 924

STATION: M3

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.30	33.20	7.20	8.24	68.50
1	19.40	33.20	6.60	8.19	74.00

DATE: 7/21/77

TIME: 905

STATION: M3

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	20.60	31.10	8.40	8.45	81.00
1.0	20.90	31.06	8.12	8.45	80.00
2.0	20.90	31.15	7.82	8.42	80.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 916

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.80	33.50	9.50	8.07	71.00
1	22.00	33.40	9.40	8.07	72.50
2	22.00	33.40	9.00	8.06	73.50
3	21.90	33.20	8.00	8.04	75.00
4	21.70	33.00	8.20	8.04	76.50
5	20.90	32.70	8.20	8.05	73.50

DATE: 9/16/76

TIME: 1045

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.40	32.40	5.50	7.94	84.00
1	20.40	32.40	5.40	7.92	84.00
2	20.40	32.40	5.20	7.92	84.00
3	20.00	32.60	5.70	7.99	81.00
4	19.90	32.70	5.80	7.99	78.00
5	19.80	32.80	5.60	7.98	75.00
6	19.70	32.80	5.30	7.97	70.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 10/14/76

TIME: 1210

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.30	32.40	11.90	8.11	30.00
1	20.30	32.30	11.30	8.12	31.50
2	20.10	32.10	7.30	8.04	52.50
3	19.90	32.00	5.80	7.85	74.00
4	19.80	32.00	5.30	7.83	78.50

DATE: 11/19/76

TIME: 931

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.80	30.90	5.30	7.95	-1.00
1	19.00	30.90	5.20	7.95	-1.00
2	19.00	30.90	5.10	7.95	-1.00
3	19.10	30.90	5.40	7.95	-1.00
4	19.10	31.00	5.10	7.95	-1.00
5	19.00	31.00	5.10	7.95	-1.00
6	19.00	31.10	6.00	8.03	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 12/16/76

TIME: 915

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	15.90	33.80	5.30	7.98	80.50
1	15.80	33.90	5.10	7.96	80.50
2	15.70	33.90	4.70	7.93	77.50
3	15.60	33.40	4.70	7.91	72.50
4	15.60	33.90	4.50	7.90	66.00
5	15.60	33.90	4.50	7.90	62.50

DATE: 1/20/77

TIME: 945

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	15.80	33.90	1.40	7.63	-1.00
1	15.90	34.00	1.20	7.67	-1.00
2	15.90	34.00	1.60	7.72	-1.00
3	15.00	33.90	1.30	7.76	-1.00
4	15.00	34.90	1.20	7.79	-1.00
5	15.00	34.90	1.20	7.81	-1.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 940

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.50	33.20	-1.00	8.20	55.50
1	17.70	33.00	-1.00	8.20	70.00
2	17.50	33.20	-1.00	8.18	70.50
3	17.50	33.20	-1.00	8.14	69.50
4	17.40	33.30	-1.00	8.11	68.50
5	17.30	33.30	-1.00	8.14	66.50
6	-1.00	-1.00	-1.00	-1.00	-1.00

DATE: 3/17/77

TIME: 1000

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.20	29.60	7.60	8.32	52.00
1.0	14.20	29.90	7.30	8.25	55.00
2.0	14.30	30.50	7.20	8.24	56.00
3.0	14.20	31.00	7.10	8.23	55.00
4.0	14.00	31.20	6.90	8.20	60.00
5.0	13.90	31.30	6.80	8.19	52.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 4/21/77

TIME: 1000

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	18.80	31.90	7.90	8.22	34.50
1.0	18.90	32.00	8.20	8.21	34.00
2.0	18.90	31.90	8.60	8.20	36.00
3.0	18.40	31.50	8.90	8.18	41.50
4.0	17.90	31.10	9.50	8.17	49.50
5.0	17.70	31.20	10.60	8.16	51.50
6.0	17.70	31.30	11.70	8.15	52.50

DATE: 5/19/77

TIME: 930

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.50	31.20	8.50	8.34	51.50
1	17.40	31.20	8.10	8.32	54.00
2	17.30	31.20	8.20	8.32	52.00
3	17.10	31.20	8.10	8.30	53.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 6/23/77

TIME: 945

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.30	33.20	7.60	8.24	70.00
1	19.60	33.20	7.60	8.23	72.50
2	19.70	33.20	7.60	8.23	73.50
3	19.70	33.20	7.50	8.22	74.00
4	19.40	33.00	7.20	8.19	74.50
5	18.90	32.60	7.00	8.18	73.50

DATE: 7/21/77

TIME: 915

STATION: M4

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	21.10	30.99	8.56	8.42	74.00
1.0	21.10	31.30	7.89	8.41	80.00
2.0	21.10	31.20	7.71	8.41	81.00
3.0	21.00	31.10	7.56	8.39	73.00
4.0	19.00	29.90	7.10	8.38	69.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 925

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.60	33.50	8.20	8.03	73.00
1	22.00	33.40	8.10	8.02	73.00
2	22.00	33.50	8.00	8.02	67.50
3	22.20	33.40	8.00	8.02	67.00
4	22.20	33.30	8.20	8.02	64.50
5	22.00	33.10	7.20	7.99	48.00

DATE: 9/16/76

TIME: 1100

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.50	32.40	4.80	7.91	83.00
1	20.60	32.30	4.70	7.88	83.00
2	20.50	32.40	4.70	7.88	82.50
3	20.50	32.40	4.70	7.88	77.00
4	20.20	32.60	5.60	7.97	78.00
5	19.90	32.70	5.20	7.95	74.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 10/14/76

TIME: 1108

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.10	32.40	5.90	7.82	69.00
1	20.10	32.40	6.20	7.84	65.50
2	20.00	32.20	5.50	7.81	61.50
3	19.80	32.10	4.70	7.76	68.50
4	19.70	32.00	5.20	7.79	72.00
5	19.50	31.70	5.00	7.78	72.00

DATE: 11/19/76

TIME: 953

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CFN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.20	30.80	5.00	7.93	-1.00
1	19.20	30.90	4.80	7.92	-1.00
2	19.20	30.90	4.80	7.92	-1.00
3	19.20	30.90	4.90	7.93	-1.00
4	19.10	31.00	5.40	7.98	-1.00
5	19.10	31.10	5.70	8.00	-1.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 12/16/76

TIME: 930

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.50	33.70	5.30	7.96	68.00
1	15.50	33.80	5.20	7.95	75.00
2	15.50	33.80	5.40	7.96	78.00
3	15.50	33.80	5.30	7.96	81.00
4	15.50	33.80	4.90	7.93	82.00
5	15.50	33.80	4.70	7.91	76.00

DATE: 1/20/77

TIME: 1008

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.50	33.9	0.0	7.66	-1.00
1	15.50	33.9	0.90	7.70	-1.00
2	14.90	33.9	1.10	7.76	-1.00
3	14.90	33.9	1.10	7.78	-1.00
4	14.90	34.9	0.90	7.82	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1000

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.00	33.30	-1.00	8.12	42.00
1	17.90	33.90	-1.00	8.18	47.50
2	17.80	33.20	-1.00	8.17	41.50
3	17.60	33.10	-1.00	8.19	42.50
4	17.50	33.40	-1.00	8.20	49.50
5	17.50	33.40	-1.00	8.20	52.00
6	17.50	33.40	-1.00	8.20	44.50

DATE: 3/17/77

TIME: 1003

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.60	29.80	8.00	8.30	57.50
1.0	14.50	30.00	7.30	8.28	56.50
2.0	14.60	30.50	7.20	8.24	57.50
3.0	14.30	31.20	6.90	8.20	61.00
4.0	14.20	31.30	6.60	8.18	49.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 4/21/77

TIME: 1005

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	18.80	31.90	9.05	8.21	27.00
1.0	19.10	32.10	9.13	8.21	28.00
2.0	19.00	31.90	9.30	8.18	27.00
3.0	18.40	31.30	9.70	8.47	30.00
4.0	18.00	31.20	9.60	8.13	38.00
5.0	17.60	31.10	9.20	8.12	40.00

DATE: 5/19/77

TIME: 940

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.90	31.40	9.50	8.43	36.50
1	17.90	31.40	9.30	8.42	35.00
2	18.00	31.40	9.20	8.41	31.00
3	17.50	31.10	8.50	8.34	50.00
4	17.20	31.10	8.20	8.32	58.00
5	16.70	31.10	7.80	8.29	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MAPTEK

DATE: 6/23/77

TIME: 1008

STATION: M5

MARINA DEI REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.90	33.40	8.10	8.28	69.50
1	20.00	33.20	8.00	8.26	69.00
2	20.00	33.10	7.90	8.23	64.50
3	19.80	33.00	7.90	8.22	68.00
4	19.40	32.80	7.80	8.20	70.00

DATE: 7/21/77

TIME: 930

STATION: M5

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	21.60	31.50	8.48	8.44	83.00
1.0	21.70	31.50	8.22	8.44	82.00
2.0	21.50	31.20	7.94	8.44	75.00
3.0	20.50	30.70	7.50	8.40	77.00
4.0	20.10	30.60	6.50	8.33	59.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 945

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.50	33.30	6.70	7.97	74.50
1	21.80	33.30	6.20	7.95	77.00
2	21.90	33.30	5.70	7.93	77.00
3	22.00	33.30	5.70	7.93	76.50

DATE: 9/16/76

TIME: 1115

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.50	32.60	4.10	7.85	85.00
1	20.60	32.60	3.50	7.82	87.00
2	20.70	32.70	3.40	7.79	74.00

DATE: 10/14/76

TIME: 1235

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.10	32.50	4.90	7.78	72.50
1	20.00	32.40	4.90	7.77	76.00
2	20.00	32.40	4.70	7.75	77.00
3	19.80	32.30	3.50	7.74	73.50
4	-1.00	-1.00	-1.00	-1.00	53.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1007

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.90	30.80	5.30	7.92	-1.00
1	19.20	30.90	5.30	7.92	-1.00
2	19.20	30.90	5.10	7.90	-1.00
3	19.20	31.00	4.60	7.90	-1.00

DATE: 12/16/76

TIME: 945

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.50	33.90	5.30	7.94	78.00
1	15.50	33.80	5.30	7.94	80.50
2	15.40	33.80	5.20	7.93	81.00
3	15.40	33.90	5.20	7.93	83.00

DATE: 1/20/77

TIME: 1025

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.00	33.9	0.0	7.62	-1.00
1	15.00	33.9	0.50	7.69	-1.00
2	14.50	34.9	0.60	7.72	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1014

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.40	33.10	-1.00	8.01	53.00
1	17.20	33.30	-1.00	8.01	55.00
2	17.20	33.40	-1.00	8.02	56.50

DATE: 3/17/77

TIME: 1045

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.40	29.80	7.80	8.27	55.00
1.0	14.70	30.70	7.40	8.25	57.50
2.0	14.70	31.30	7.20	8.22	58.00
3.0	14.80	31.80	6.80	8.21	50.00

DATE: 4/21/77

TIME: 1020

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	18.70	31.70	9.70	8.23	42.00
1.0	18.86	31.60	9.80	8.23	42.00
2.0	18.70	31.40	10.30	8.21	41.00
3.0	18.70	31.40	10.80	8.22	40.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 957

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	18.00	31.40	10.20	8.45	25.00
1	18.00	31.50	10.00	8.45	28.00
2	18.00	31.50	9.90	8.45	29.00
3	17.90	31.50	9.90	8.42	28.00

DATE: 6/23/77

TIME: 1021

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	19.50	33.30	6.50	8.18	84.00
1	19.70	33.30	6.40	8.17	82.00
2	19.70	33.20	6.70	8.17	77.00
3	19.50	33.00	6.60	8.14	77.00

DATE: 7/21/77

TIME: 945

STATION: M6

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0.0	21.40	31.58	7.00	8.91	59.00
1.0	21.50	31.65	6.86	8.35	87.00
2.0	21.50	31.61	7.26	8.38	87.00
3.0	21.30	31.56	7.32	8.37	87.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1120

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	22.60	33.40	8.10	8.01	68.00
1	22.90	33.40	8.00	8.00	69.50
2	22.90	33.40	8.00	7.99	69.50
3	22.80	33.20	7.50	7.97	69.00

DATE: 9/16/76

TIME: 942

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	21.00	32.00	5.10	7.78	77.50
1.0	20.80	32.00	5.10	7.78	84.50
2.0	20.70	32.00	4.90	7.78	85.50
3.0	20.40	32.30	3.58	7.78	75.00
4.0	20.10	32.60	3.28	7.73	-1.00

DATE: 10/14/76

TIME: 1153

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.20	32.40	7.90	7.98	66.00
1	20.20	32.40	8.00	7.98	64.00
2	20.10	32.10	5.40	7.79	65.50
3	19.80	31.80	3.40	7.74	65.50
4	19.80	32.00	3.40	7.71	60.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1203

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	19.80	31.00	5.10	7.92	-1.00
1	19.90	30.90	5.00	7.92	-1.00
2	19.80	30.90	5.80	7.92	-1.00
3	19.60	30.80	5.50	7.91	-1.00

DATE: 12/16/76

TIME: 1140

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	15.90	35.10	4.90	7.87	62.00
1	15.60	34.40	4.80	7.87	73.50
2	15.60	34.30	4.80	7.87	74.00
3	15.50	34.00	4.90	7.86	75.50

DATE: 1/20/77

TIME: 1152

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	15.00	34.9	1.10	7.56	-1.00
1	15.00	34.9	1.10	7.66	-1.00
2	15.00	34.9	1.10	7.68	-1.00
3	15.00	34.9	1.10	7.70	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1200

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.70	33.00	-1.00	8.12	71.00
1	18.50	33.10	-1.00	8.12	74.00
2	18.50	33.10	-1.00	8.11	75.00
3	18.50	33.10	-1.00	8.11	80.00

DATE: 3/17/77

TIME: 1210

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	15.90	30.30	7.90	8.24	57.00
1.0	15.70	30.70	7.50	8.21	54.00
2.0	15.00	31.00	6.90	8.19	14.50

DATE: 4/21/77

TIME: 1131

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	19.80	32.10	9.20	8.23	39.50
1.0	20.00	32.10	9.40	8.23	39.00
2.0	19.90	31.50	10.10	8.19	36.50
3.0	18.60	31.10	10.70	8.15	28.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 1128

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.70	31.70	9.30	8.37	37.00
1	18.80	31.70	9.20	8.37	36.50
2	18.70	31.60	8.80	8.34	34.00
3	18.00	31.30	7.50	8.29	12.00

DATE: 6/23/77

TIME: 1147

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.60	33.20	12.30	8.48	47.00
1	20.70	33.20	11.70	8.44	44.00
2	20.70	33.20	11.40	8.40	53.50

DATE: 7/21/77

TIME: 1105

STATION: M7

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	22.00	31.99	7.30	8.38	57.00
1.0	22.10	32.07	7.29	8.38	59.00
2.0	22.10	31.99	7.32	8.38	67.00
3.0	21.40	31.61	6.22	8.32	72.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1010

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	22.00	33.60	7.70	8.00	72.00
1	22.60	33.50	7.50	7.99	72.00
2	22.70	33.50	7.40	7.98	72.00
3	22.60	33.40	7.30	7.96	70.00

DATE: 9/16/76

TIME: 1135

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.00	32.30	5.50	7.95	77.50
1	21.00	32.40	5.50	7.94	78.00
2	20.90	32.70	3.00	7.82	76.50
3	20.80	33.00	2.00	7.75	77.00

DATE: 10/14/76

TIME: 1128

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.10	32.40	4.70	7.77	73.00
1	20.10	32.30	4.40	7.76	74.00
2	20.00	32.20	4.40	7.75	74.00
3	20.00	32.20	4.30	7.74	72.50
4	20.00	32.20	3.60	7.72	72.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1035

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.30	30.80	5.20	7.95	-1.00
1	19.40	30.80	5.20	7.94	-1.00
2	19.40	30.80	5.20	7.93	-1.00
3	19.20	30.70	5.30	7.93	-1.00
4	19.10	30.80	4.40	7.90	-1.00

DATE: 12/16/76

TIME: 1017

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.40	34.40	5.40	7.93	72.00
1	15.30	34.00	5.40	7.93	76.00
2	15.20	34.10	5.50	7.93	83.50
3	15.10	33.90	5.80	7.95	84.00

DATE: 1/20/77

TIME: 1047

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.00	33.9	0.90	7.75	-1.00
1	15.00	33.9	1.30	7.78	-1.00
2	14.10	33.9	1.60	7.83	-1.00
3	14.10	33.9	1.60	7.88	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1037

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.90	32.60	-1.00	8.07	69.00
1	17.90	32.80	-1.00	8.07	69.00
2	17.90	32.80	-1.00	8.06	68.50
3	17.50	33.10	-1.00	8.06	66.00
4	17.50	33.10	-1.00	8.08	66.00

DATE: 3/17/77

TIME: 1108

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.50	29.50	7.50	8.33	49.00
1.0	15.20	31.30	7.50	8.00	51.00
2.0	15.30	31.80	8.00	8.33	53.00
3.0	15.20	31.80	7.90	8.29	53.50

DATE: 4/21/77

TIME: 1035

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	19.70	32.00	8.90	8.23	24.00
1.0	19.80	32.10	9.00	8.23	25.50
2.0	19.60	31.70	9.10	8.22	26.00
3.0	19.10	31.40	9.60	8.22	15.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 1020

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.40	31.60	10.10	8.42	21.50
1	18.30	31.50	9.90	8.43	20.00
2	18.30	31.40	9.90	8.44	18.00
3	18.20	31.40	9.80	8.43	16.50

DATE: 6/23/77

TIME: 1043

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.20	33.30	7.00	8.22	48.00
1	20.40	33.40	7.10	8.21	58.50
2	20.40	33.40	7.20	8.20	61.00
3	20.00	33.00	5.60	8.11	59.00

DATE: 7/21/77

TIME: 1005

STATION: M8

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	22.00	31.80	7.48	8.41	92.00
1.0	22.00	31.70	7.33	8.41	89.00
2.0	21.90	31.80	7.35	8.40	89.00
3.0	21.80	31.80	7.18	8.39	87.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1055

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	23.00	33.10	7.30	7.93	70.00
1	23.20	33.20	7.20	7.94	70.50
2	23.30	33.20	7.10	7.95	-1.00

DATE: 9/16/76

TIME: 1218

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.30	32.30	4.90	7.82	84.50
1	21.20	32.30	4.70	7.81	85.00
2	21.20	32.30	4.20	7.81	84.00

DATE: 10/14/76

TIME: 1325

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.30	32.50	4.90	7.78	60.00
1	20.30	32.50	4.80	7.77	69.00
2	20.10	32.30	3.60	7.75	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1249

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.30	30.40	5.00	7.88	-1.00
1	20.10	30.40	5.30	7.89	-1.00
2	19.90	30.40	4.80	7.89	-1.00
3	19.70	30.60	4.30	7.78	-1.00

DATE: 12/16/76

TIME: 1115

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.40	34.30	4.60	7.83	62.00
1	15.40	34.00	3.90	7.83	62.00
2	15.30	34.00	4.10	7.83	60.00
3	15.20	34.00	4.30	7.83	-1.00

DATE: 1/20/77

TIME: 1133

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.10	33.9	0.20	7.64	-1.00
1	15.00	33.9	1.10	7.66	-1.00
2	15.00	33.9	1.20	7.66	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1133

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.80	32.90	-1.00	8.12	38.00
1	18.50	33.20	-1.00	8.09	47.00

DATE: 3/17/77

TIME: 1150

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	16.00	30.40	7.80	8.26	62.50
1.0	16.00	30.40	7.40	8.22	62.00

DATE: 4/21/77

TIME: 1110

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	19.60	31.90	8.57	8.25	16.00
1.0	19.50	31.90	8.94	8.20	10.00
2.0	19.50	31.60	9.01	8.17	-1.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 1106

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.30	31.60	9.50	8.35	12.00
1	19.10	31.50	8.90	8.34	10.00

DATE: 6/23/77

TIME: 1123

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.40	32.90	4.80	8.07	34.00
1	20.30	32.80	4.30	8.07	52.00

DATE: 7/21/77

TIME: 1050

STATION: M9

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	21.90	31.80	7.11	8.34	55.00
1.0	22.00	31.80	6.75	8.34	60.00
2.0	22.00	31.80	6.38	8.33	60.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1030

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	22.80	33.50	6.40	7.94	74.50
1	22.90	33.40	6.20	7.94	75.00
2	22.90	33.40	6.20	7.94	75.00
3	22.90	33.30	6.10	7.93	74.00

DATE: 9/16/76

TIME: 1200

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.30	32.40	3.40	7.84	86.00
1	21.10	32.40	3.40	7.82	82.00
2	21.10	32.60	3.00	7.80	78.00

DATE: 10/14/76

TIME: 1300

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.20	32.50	4.30	7.76	75.00
1	20.10	32.30	4.00	7.74	74.00
2	20.10	32.20	3.90	7.73	74.50
3	20.00	32.20	3.60	7.73	73.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1057

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 FPM	PH H ION CONC	TURBIDITY %
0	19.20	30.60	4.80	7.89	-1.00
1	19.20	30.70	4.60	7.88	-1.00
2	19.30	30.70	4.90	7.88	-1.00
3	19.40	30.80	3.30	7.89	-1.00

DATE: 12/16/76

TIME: 1035

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.00	34.10	5.30	7.91	77.00
1	15.00	33.90	5.30	7.90	83.50
2	14.90	33.90	5.40	7.90	84.00
3	14.90	33.90	5.30	7.91	84.50

DATE: 1/20/77

TIME: 1105

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 FPM	PH H ION CONC	TURBIDITY %
0	15.20	33.9	0.30	7.66	-1.00
1	15.20	33.9	0.50	7.69	-1.00
2	14.90	33.9	0.80	7.73	-1.00
3	14.90	33.9	0.90	7.78	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1100

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.00	32.70	-1.00	8.14	72.00
1	18.00	33.00	-1.00	8.18	73.00
2	17.90	33.00	-1.00	8.20	73.00
3	17.80	33.20	-1.00	8.17	71.50
4	-1.00	-1.00	-1.00	-1.00	67.00

DATE: 3/17/77

TIME: 1115

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.90	29.20	8.00	8.33	58.00
1.0	15.20	29.70	7.50	8.31	54.50
2.0	15.20	30.80	7.00	8.29	55.00

DATE: 4/21/77

TIME: 1053

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	19.30	32.00	9.40	8.25	37.50
1.0	19.50	32.10	9.40	8.23	38.50
2.0	19.50	31.90	9.60	8.21	36.00
3.0	19.10	31.50	9.70	8.21	31.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 1040

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.90	31.40	9.80	8.44	23.00
1	18.90	31.30	9.60	8.44	21.00
2	18.70	31.20	9.60	8.44	7.00
3	18.20	31.10	9.20	8.42	15.00

DATE: 6/23/77

TIME: 1100

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.10	33.40	7.00	8.15	55.50
1	20.30	33.30	8.10	8.14	62.50
2	20.40	33.30	8.60	8.14	61.50
3	20.10	33.10	9.00	8.08	69.50

DATE: 7/21/77

TIME: 1020

STATION: M10

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	22.30	31.70	7.05	8.36	80.00
1.0	22.30	31.67	6.89	8.36	63.00
2.0	22.10	31.60	6.51	8.32	83.00
3.0	22.00	31.60	6.05	8.26	83.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1045

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	22.80	33.50	7.10	7.97	71.50
1	23.00	33.40	7.00	7.96	69.00
2	23.00	33.40	6.90	7.97	69.00
3	22.80	33.30	7.20	7.97	59.00

DATE: 9/16/76

TIME: 1209

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.30	32.40	3.80	7.84	84.50
1	21.30	32.30	3.60	7.82	85.00
2	21.00	32.30	4.00	7.86	83.50
3	20.70	32.60	3.40	7.87	75.00
4	20.40	32.60	3.70	7.88	60.00

DATE: 10/14/76

TIME: 1315

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.20	32.60	4.50	7.73	75.00
1	20.20	32.60	4.40	7.73	75.50
2	20.10	32.50	4.70	7.75	75.00
3	19.90	32.30	4.80	7.76	54.00
4	19.80	32.20	4.30	7.75	52.50

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1205

STATION: M11 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	19.40	30.90	5.60	7.92	-1.00
1	19.50	31.00	5.90	7.92	-1.00
2	19.40	30.90	4.40	7.92	-1.00
3	19.40	31.00	4.20	7.92	-1.00

DATE: 12/16/76

TIME: 1100

STATION: M11 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.60	34.60	5.70	7.92	80.00
1	15.50	34.10	5.30	7.92	83.50
2	15.30	34.00	5.10	7.92	84.00
3	15.30	33.90	5.10	7.93	85.00

DATE: 2/17/77

TIME: 1116

STATION: M11 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.10	33.30	-1.00	8.05	42.50
1	18.20	33.30	-1.00	8.06	53.00
2	18.20	33.20	-1.00	8.07	53.00
3	17.90	33.30	-1.00	8.10	51.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 3/17/77

TIME: 1315

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	15.80	29.90	7.60	8.25	55.00
1.0	15.80	30.10	7.10	8.24	56.50
2.0	15.80	30.10	6.80	8.25	65.00
3.0	15.20	30.00	6.70	7.75	47.50

DATE: 4/21/77

TIME: 1101

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	20.20	32.10	9.15	8.28	32.50
1.0	19.70	31.70	9.21	8.27	31.50
2.0	19.80	31.80	9.43	8.22	24.00
3.0	19.20	31.30	9.80	8.18	15.00
4.0	18.90	31.50	10.40	8.15	-1.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 1055

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.90	31.40	9.10	8.42	22.00
1	18.90	31.60	9.10	8.40	21.50
2	18.50	31.20	8.80	8.36	7.00
3	17.90	31.30	8.00	8.31	10.00

DATE: 6/23/77

TIME: 1112

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.50	33.20	7.60	8.21	52.00
1	20.70	33.30	5.80	8.21	63.00
2	20.70	33.20	6.30	8.19	65.00
3	20.60	33.20	6.20	8.18	65.00

DATE: 7/21/77

TIME: 1035

STATION: M11

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	22.40	31.95	7.86	8.41	57.00
1.0	22.30	31.92	7.80	8.42	66.00
2.0	22.30	31.91	7.66	8.41	62.00
3.0	21.90	31.72	7.22	8.37	53.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1140

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	22.50	26.90	8.20	8.12	45.00
1	21.00	30.70	6.80	8.01	78.00
2	20.80	32.10	7.80	8.02	74.00

DATE: 9/16/76

TIME: 1303

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.30	30.60	4.10	7.80	79.00
1	20.80	31.80	5.40	7.92	75.50
2	20.60	32.20	3.70	7.81	72.00
3	20.40	32.70	3.60	7.82	21.00

DATE: 10/14/76

TIME:

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.10	31.40	6.30	7.93	-1.00
1	20.00	31.50	5.80	7.91	-1.00
2	19.90	31.70	4.00	7.78	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1330

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.20	29.50	2.10	7.73	-1.00
1	20.60	29.80	1.90	7.72	-1.00

DATE: 12/16/76

TIME: 1205

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.00	32.10	2.20	7.79	-1.00
1	17.70	33.20	2.90	7.85	-1.00
2	17.50	33.80	3.30	7.86	-1.00

DATE: 2/17/77

TIME: 1227

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.50	29.70	-1.00	8.20	68.00
1	18.10	32.50	-1.00	8.15	81.00
2	18.00	32.70	-1.00	8.15	82.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 3/17/77

TIME: 1245

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	14.90	20.60	5.30	8.12	61.00
1.0	14.00	28.60	5.20	8.12	65.00

DATE: 4/21/77

TIME: 1212

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	18.40	32.00	7.80	8.24	65.50
1.0	18.40	31.90	8.40	8.24	69.00
2.0	18.30	31.70	9.00	8.19	72.00

DATE: 5/19/77

TIME: 1200

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	17.10	31.00	9.20	8.34	80.00
1	16.80	31.20	8.80	8.32	92.00
2	16.80	31.30	8.60	8.34	94.00

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 6/23/77

TIME: 1130

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	18.80	32.70	8.40	8.26	80.00
1	18.40	32.90	8.90	8.26	78.50
2	18.30	33.00	8.90	8.23	77.00
3	18.20	33.00	8.30	8.22	76.50
4	-1.00	-1.00	-1.00	-1.00	78.00

DATE: 7/21/77

TIME: 1122

STATION: M12

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0.0	20.25	31.20	8.76	8.48	79.00
1.0	20.11	31.30	8.78	8.48	75.00
2.0	20.15	31.40	8.82	8.49	76.00
3.0	20.15	31.50	8.74	8.49	75.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 8/19/76

TIME: 1200

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	23.00	33.40	7.30	8.00	82.00
1	23.40	33.40	7.00	7.99	81.00
2	23.30	33.30	7.30	8.01	78.00

DATE: 9/16/76

TIME: 1325

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	21.90	29.80	0.40	7.60	64.00
1	21.70	31.20	0.20	7.54	69.50
2	21.40	31.90	1.30	7.62	69.50

DATE: 10/14/76

TIME:

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.20	31.60	4.80	7.82	-1.00
1	20.20	31.70	4.00	7.75	-1.00
2	20.20	31.80	4.30	7.76	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 11/19/76

TIME: 1350

STATION: M13 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	20.30	30.50	4.60	7.77	-1.00
1	20.30	30.40	4.50	7.78	-1.00

DATE: 12/16/76

TIME:

STATION: M13 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	14.50	34.30	7.00	7.98	-1.00
1	14.50	34.70	6.90	7.96	-1.00
2	14.80	36.00	6.80	7.95	-1.00

DATE: 1/20/77

TIME: 1240

STATION: M13 MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	15.50	33.7	0.0	7.57	-1.00
1	15.50	33.9	1.30	7.64	-1.00
2	15.50	33.9	1.40	7.70	-1.00

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 2/17/77

TIME: 1300

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0	18.70	33.00	-1.00	8.14	70.00
1	18.50	33.20	-1.00	8.03	74.60

DATE: 3/17/77

TIME: 1300

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	15.80	29.20	8.50	8.38	25.00
1.0	15.90	29.70	8.20	8.33	30.00

DATE: 4/21/77

TIME: 1150

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.02 PPM	PH H ION CONC	TURBIDITY %
0.0	20.00	31.80	8.40	8.07	44.50
1.0	19.90	31.80	8.40	8.06	43.50

MISSING DATA VALUE IS -1.0

HARBORS ENVIRONMENTAL PROJECTS

MARTEK

DATE: 5/19/77

TIME: 1215

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	18.90	31.20	10.40	8.41	32.00
1	18.90	31.30	9.80	8.45	18.50

DATE: 6/23/77

TIME: 1145

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0	20.90	33.00	7.20	8.18	80.00
1	21.20	33.20	7.70	8.17	76.00

DATE: 7/21/77

TIME: 1140

STATION: M13

MARINA DEL REY

DEPTH METERS	TEMPERATURE CEN	SALINITY 0/00	D.O2 PPM	PH H ION CONC	TURBIDITY %
0.0	22.40	31.70	6.60	8.32	91.00
1.0	22.60	32.10	6.30	8.32	87.00

APPENDIX C

ZOOPLANKTON SPECIES

by Month

Population Code Intervals

0 = many, present, few, etc.
(non-numerical quantity)

1 = 1 - 99

2 = 100 - 999

3 = 1000 - 9999

4 = 10,000 - above

-/= species occurrence not detected

5 = presence of colonial animal
that cannot be counted as individuals

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M1 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 441

	POP CODE	POP COUNT	SEX	MATURITY
BRYOZOA (ECTOPROCTA)				
CHAETOGNATHA	1	42		CYPRONAUTES
(ARROW-WORM)				
CHORDATA GSTEICHTHYS	1	2		OTHER
CHORDATA-URCHORDATA				
ASCIDIACEA	1	6		EGG
LARVACEA	1	1		LARVA
APPENDICULARIA	2	146		OTHER
CNIDARIA (COELENTERATA)				
HYDROZEA	1	15		MEDUSAE
ANIMAL				
MOLLUSCA				
PELECYPEDA	1	9		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M2 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 201

		PDP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*					
*					
*					
	*	1	1		OTHER
ARTHROPODA					
CRUSTACEA					
*					
*					
*					
	*	1	2		NAUPLIUS
(COPEPOD)					
AMPHIPODA-GAMMARIDEA					
*					
*					
*					
	*	1	2		OTHER
CLADOCERA					
*					
EYADNE	NORDMANNI	1	11		OTHER
*					
PENILIA	AVIROSTRIS	1	18		OTHER
*					
PODON	POLYPHEMOIDES	1	9		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	3	FEMALE	
*					
ACARTIA	CLAUSI	1	2	MALE	
*					
ACARTIA	TONSA	1	26	MALE	
*					
ACARTIA	TONSA	1	30	FEMALE	
*					
ACARTIA	TONSA	1	27		IMMATURE
CALANIDAE					
CALANUS	MELGOLANDICUS	1	3		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	6	MALE	
*					
PARACALANUS	PARVUS	1	11		IMMATURE
*					
PARACALANUS	PARVUS	1	31	FEMALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINDSA	1	2		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	*	1	1	MALE	
*					
CLAUSOCALANUS	*	1	1	FEMALE	
*					
CLAUSOCALANUS	*	1	3		IMMATURE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M2 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 201

			POP CODE	POP COUNT	SEX	MATURITY
*						
TORTANIDAE						
TORTANUS	DISCAUDATUS		1	1		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
*	*		1	1		OTHER
*						
CORYCAEIDAE						
CORYCAEUS	ANGLICUS		1	4		IMMATURE
*						
CORYCAEUS	ANGLICUS		1	5	MALE	
*						
CORYCAEUS	ANGLICUS		1	5	FEMALE	
*						
CNCAEIDAE						
CNCAEA	*		1	1		OTHER
*						
COPEPODA-HARPACTICOIDA						
*	*		1	2		OTHER
*						
TACHIDIIDAE						
EUTERPINA	ACUTIFRONS		1	3		OTHER
*						
DECAPODA						
BRACHYURA	*		1	7		ZOEAE
*						
CARIDEA	*		1	3		ZOEAE
*						
(SHRIMP)						
THORACICA	*		1	2		NAUPLIUS
*	*		1	1		CYPRIS
*						
(BARNACLE)						
*	*		1	2		NAUPLIUS
*	*		1	1		CYPRIS
(BARNACLE)						
ASCHELMINTHES						
NEMATODA	*		1	9		OTHER
*						
BRYOZOA (ECTOPROCTA)						
*	*		1	31		CYPRONAUTES
*						
CHAETOGNATHA	*		1	1		OTHER
*						
(ANNEWORM)						
CHORDATA						
GSTEICHTHYS	*		1	5		EGG
*						
*	*		1	5		EGG
*						
*	*		1	5		EGG

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76	STATION: M2	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIGUOT: 16 REVOLUTIONS: 201						
ANIMAL						
CHORDATA						
OSTEICHTHYS						
	*		1	1		LARVA
CHORDATA-UROCHORDATA						
ASCIDIACEA						
	*		1	3		LARVA
LARVACEA						
	*		1	67		OTHER
APPENDICULARIA						
CNIDARIA (COELENTERATA)						
HYDROZEA						
	*		1	20		MEDUSAE
MOLLUSCA						
GASTROPODA						
	*		1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M4 MARINA DEL REY
 ALIQUOT: 14 REVOLUTIONS: 237

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
AMPHIFEOA-CAPRELLIOEA					
*	*	1	1		OTHER
CLADOCERA					
*					
EVAONE	NORMANNI	1	1		OTHER
PENILIA	AVIROSTRIS	1	1		OTHER
PODON	POLYPHEMOCIDES	1	5		OTHER
COPEPODA-CALANCOA					
ACARTIIDAE					
ACARTIA	TONSA	1	12	MALE	
ACARTIA	TONSA	1	25	FEMALE	
ACARTIA	TCNSA	1	4		IMMATURE
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	MALE	
CHORDATA					
OSTEICHTHYS					
*	*	1	1		EGG
CHORDATA-URCHORDATA					
LARVACEA					
*					
APPENDICULARIA	*	1	1		OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76	STATION: M5	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIUQUET: 10	REVOLUTIONS: 221		CODE	COUNT		
ANIMAL						
ANNELIDA						
POLYCHAETA						
*		*	1	1		OTHER
ARTHROPODA						
CRUSTACEA						
*		*	1	21		NAUPLIUS
(COPEPOD)						
AMPHIPODA-GAMMARIDEA						
*		*	1	1		OTHER
CLADOCERA						
*			1	3		OTHER
PENILIA AVIROSTRIS						
*			1	8		OTHER
PODON POLYPHEMOIDES						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA CLAUSI						
*			1	3		IMMATURE
ACARTIA TONSA						
*			2	120		IMMATURE
ACARTIA TONSA						
*			2	100	FEMALE	
ACARTIA TONSA						
*			2	104	MALE	
PARACALANIDAE						
PARACALANUS PARVUS						
*			1	1	MALE	
PONTELLIDAE						
LABIDOCERA TRISPINOZA						
*			1	4		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS						
*		*	1	1	MALE	
CHAETOGNATHA						
*		*	1	1		OTHER
(ARRO-WORM)						
CHORDATA						
OSTEICHTHYS						
*		*	1	2		LARVA
*		*	1	1		EGG
CHORDATA-URCHORDATA						
ASCIDIACEA						
*		*	2	114		LARVA
LARVACEA						
*		*	1	34		OTHER
APPENDICULARIA						
MOLLUSCA						
GASTROPODA						
*		*	1	3		LARVA
PELECYPEDA						
*		*	1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M6 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 400

		PDP CODE	PDP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
* PODON POLYPHEMIDES 1 1 OTHER					
* COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA TONSA 1 77 MALE					
* ACARTIA TONSA 2 310 FEMALE					
* ACARTIA TONSA 1 71 IMMATURE					
* ASCHELMINTHES					
NEMATODA					
* * * *					
* CHORDATA-URCCHORDATA					
ASCIDIACEA					
* * * *					
* * * LARVA					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M7 MARINA DEL REY
 ALIQUOT: 11 REVOLUTIONS: 210

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELEIDA					
POLYCHAETA					
*	*	1	1		OTHER
ARTHROPODA					
CRUSTACEA					
*	*	1	3		NAUPLIUS
(COPEPOD)					
AMPHIPODA-CAPRELLIDEA					
*	*	1	6		OTHER
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TGNSA	1	94	MALE	
ACARTIA	TGNSA	1	55	FEMALE	
ACARTIA	TGNSA	1	41		IMMATURE
COPEPODA-HARPACTICOIDA					
*	*	1	1		OTHER
DECAPODA					
BRACHYURA					
*	*	1	13		ZOEAE
THORACICA					
*	*	1	5		NAUPLIUS
(BARNACLE)					
(BARNACLE)					
BRYOZOA(ECTOPROCTA)					
*	*	1	2		CYPRONAUTES
CHORDATA					
OSTEICHTHYS					
*	*	1	1		EGG
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*	*	2	142		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: MB MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 379

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
*					
*					
*	*	1	2		OTHER
*					
CLADOCERA					
*					
PODOP					
*	POLYPHEMIDES	1	2		OTHER
COPEPODA-CALANOIDA					
ACARTIIDAE					
*	ACARTIA	TONSA	1	92	IMMATURE
*	ACARTIA	TONSA	2	142	MALE
*	ACARTIA	TONSA	2	230	FEMALE
THERACIDA					
*					
*	*	1	6		NAUPLIUS
(BARNACLE)					
CHORDATA-URGCHORDATA					
ASCIDIACEA					
*					
*					
*	*	1	7		LARVA
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76 STATION: M9 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 357

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
*	*	1	5		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	1	91		IMMATURE
*					
ACARTIA	TONSA	2	173	FEMALE	
*					
ACARTIA	TONSA	2	192	MALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	1		IMMATURE
*					
COPEPODA-HARPACTICOIDA					
*	*	1	1		OTHER
*					
DECAPODA					
BRACHYURA					
*	*	1	3		ZOEAE
*					
CARIDEA					
*	*	1	1		ZOEAE
*					
(SHRIMP)					
CHORDATA					
OSTEICHTHYS					
*	*	1	3		LARVA
*	*	1	1		EGG
*					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*	*	1	19		LARVA
*					
MOLLUSCA					
GASTROPODA					
*	*	1	1		LARVA
*					
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76	STATION: M10	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIQUDT: 132	REVOLUTIONS: 332					
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	1		OTHER
*						
ARTHROPODA						
CRUSTACEA						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA						
	TONSA		2	224	MALE	
*						
ACARTIA						
	TONSA		2	212	FEMALE	
*						
ACARTIA						
	TONSA		1	66		IMMATURE
*						
THORACICA						
*						
*	*		1	2		NAUPLIUS
		(BARNACLE)				
CHORDATA-UROCHORDATA						
ASCIDIACEA						
*						
*						
*	*		1	27		LARVA
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 7/29/76	STATION: M11	MARINA DEL REY				
ALIOUET: 18	REVOLUTIONS: 187		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
* EYADNE						
		NCROMANNI	1	1		OTHER
* PODON						
		POLYPHEMOIDES	1	4		OTHER
* COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA						
		TONSA	2	262	FEMALE	
* ACARTIA						
		TONSA	2	172	MALE	
* ACARTIA						
		TONSA	1	56		IMMATURE
* PARACALANIDAE						
CALOCALANUS						
		STYLIREMIS	1	1		IMMATURE
* POATELLIDAE						
LABIDOCERA						
		TRISPINOSA	1	3		IMMATURE
* COPEPODA-HARPACTICOIDA						
TACHIDIIDAE						
EUTERPINA						
		ACUTIFRONS	1	2		OTHER
* DECAPODA						
BRACHYURA						
		*	1	4		ZOEAE
* CARIDEA						
		*	1	1		ZOEAE
* (SHRIMP)						
CHORDATA-UROCHORDATA						
ASCIDIACEA						
		*	1	46		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76	STATION: M1	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQUNT: 18 REVOLUTIONS:	S12		CODE	COUNT		
ANIMAL						
ARTHROPODA						
CRUSTACEA						
*						
*						
*						
	(COPEPOD)		1	19		NAUPLIUS
CLADOCERA						
*						
	EVAONE	NORMANNI	1	10		OTHER
*						
	PENILIA	AVIROSTRIS	2	271		OTHER
*						
	PODON	POLYPHEMIDES	1	18		OTHER
COPEPODA-CALANOIDA						
ACARTIICAE						
*	ACARTIA	CLAUST	1	1	FEMALE	
*						
	ACARTIA	TONSA	1	29		IMMATURE
*						
	ACARTIA	TONSA	1	24	FEMALE	
*						
	ACARTIA	TONSA	1	18	MALE	
PARACALANIDAE						
*	PARACALANUS	PARVUS	1	2		IMMATURE
*						
	PARACALANUS	PARVUS	1	7	FEMALE	
*						
	PARACALANUS	PARVUS	1	5	MALE	
PONTELLIDAE						
*	LABIDOCERA	TRISPINOSA	1	4		IMMATURE
PSEUDOCALANIDAE						
*	CTENOCALANUS	VANUS	1	1	MALE	
*						
	CTENOCALANUS	VANUS	1	1	FEMALE	
*						
	CTENOCALANUS	VANUS	1	5		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEICAE						
*	CORYCAEUS	ANGLICUS	1	4		IMMATURE
*						
	CCORYCAEUS	ANGLICUS	1	3	MALE	
*						
	CORYCAEUS	ANGLICUS	1	4	FEMALE	
OITHONIDAE						
*	OITHONA	SPINIROSTRIS	1	3	FEMALE	
DECAPODA						
BRACHYURA						
*			1	3		ZOEA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76 STATION: M2 MARINA DEL REY
 ALIQUOT: 14 REVOLUTIONS: 310

			POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	2		OTHER
ARTHROPODA						
CRUSTACEA						
*						
*	*		1	9		OTHER
*						
CLADOCERA						
*						
EVADNE	NORDHANNI		1	6		OTHER
*						
PENILIA	AVIROSTRIS		2	349		OTHER
*						
PCDGH	POLYPHEMOIDES		1	1		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	CLAUSI		1	1	FEMALE	
*						
ACARTIA	CLAUSI		1	1	MALE	
*						
ACARTIA	TCNSA		1	43	MALE	
*						
ACARTIA	TCNSA		1	73	FEMALE	
*						
ACARTIA	TCNSA		1	37		IMMATURE
*						
PARACALANIDAE						
PARACALANUS	PARVUS		1	23	FEMALE	
*						
PARACALANUS	PARVUS		1	6	MALE	
*						
PARACALANUS	PARVUS		1	8		IMMATURE
*						
PONTELLIDAE						
LABIDOCERA	TRISPINOSA		1	4		IMMATURE
*						
LABIDOCERA	TRISPINOSA		1	3	FEMALE	
*						
PSEUDOCALANIDAE						
CLAUSOCALANUS	*		1	4		IMMATURE
*						
CLAUSOCALANUS	*		1	2	FEMALE	
*						
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS	ANGLICUS		1	2	MALE	
*						
CORYCAEUS	ANGLICUS		1	6	FEMALE	
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 6/19/76	STATION: M2	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIQUCT: 14 REVOLUTIONS: 310						
DITHONIDAE DITHONA	SIMILIS		1	3	FEMALE	
CITHONA	SPINIROSTRIS		1	3	FEMALE	
CNCAEIDAE CNCAEA	*		1	2		OTHER
COPEPODA-HARPACTICOIDA	*		1	1		OTHER
DECAPODA BRACHYURA	*		1	6		ZOEAE
THORACICA (BARNACLE)	*		1	5		CYPRIS
BRYOZOA (ECTOPROCTA)	*		1	66		CYPHONAUTES
CHAETOGNATHA (ARROW-WORM)	*		1	1		OTHER
CHORDATA OSTEICHTHYS	*		1	1		LARVA
CHORDATA-UROCHORDATA LARVACEA	*		1	6		EGG
APPENICULARIA	*		1	25		OTHER
CNIDARIA (COELENTERATA) HYDRICZA	*		1	28		MEDUSAE
MOLLUSCA GASTROPODA	*		1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/1 /76	STATION: N3	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIGUOT: 12 REVOLUTIONS: 260						
ANIMAL						
ANNELICA						
POLYCHAETA						
		*	1	3		OTHER
ARTHROPODA						
CRUSTACEA						
		*	1	1		NAUPLIUS
		(COPEPOD)				
CLADOCERA						
		EYADNE	NGROMANNI	1	6	OTHER
		PENILIA	AVIROSTRIS	1	9	OTHER
		FCOON	POLYPHENOIDES	1	1	OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
		ACARTIA	CLAUSI	1	4	IMMATURE
		ACARTIA	CLAUSI	1	4	FEMALE
		ACARTIA	CLAUSI	1	4	MALE
		ACARTIA	TGNSA	1	87	FEMALE
		ACARTIA	TGNSA	1	89	MALE
		ACARTIA	TGNSA	1	83	IMMATURE
PARACALANIDAE						
		PARACALANUS	PARVUS	1	44	FEMALE
		PARACALANUS	PARVUS	1	6	IMMATURE
		PARACALANUS	PARVUS	1	15	MALE
PONTELLIDAE						
		LABIDOCERA	TRISPINOSA	1	24	IMMATURE
		LABIDOCERA	TRISPINOSA	1	1	FEMALE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
		CORYCAEUS	ANGLICUS	1	1	MALE
DITHONIDAE						
		DITHONA	OCULATA	1	2	FEMALE
		DITHONA	SIMILIS	1	1	MALE

PLANKTON DATA LISTING ~ HARBORS ENVIRONMENTAL PROJECTS

DATE:	STATION:	MARINA DEL REY	POP	POP	SEX	MATURITY
8/19/76	M3		CODE	COUNT		
ALIQUOT:	12 REVOLUTIONS:	260				
DITHONA	SIPILIS		1	1	FEMALE	
COPEPDA-HARPACTICOIDA						
*	*		1	1	OTHER	
DECAPODA						
*	*		1	4	OTHER	
BRACHYURA						
*	*		1	2	ZOEA	
CARIDEA						
(SHRIMP)	*		1	1	ZOEA	
THORACICA						
*	*		1	3	CYPRIS	
(BARNACLE)	*		1	6	NAUPLIUS	
(BARNACLE)						
BRYOZOA(ECTOPROCTA)						
*	*		1	24	CYPRONAUTES	
CHAETOGNATHA						
*	*		1	2	OTHER	
SAGITTA						
CHORDATA						
OSTEICHTHYS	*		1	6	EGG	
CHORDATA-URCHCHORDATA						
ASCIDIACEA	*		1	13	LARVA	
LARVACEA						
APPENDICULARIA	*		1	3	OTHER	
CNIDARIA (COELENTERATA)						
HYDROZOA	*		1	2	MEDUSAE	
MOLLUSCA						
GASTROPODA	*		1	6	LARVA	
PELECYPODA	*		1	1	LARVA	

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76 STATION: M5 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 378

		PDP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1		IMMATURE
*					
ACARTIA	TONSA	1	57		IMMATURE
*					
ACARTIA	TONSA	2	232	FEMALE	
*					
ACARTIA	TONSA	2	118	MALE	
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	*	1	1	FEMALE	
*					
CLAUSOCALANUS	*	1	2		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	FEMALE	
*					
COPEPODA-HARPACTICOIDA					
*					
*	*	1	3		OTHER
*					
DECAPODA					
BRACHYURA	*	1	2		ZOEAE
*					
THORACICA					
*					
*	*	1	3		NAUPLIUS
(BARNACLE)					
CHORDATA					
OSTEICHTHYS					
*					
*	*	1	3		EGG
*					
CHORDATA-URCHORDATA					
ASCIDIACEA					
*	*	1	14		LARVA
*					
MOLLUSCA					
PELECYPODA					
*	*	1	2		LARVA
*					
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76 STATION: M6 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 260

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANCOIDA					
ACARTIACEA					
ACARTIA	TONSA	2	110		IMMATURE
*					
ACARTIA	TONSA	2	248	MALE	
*					
ACARTIA	TONSA	2	491	FEMALE	
*					
PONTELLIDAE					
LABIDOCERA					
	TRISPINOSA	1	1		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	FEMALE	
*					
COPEPODA-MARPACTICOIDA					
*					
*	*	1	1		OTHER
ASCHELMINTHES					
NEMATODA					
*					
*	*	1	12		OTHER
*					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*	*	1	8		LARVA
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76 STATION: M7 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 370

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
	*				
	*				
	*				
	*	1	3		OTHER
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
	*				
	*				
	*				
	*	1	1		OTHER
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	214	MALE	
	*				
ACARTIA	TONSA	2	466	FEMALE	
	*				
ACARTIA	TONSA	1	47		IMMATURE
	*				
PONTYLLIDAE					
LABIDOCERA	TRISPINOZA	1	3		IMMATURE
	*				
TORTANIDAE					
TORTANUS	DISCAUDATUS	1	1		IMMATURE
	*				
DECAPODA					
BRACHYURA					
	*				
	*	1	9		ZOEAE
CARIDEA					
	*				
(SHRIMP)					
THORACICA					
	*				
	*				
(BARNACLE)					
	*	1	5		NAUPLIUS
CHORDATA					
CYSTEICHTHYS					
	*				
	*	1	3		EGG
CHORDATA-UROCHORDATA					
ASCIDIACEA					
	*				
	*	1	17		LARVA
CNIDARIA (COELENTERATA)					
HYDROZOA					
	*				
	*	1	2		OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76	STATION: M0	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQOT: 132	REVOLUTIONS: 188		CODE	COUNT		
ANIMAL						
ANNELIDA						
POLYCHAETA						
	*					
	*					
	*	*	1	1		OTHER
ARTHROPODA						
CRUSTACEA						
COPEPODA-CALANOIDA						
ACARTIIDAE						
		TCNSA	1	78	MALE	
	*					
		TONSA	2	607	FEMALE	
	*					
		TCNSA	1	83		IMMATURE
	*					
		PONTELLIDAE				
		LABIDOCERA	1	2		IMMATURE
	*					
DECAPODA						
BRACHYURA						
	*		1	2		ZOEAE
	*					
		CARIDEA	1	1		ZOEAE
	*					
		(SHRIMP)				
THORACICA						
	*					
	*		1	1		OTHER
BRYOZOA (ECTOPROCTA)						
	*					
	*					
	*					
	*		1	1		CYPHONAUTES
CHORDATA						
OSTEICHTHYS						
	*					
	*					
	*		1	3		LARVA
CHORDATA-UROCHORDATA						
ASCIDIACEA						
	*					
	*					
	*		1	10		LARVA
	*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76	STATION: M9	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ARTHROPODA						
CRUSTACEA						
AMPHIFODA-GAMMARIDEA						
*						
*		*	1	1		OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA		TCNSA	2	220	MALE	
*						
ACARTIA		TNSA	1	40		IMMATURE
*						
ACARTIA		TNSA	2	201	FEMALE	
*						
PONTHELLIDAE						
LABIDOCERA						
		TRISPINOSA	1	1		IMMATURE
COPEPODA-HARPACTICOIDA						
*						
*		*	1	1		OTHER
THORACICA						
*						
*		*	1	1		NAUPLIUS
(BARNACLE)						
BRYOZOA (ECTOPROCTA)						
*						
*		*	1	10		CYTHONAUTES
CHORDATA						
OSTEICHTHYS						
*						
*		*	1	1		LARVA
*		*	1	1		EGG
MOLLUSCA						
GASTROPODA						
*						
*		*	1	1		OTHER
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76	STATIONS: M10	MARINA DEL REY	POP	POP	SEX	MATURITY
ALICUOT: 132	REVOLUTIONS: 210	210	CODE	COUNT		
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	1		OTHER
ARTHROPODA						
CRUSTACEA						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	TONSA		1	45		IMMATURE
*						
ACARTIA	TONSA		2	670	FEMALE	
*						
ACARTIA	TONSA		2	167	MALE	
*						
DECAPODA						
CARIDEA						
*	*		1	2		ZOEAE
(SHRIMP)						
THORACICA						
*						
*	*		1	1		NAUPLIUS
(BARNACLE)						
BRYOZOA (ECTOPROCTA)						
*						
*						
*	*		1	10		CYPHONAUTES
*						
CHORDATA						
OSTEICHTHYS						
*						
*	*		1	1		EGG
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 8/19/76	STATION: M11	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*						
*	*		1	5		OTHER
ARTHROPODA						
CRUSTACEA						
AMPHIFODA-GAMMARIDEA						
*						
*		*	1	1		OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA						
		TONSA	2	150	MALE	
*						
ACARTIA						
		TONSA	1	45		IMMATURE
*						
ACARTIA						
		TONSA	1	36	FEMALE	
PONTELLIDAE						
LABIDOCERA						
		TRISPINOSA	1	1		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS						
		ANGLICUS	1	3	FEMALE	
*						
CORYCAEUS						
		ANGLICUS	1	1		IMMATURE
*						
CORYCAEUS						
		ANGLICUS	1	1	MALE	
COPEPODA-HARPACTICOIDA						
*						
*		*	1	1		OTHER
DECAPODA						
BRACHYURA						
*		*	1	1		ZOEAE
THORACICA						
*						
*		*	1	12		NAUPLIUS
(BARNACLE)						
CHORDATA						
OSTEICHTHYS						
*						
*		*	1	2		LARVA
*		*	1	1		EGG
CHORDATA-URGCHORDATA						
ASCIDIACEA						
*						
*		*	1	27		LARVA
CNIDARIA (COELENTERATA)						
HYDROZOA						
*						
*		*	1	1		MEDUSAE
MOLLUSCA						
GASTROPODA						
*						
*		*	1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76	STATION: M1	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQOUT: 18 REVOLUTIONS:	365		CODE	COUNT		
ANIMAL						
ANNELICA						
POLYCHAETA						
*						
*						
*	*		1	1		OTHER
*						
ARTHROPODA						
CRUSTACEA						
AMPHIPODA-CAPRELLIDEA						
*						
*	*		1	3		OTHER
*						
CLAODCERA						
*						
	EVADNE	NGROMANNI	1	14		OTHER
*						
	EVADNE	SPINIFERA	1	1		OTHER
*						
	PENILIA	AVIROSTRIS	2	101		OTHER
*						
	PCDON	POLYPHEMOIDES	1	5		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
	ACARTIA	CLAUSI	1	1		FEMALE
*						
	ACARTIA	TONSA	1	27		MALE
*						
	ACARTIA	TONSA	1	31		FEMALE
*						
	ACARTIA	TONSA	2	234		IMMATURE
*						
PARACALANIDAE						
	PARACALANUS	PARVUS	1	13		FEMALE
*						
	PARACALANUS	PARVUS	1	6		MALE
*						
	PARACALANUS	PARVUS	1	27		IMMATURE
*						
PONTELLIDAE						
	LABIDOCERA	TRISPINOSA	1	4		IMMATURE
*						
PSEUDOCALANIDAE						
	CLAUSOCALANUS	FURCATUS	1	1		FEMALE
*						
COPEPODA-CYCLOPOIDA						
CITHONIDAE						
	CITHONA	*	1	4		OTHER
*						
	CITHONA	PLUMIFERA	1	1		OTHER
*						
	DITHONA	SPINIROSTRIS	1	2		OTHER
*						
DECAPODA						
ANCURA						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76	STATION: M1	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQOUT:	18 REVOLUTIONS:	365	CODE	COUNT		
*	*	*	1	1		ZOEAE
BRACHYURA	*	*	1	1		ZOEAE
ISCPODA	*	*	1	1		OTHER
ASCHELMINTHES NEMATODA	*	*	1	1		OTHER
BRYOZOA (ECTOPROCTA)	*	*	1	1		OTHER
CHAETOGNATHA	*	*	1	9		CYPRICHAUTES
(ARCH-WORM) CHORDATA-LRGCHORDATA LARVACEA	*	*	1	3		OTHER
APPENDICULARIA	*	*	1	10		OTHER
CNIDARIA (COELENTERATA) HYDROZOA	*	*	1	8		MEDUSAE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M2 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 181

			POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ARTHROPODA						
CRUSTACEA						
AMPHIPODA-CAPRELLIDEA						
*		*	1	1		OTHER
*						
CLADOCERA						
*						
EVADNE	NORDMANNI		1	28		OTHER
*						
EVADNE	SPINIFERA		1	1		OTHER
*						
PENILIA	AVIROSTRIS		2	328		OTHER
*						
PODON	POLYPHEMOIDES		1	1		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIICAE						
ACARTIA	CLAUSI		1	1		FEMALE
*						
ACARTIA	CLAUSI		1	1		MALE
*						
ACARTIA	TONSA		1	5		MALE
*						
ACARTIA	TONSA		1	20		FEMALE
*						
ACARTIA	TONSA		1	40		IMMATURE
*						
PARACALANIDAE						
PARACALANUS	PARVUS		1	4		IMMATURE
*						
PARACALANUS	PARVUS		1	1		FEMALE
*						
PARACALANUS	PARVUS		1	3		MALE
*						
PONTELLIDAE						
LABIDOCERA	TRISPINDSA		1	1		MALE
*						
LABIDOCERA	TRISPINDSA		1	6		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
CORYCAEICAE						
CORYCAEUS	ANGLICUS		1	1		IMMATURE
*						
OITHONIDAE						
OITHONA	PLUMIFERA		1	1		OTHER
*						
DECAPODA						
ANCHURA	*		1	1		ZOEAE
*						
BRACHYURA	*		1	1		MEGALOPS
*						
THORACICA						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76	STATION: M3	MARINA DEL REY				
ALIOUQT: 18	REVOLUTIONS:	229	POP	POP	SEX	MATURITY
			CODE	COUNT		
ANIMAL						
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
	*					
	EVADNE	NORMANNI	1	1		OTHER
	*					
	PENILIA	AVIROSTRIS	1	2		OTHER
	*					
	PODON	POLYPHEGIDES	1	2		OTHER
	*					
COPEPODA-CALANCOIDA						
ACARTIIDAE						
	ACARTIA	CLAUSI	1	2	FEMALE	
	*					
	ACARTIA	TONSA	2	134	MALE	
	*					
	ACARTIA	TONSA	2	110	FEMALE	
	*					
	ACARTIA	TONSA	2	318		IMMATURE
	*					
PARACALANIDAE						
	PARACALANUS	PARVUS	1	6	MALE	
	*					
	PARACALANUS	PARVUS	1	13		IMMATURE
	*					
	PARACALANUS	PARVUS	1	1	FEMALE	
	*					
PONTILLIDAE						
	LABIDOCERA	TRISPINOSA	1	1		IMMATURE
	*					
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
	CORYCAEUS	ANGLICUS	1	1	FEMALE	
	*					
	CORYCAEUS	ANGLICUS	1	1		IMMATURE
	*					
	CORYCAEUS	ANGLICUS	1	1	MALE	
	*					
GITHONIDAE						
	GITHONA	SIMILIS	1	1		OTHER
	*					
ISOPODA						
	*					
	*		1	1		OTHER
	*					
THORACICA						
	*					
	*		1	2		CYPRIS
	(BARNACLE)					
CHAETOGNATHA						
	*					
	*					
	*		1	3		OTHER
	(ARROW-WORM)					
CHORDATA-UROCHORDATA						
ASCIDIACEA						
	*					
	*					
	*		1	3		LARVA
	*					
CNIDARIA (COELENTERATA)						
HYDROZEA						
	*					
	*					
	*		1	4		MEDUSAE
	*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M4 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 408

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
•					
•	PODON	POLYPHEMOIDES	1		OTHER
•					
COPEPODA-CALANOIDA					
ACARTIIDAE					
•	ACARTIA	TONSA	2	MALE	
•					
•	ACARTIA	TONSA	2	FEMALE	
•					
•	ACARTIA	TONSA	1		IMMATURE
•					
PARACALANIDAE					
•	PARACALANUS	PARVUS	1		IMMATURE
•					
•	PARACALANUS	PARVUS	1	FEMALE	
•					
PONTELLIDAE					
•	LABIDOCERA	TRISPINOSA	1	MALE	
•					
•	LABIDOCERA	TRISPINOSA	1		IMMATURE
•					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
•	CORYCAEUS	ANGLICUS	1		IMMATURE
•					
BRYOZOA (ECTOPARCTA)					
•					
•					
•					
•		*	1		CYPHONAUTES
•					
CHAETOGNATHA					
•					
•					
•					
•		*	1		OTHER
•					
(SARCOM-WORM)					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
•					
•					
•		*	1		LARVA
•					
CNIDARIA (COELENTERATA)					
HYDRICCA					
•					
•					
•		*	1		MEDUSAE
•					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M6 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 294

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1		IMMATURE
*					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	TONSA	2	402		IMMATURE
*					
ACARTIA	TONSA	2	214	MALE	
*					
ACARTIA	TONSA	2	251	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	FEMALE	
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*					
*	*	1	2		LARVA
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M7 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 201

	PDP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
COPEPODA-CALANOIDA				
ACARTIIDAE				
ACARTIA	CLAUSI	1		FEMALE
ACARTIA	CLAUSI	1		MALE
ACARTIA	TONSA	1		MALE
ACARTIA	TONSA	1		IMMATURE
ACARTIA	TONSA	2		FEMALE
COPEPODA-CYCLOPOIDA				
CORYCAEIDAE				
CORYCAEUS	ANGLICUS	1		FEMALE
CORYCAEUS	ANGLICUS	1		IMMATURE
CHAETOGNATHA				
(ARROW-WORM)	*	1		OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M8 MARINA DEL REY
 ALIQUOT: 14 REVOLUTIONS: 272

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*	*	1	3		OTHER
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
PODUM	POLYMEMOIDES	1	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	TONSA	2	434	FEMALE	
*					
ACARTIA	TONSA	1	56		IMMATURE
*					
ACARTIA	TONSA	2	233	MALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	2	FEMALE	
*					
CORYCAEUS	ANGLICUS	1	5	MALE	
*					
CHAETOGNATHA					
*					
*					
*					
*	*	1	1		OTHER
(ARROW-WORM)					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*	*	1	12		LARVA
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M9 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 222

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
CLADOCERA				
* PLODON	POLYPHEMOIDES	1		OTHER
* COPEPODA-CALANOIDA				
ACARTIACEA				
* ACARTIA	TONSA	2		IMMATURE
* ACARTIA	TONSA	2	MALE	
* ACARTIA	TONSA	2	FEMALE	
* COPEPODA-CYCLOPOIDA				
CORYCAEIDAE				
* CORYCAEUS	ANGLICUS	1		MALE
* COPEPODA-HARPACTICOIDA				
* *	*	1		OTHER
* *				
* ISOPODA				
* *	*	1		OTHER
* *				
* CHORDATA-UROCHORDATA				
ASCIDIACEA				
* *	*	1		LARVA
* *				
* CNIDARIA (COELENTERATA)				
HYDROZEA				
* *	*	1		MEDUSAE
* *				
* *				
* *				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M10 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 480

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	194	MALE	
*					
ACARTIA	TONSA	2	209	FEMALE	
*					
ACARTIA	TONSA	2	421		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	MALE	
*					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*					
*	*	1	14		LARVA
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/16/76 STATION: M11 MARINA DEL REY
 ALIQUOT: 14 REVOLUTIONS: 263

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*					
*	*	1	2		OTHER
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
*					
*	*	1	1		OTHER
CLADOCERA					
*					
*	PECON	POLYPHEMIDES	1	45	OTHER
COPEPODA-CALANCOIDA					
ACARTIIDAE					
*	ACARTIA	CLAUSI	1	1	MALE
*	ACARTIA	TONSA	2	203	IMMATURE
*	ACARTIA	TCNSA	2	164	FEMALE
*	ACARTIA	TONSA	2	235	MALE
PARACALANIDAE					
*	PARACALANUS	PARVUS	1	1	MALE
*	PARACALANUS	PARVUS	1	2	FEMALE
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
*	CORYCAEUS	ANGLICUS	1	1	IMMATURE
*	CORYCAEUS	ANGLICUS	1	2	MALE
THORACICA					
*					
*					
*	(BARNACLE)		1	1	NAUPLIUS

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M1 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 380

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
*		1	1		OTHER
*					
ARTHROPODA					
CRUSTACEA					
CLAODCERA					
*					
EVAONE	NORDMANNI	1	99		OTHER
*					
EVAONE	SPINIFERA	1	3		OTHER
*					
PENILIA	AVIROSTRIS	2	110		OTHER
*					
PODON	POLYPHEMOIDES	1	2		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	TONSA	1	77	MALE	
*					
ACARTIA	TONSA	1	60	FEMALE	
*					
ACARTIA	TONSA	2	172		IMMATURE
*					
CENTROPAGIDAE					
CENTROPAGES	BRADYI	1	1	FEMALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	56		IMMATURE
*					
PARACALANUS	PARVUS	1	21	MALE	
*					
PARACALANUS	PARVUS	1	32	FEMALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	2		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	FURCATUS	1	18	FEMALE	
*					
CLAUSOCALANUS	FURCATUS	1	3		IMMATURE
*					
CLAUSOCALANUS	FURCATUS	1	5	MALE	
*					
COPEPODA-CALIGOIDA					
*		1	1		OTHER
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	AMAZONICUS	1	1	FEMALE	

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76	STATION: M2	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQUT: 18	REVOLUTIONS:	268	CODE	COUNT		
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*		*	1	4		OTHER
ARTHROPODA						
CRUSTACEA						
CLAUDOCERA						
*						
EVADNE		NORMANNI	1	24		OTHER
*						
EVADNE		SPINIFERA	1	3		OTHER
*						
PENILIA		AVIROSTRIS	1	66		OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA		CLAUSI	1	2		FEMALE
*						
ACARTIA		TONSA	2	114		MALE
*						
ACARTIA		TONSA	1	64		FEMALE
*						
ACARTIA		TONSA	2	160		IMMATURE
PARACALANIDAE						
PARACALANUS		PARVUS	1	38		FEMALE
*						
PARACALANUS		PARVUS	1	20		MALE
*						
PARACALANUS		PARVUS	1	66		IMMATURE
PONTPELLIDAE						
LABIDOCERA		TRISPINOSA	1	4		IMMATURE
PSEUDOCALANIDAE						
CLAUSOCALANUS		FURCATUS	1	23		FEMALE
*						
CLAUSOCALANUS		FURCATUS	1	1		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS		ANGLICUS	1	6		FEMALE
*						
CORYCAEUS		ANGLICUS	1	10		MALE
*						
CORYCAEUS		ANGLICUS	1	14		IMMATURE
ASCHELMINTHES						
NEMATODA						
*						
*		*	1	4		OTHER
BRYOZOA(ECTOPROCTA)						
*						
*		*	1	22		CYPHONAUTES
CHAETOGNATHA						
*						
*		*	1	4		OTHER
(ARROW-WORM)						
CHORDATA-UROCHORDATA						
LARYACEA						
*						
APPENDICULARIA		*	1	18		OTHER
CNIDARIA (COELENTERATA)						
HYDROZOA						
*		*	1	14		MEDUSAE

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/75 STATION: M3 MARINA DEL REY
ALIQUOT: 12 REVOLUTIONS: 238

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
*	*	*	1		OTHER
CLADOCERA					
*	EVADNE	NORDMANNI	1		OTHER
*	PENILIA	AVIROSTRIS	1		OTHER
*	PUDDN	POLYPHEMOTOS	1		OTHER
COPEPODA-CALANOIDA					
ACARTIIDAE					
*	ACARTIA	CLAUSI	1		2 FEMALE
*	ACARTIA	CLAUSI	1		1 MALE
*	ACARTIA	TONSA	2		314 IMMATURE
*	ACARTIA	TONSA	2		133 MALE
*	ACARTIA	TONSA	1		76 FEMALE
PARACALANIDAE					
*	PARACALANUS	PARVUS	1		9 FEMALE
*	PARACALANUS	PARVUS	1		13 IMMATURE
*	PARACALANUS	PARVUS	1		5 MALE
PONTELLIDAE					
*	LABIDOCERA	TRISPINDSA	1		23 IMMATURE
PSEUDOCALANIDAE					
*	CLAUSOCALANUS	FURCATUS	1		3 FEMALE
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
*	CORYCAEUS	ANGLICUS	1		8 IMMATURE
*	CORYCAEUS	ANGLICUS	1		7 FEMALE
*	CORYCAEUS	ANGLICUS	1		2 MALE
COPEPODA-HARPACTICOIDA					
*	*	*	1		1 OTHER
DECAPODA					
BRACHYURA					
*	*	*	1		5 ZOEAE

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76	STATION: 43	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQUOT: 12	REVOLUTIONS:	238	CODE	COUNT		
CARIDEA	*		1	1		ZOEAE
* (SHRIMP)						
THORACICA	*		1	2		NAUPLIUS
* (BARNACLE)			1	1		CYPRIS
* (BARNACLE)						
BRYOZOA (ECTOPROCTA)	*		1	5		CYPRONAUTES
*						
*						
* CHAETOGNATHA						
*						
* (ARROW-WORM)			1	2		OTHER
CHORDATA	*					
* OSTEICHTHYS			1	6		LARVA
*			1	2		EGG
* CHORDATA-UROCHORDATA						
* ASCIDIACEA			1	2		OTHER
*						
* LARVACEA						
* APPENDICULARIA			1	1		OTHER
* CNIDARIA (COELENTERATA)						
* HYDROZOA			1	1		MEDUSAE
*						
*						

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76	STATION: M4	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALLOQUOT:	14 REVOLUTIONS:	252				
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	1		OTHER
ARTHROPODA						
CRUSTACEA						
AMPHIPODA-GAMMARIDEA						
*						
*	*		1	2		OTHER
CLADOCERA						
*						
EVADNE		MORMANNI	1	27		OTHER
*						
EVADNE		SPINIFERA	1	1		OTHER
*						
PENTILIA		AVIROSTRIS	1	16		OTHER
*						
PODON		POLYPHEMOIDES	1	8		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA		TONSA	2	103		IMMATURE
*						
ACARTIA		TONSA	1	74		FEMALE
*						
ACARTIA		TONSA	2	110		MALE
*						
PARACALANIDAE						
PARACALANUS		PARVUS	1	2		MALE
*						
PARACALANUS		PARVUS	1	1		FEMALE
*						
PARACALANUS		PARVUS	1	3		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS		ANGLICUS	1	1		MALE
*						
CORYCAEUS		ANGLICUS	1	5		IMMATURE
*						
COPEPODA-HARPACTICOIDA						
*						
*	*		1	2		OTHER
DECAPODA						
BRACHYURA						
*						
*	*		1	4		ZOEAE
THORACICA						
*						
*	*		1	18		NAUPLIUS
		(BARNACLE)				

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/75 STATION: M4 MARINA DEL REY
ALLOQUOT: 14 REVOLUTIONS: 262

	PDP CODE	PDP COUNT	SEX	MATURITY
BRYOZOA (ECTOPROCTA)				
CHAETOGNATHA	1	20		CYPHONAUTES
(ARROW-WORM)				
CHORDATA OSTEICHTHYS	1	1		OTHER
CHORDATA-UROCHORDATA ASCIDIACEA	1	1		LARVA
LARVACEA	1	36		LARVA
APPENDICULARIA	1	1		OTHER
CNIDARIA (COELENTERATA) HYDROZOA	1	3		MEDUSAE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/18/76 STATION: #5 MARINA DEL REY
ALIQUOT: 14 REVOLUTIONS: 222

			POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELIDA						
POLYCHAETA						
*		*	1	3		OTHER
ARTHROPODA						
CRUSTACEA						
AMPHIPODA-GAMMARIDEA						
*		*	1	1		OTHER
CLAODCEPA						
* EVADOME	NORDMANNI		1	1		OTHER
* PENILIA	AVIROSTRIS		1	1		OTHER
* POODON	POLYPHEMOTIDES		1	1		OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
* ACARTIA	TONGA		1	47	FEMALE	
* ACARTIA	TONGA		1	70	MALE	
* ACARTIA	TONGA		2	140		IMMATURE
PARACALANIDAE						
* PARACALANUS	PARVUS		1	2	MALE	
* PARACALANUS	PARVUS		1	3		IMMATURE
* PARACALANUS	PARVUS		1	1	FEMALE	
PONTELLIDAE						
* LABIDOCERA	TRISPINOSA		1	12		IMMATURE
PSEUDOCALANIDAE						
* CLAUSOCALANUS	FURCATUS		1	1	FEMALE	
TORTANIDAE						
* TORTANUS	DISCAUDATUS		1	2		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
* CORYCAEUS	ANGLICUS		1	7	MALE	
* CORYCAEUS	ANGLICUS		1	13		IMMATURE
* CORYCAEUS	ANGLICUS		1	1	FEMALE	
DECAPODA						
BRACHYURA						
*	*		1	3		ZOEAE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76	STATION: M5	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQOUT: 14	REVOLUTIONS: 222		CODE	COUNT		
THORACICA						
*		*	1	66		NAUPLIUS
(BARNACLE)						
BRYOZOA (ECTOPROCTA)						
*		*	1	6		CYPHONAUTES
*						
*						
*						
CHORDATA						
OSTEICHTHYS						
*		*	1	2		EGG
*		*	1	10		LARVA
*						
CHORDATA-UROCHORDATA						
ASCIDIACEA						
*		*	1	8		LARVA
*						
CNIDARIA (COELENTERATA)						
HYDROZOA						
*		*	1	9		MEDUSAE
*						
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M6 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 322

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*	*	1	1		OTHER
*					
ARTHROPODA					
CRUSTACEA					
CLAODCERA					
*					
EVAONE	NORMANNE	1	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUS I	1	2	MALE	
*					
ACARTIA	TONSA	2	325	MALE	
*					
ACARTIA	TONSA	2	302	FEMALE	
*					
ACARTIA	TONSA	2	251		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1		IMMATURE
*					
CORYCAEUS	ANGLICUS	1	1	MALE	
*					
COPEPODA-HARPACTICOIDA					
*					
*	*	1	1		OTHER
BRYOZOA (ECTOPROCTA)					
*					
*					
*	*	1	2		CYPHONAUTES
*					
CHAETOGNATHA					
*					
*					
*	*	1	1		OTHER
*					
(ARROW-WORM)					
CHORDATA-JROCHORDATA					
ASCIDIACEA					
*					
*	*	1	46		LARVA
*					
CNIDARIA (COELENTERATA)					
HYDROZOA					
*					
*	*	1	1		MEDUSAE
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M7 MARINA DEL REY
 ALIQUOT: 1128 REVOLUTIONS: 525

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
*					
*	*	1	1		OTHER
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUST	1	1	MALE	
*					
ACARTIA	TONSA	2	233	MALE	
*					
ACARTIA	TONSA	2	311	FEMALE	
*					
ACARTIA	TONSA	2	333		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	2	MALE	
*					
THORACICA					
*					
*	*	1	15		NAUPLIUS
(BARNACLE)					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*	*	1	1		LARVA
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: MR MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 278

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
*	*	1	1		OTHER
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	106		IMMATURE
ACARTIA	TONSA	2	178	MALE	
ACARTIA	TONSA	2	479	FEMALE	
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
PARACALANUS	PARVUS	1	1		IMMATURE
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1		IMMATURE
CORYCAEUS	ANGLICUS	1	1	MALE	
THORACICA					
(BARNACLE)	*	1	2		NAUPLIUS
BRYOZOA (ECTOPROCTA)					
*	*	1	1		CYPHONAUTES
CHORDATA-UROCHORDATA					
ASCIDIACEA	*	1	1		LARVA

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M10 MARINA DEL REY
ALIQOUT: 132 REVOLUTIONS: 225POP
CODE POP
COUNT SEX MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TONSA

2

310

MALE

*

ACARTIA

TONSA

2

370

FEMALE

*

ACARTIA

TONSA

2

126

IMMATURE

*

COPEPODA-CYCLOPOIDA

CORYCAEIDAE

CORYCAEUS

ANGLICUS

1

1

FEMALE

*

CHORDATA-URCHORDATA

ASCIDIACEA

*

*

*

*

1

10

LARVA

*

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/75 STATION: M11 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 387

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*	*		1		OTHER
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	171	MALE	
*					
ACARTIA	TONSA	1	72	FEMALE	
*					
ACARTIA	TONSA	2	279		IMMATURE
PARACALANIDAE					
PARACALANUS	PARVUS	1	1		IMMATURE
*					
PARACALANUS	PARVUS	1	1	FEMALE	
POTELLIDAE					
LABIDOCERA	TRISPINOSA	1	4		IMMATURE
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	16	MALE	
*					
CORYCAEUS	ANGLICUS	1	3	FEMALE	
*					
CORYCAEUS	ANGLICUS	1	5		IMMATURE
DECAPODA					
BRACHYURA					
*					
*	*		1		ZOEAE
THORACICA					
*					
*	*		1		NAUPLIUS
(BARNACLE)					
CHORDATA					
OSTEICHTHYS					
*					
*	*		1		LARVA
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*	*		1		LARVA
23					
CNIDARIA (COELENTERATA)					
HYDROZOA					
*					
*	*		1		MEDUSAE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: 91 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 490

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
CLAJDCERA				
* EVADNE	NORMANNI	2		OTHER
* EVADNE	SPINIFERA	1		OTHER
* PENELIA	AVIROSTRIS	1		OTHER
* PODOON	POLYPHECIDES	1		OTHER
COPEPODA-CALANOIDA				
ACARTIIDAE				
* ACARTIA	TONSA	2		IMMATURE
* ACARTIA	TONSA	1		MALE
* ACARTIA	TONSA	1		FEMALE
CALANIDAE				
* CALANUS	TENUICORNIS	1		FEMALE
PARACALANIDAE				
* PARACALANUS	PARVUS	1		IMMATURE
* PARACALANUS	PARVUS	1		FEMALE
* PARACALANUS	PARVUS	1		MALE
PONTELLIDAE				
LABIDOCERA	TRISPINOSA	1		IMMATURE
PSEUDOCALANIDAE				
* CLAUSOCALANUS	FURCATUS	1		FEMALE
* CLAUSOCALANUS	FURCATUS	1		MALE
* CLAUSOCALANUS	LIVIDUS	1		FEMALE
COPEPODA-CYCLOPOIDA				
CORYCAEIDAE				
* CORYCAEUS	ANGLICUS	1		IMMATURE
OITHONIDAE				
* OITHONA	SPINIROSTRIS	1		OTHER
THORACICA				
* (BARNACLE)	*	1		NAUPLIUS
BRYOZOA(ECTOPROCTA)				
*				
*				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: 41 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 480

	POP CODE	POP COUNT	SEX	MATURITY
CHAETOGNATHA	1	2		CYPRONAUTES
(ARROW-WORM)	1	1		OTHER
CHORDATA-URINCHORDATA				
ASCIDIACEA				
LARVACEA	1	2		LARVA
APPENDICULARIA	1	19		OTHER
THALASSEA				
DOLIOLUM	1	55		OTHER
CNIDARIA (COELENTERATA)				
HYDROZOA	1	13		MEDUSAE

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: M2 MARINA DEL REY
ALIQUDT: 132 REVOLUTIONS: 262

		POP CODE	POP COUNT	SEX	MATURITY

ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
*	*	1	1		OTHER
*					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
EVADNE	NORDMANNI	1	80		OTHER
*					
EVADNE	SPINIFERA	1	4		OTHER
*					
PENILIA	AVIROSTRIS	1	66		OTHER
*					
PODON	POLYPHEMIDES	1	10		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	4	FEMALE	
*					
ACARTIA	TONSA	2	229		IMMATURE
*					
ACARTIA	TONSA	1	93	MALE	
*					
ACARTIA	TONSA	2	119	FEMALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	2	MALE	
*					
PARACALANUS	PARVUS	1	10		IMMATURE
*					
PARACALANUS	PARVUS	1	5	FEMALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	3		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	FURCATUS	1	2	FEMALE	
*					
CLAUSOCALANUS	FURCATUS	1	1		IMMATURE
*					
CLAUSOCALANUS	FURCATUS	1	1	MALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAETIDAE					
CORYCAEUS	AMAZONICUS	1	1	MALE	
*					
CORYCAEUS	ANGLICUS	1	2		IMMATURE
*					
THORACICA					
*					
*	*	1	4		NAUPLIUS
(BARNACLE)					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: M3 MARINA DEL REY
 ALIQUOT: 19 REVOLUTIONS: 250

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
CLADOCERA				
* EVADNE	NORDMANNI	1		OTHER
* EVADNE	SPINIFERA	1		OTHER
* PENILIA	AVIROSTRIS	1		OTHER
* PUDON	POLYPHECIDES	1		OTHER
COPEPODA-CALANOIDA				
ACARTIIDAE				
ACARTIA	TONSA	1		FEMALE
* ACARTIA	TONSA	2		IMMATURE
* ACARTIA	TONSA	1		MALE
PARACALANIDAE				
PARACALANUS	PARVUS	1		MALE
* PARACALANUS	PARVUS	1		IMMATURE
* PARACALANUS	PARVUS	1		FEMALE
PSEUDOCALANIDAE				
CLAUSOCALANUS	FARRANTI	1		FEMALE
* CLAUSOCALANUS	FURCATUS	1		FEMALE
TORTANIDAE				
TORTANUS	DISCAUDATUS	1		MALE
* TORTANUS	DISCAUDATUS	1		IMMATURE
COPEPODA-CYCLOPOIDA				
CORYCAEIDAE				
CORYCAEUS	AMAZONICUS	1		MALE
* CORYCAEUS	ANGLICUS	1		IMMATURE
OITHONIDAE				
OITHONA	OCULATA	1		OTHER
ONCAEIDAE				
ONCAEA	MEDITERRANEA	1		MALE
DECAPODA				
BRACHYURA		1		ZOEA
THORACICA				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76	STATION: 43	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQOUT:	18 REVOLUTIONS:	250	CODE	COUNT		
*	*	*	1	2		CYPRIS
(BARNACLE)						
*	*	*	1	1		NAUPLIUS
(BARNACLE)						
BRYOZOA(LECTOPROCTA)						
*	*	*	1	2		CYPRONAUTES
CHAETOGNATHA						
*	*	*	1	12		OTHER
(ARROW-WORM)						
CHORDATA-JROCHORDATA						
LARVACEA						
*	*	*	1	4		OTHER
APPENDICULARIA						
THALIACEA						
*	*	*	1	9		OTHER
DOLIOLUM						
CNIDARIA (COELENTERATA)						
HYDROZOA						
*	*	*	1	2		MEDUSAE
MOLLUSCA						
GASTROPODA						
*	*	*	1	2		LARVA
*	*	*				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: 48 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 260

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
	EVAONE	NORDMANNI	1	3	OTHER
*					
	PENILIA	AVIROSTRIS	1	1	OTHER
*					
	PODON	POLYPHEMIDES	1	7	OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
	ACARTIA	CLAUSI	1	1	MALE
*					
	ACARTIA	CLAUSI	1	6	FEMALE
*					
	ACARTIA	TONSA	2	230	FEMALE
*					
	ACARTIA	TONSA	2	174	IMMATURE
*					
	ACARTIA	TONSA	2	334	MALE
*					
PARACALANIDAE					
	PARACALANUS	PARVUS	1	1	IMMATURE
*					
	PARACALANUS	PARVUS	1	2	FEMALE
*					
TORTANIDAE					
	TORTANUS	DISCAUDATUS	1	1	IMMATURE
*					
THORACICA					
*			1	2	NAUPLIUS
*					
	(BARNACLE)				
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*			1	1	LARVA
*					
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: M5 MARINA DEL REY
ALIQUOT: 115 REVOLUTIONS: 370

		POP CODE	POP COUNT	SEX	NATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*	*	1	2		OTHER
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
EVAONE	NORMANNI	1	3		OTHER
*					
PODON	POLYPHEMOIDES	1	33		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	TONSA	2	167	MALE	
*					
ACARTIA	TONSA	2	107	FEMALE	
*					
ACARTIA	TONSA	2	250		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
PARACALANUS	PARVUS	1	1	MALE	
*					
PARACALANUS	PARVUS	1	2		IMMATURE
*					
TORTANIDAE					
TORTANUS	DISCAUDATUS	1	1		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1		IMMATURE
*					
CORYCAEUS	ANGLICUS	1	1	MALE	
*					
THORACICA					
*					
*					
(BARNACLE)	*	1	1		NAUPLIUS
CHAE TOGNATHA					
*					
*					
*					
(ARROW-WORM)	*	1	1		OTHER
CHORDATA					
OSTEICHTHYS					
*					
*					
*	*	1	1		LARVA
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*	*	1	2		LARVA
*					
CNIDARIA (COELENTERATA)					
HYDROZOA					
*					
*	*	1	1		MEDUSAE
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: #7 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 140

POP
CODE

POP
COUNT

SEX

MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA CLAUSI 1 1 FEMALE

*

ACARTIA TONSA 2 157 MALE

*

ACARTIA TONSA 2 215 IMMATURE

*

ACARTIA TONSA 1 54 FEMALE

*

TORTANIDAE

TORTANUS DISCAUDATUS 1 2 IMMATURE

*

CHORDATA-JRCHORDATA

ASCIDIACEA

*

*

*

*

1 1 LARVA

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: M8 MARINA DEL REY
ALIQOT: 116 REVOLUTIONS: 297

		POP CODE	POP COUNT	SEX	MATURITY

ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
*					
*	*	1	1		OTHER
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
PENILIA	AVIROSTRIS	1	1		OTHER
*					
PODON	POLYPHEMIDES	1	2		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	153		IMMATURE
*					
ACARTIA	TONSA	2	126	MALE	
*					
ACARTIA	TONSA	2	258	FEMALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
CHORDATA-URCHORDATA					
ASCIDIACEA					
*					
*	*	1	1		LARVA
*					

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: M9 MARINA DEL REY
ALIQUDT: 132 REVOLUTIONS: 234

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPDA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	MALE	
*					
ACARTIA	CLAUSI	1	3	FEMALE	
*					
ACARTIA	TONSA	2	194	FEMALE	
*					
ACARTIA	TONSA	2	182	MALE	
*					
ACARTIA	TONSA	2	177		INNATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
ISOPODA					
*					
*	*	1	1		OTHER
*					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*					
*	*	1	1		LARVA
*					

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: MID MARINA DEL REY
ALIQOUT: 1128 REVOLUTIONS: 332

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
PODUM	POLYPHEMOIDES	1	2		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	172		IMMATURE
*					
ACARTIA	TONSA	2	369	MALE	
*					
ACARTIA	TONSA	2	378	FEMALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
CHORDATA-UROCHORDATA					
ASCIDIACEA					
*					
*	*	1	3		LARVA
*					

MISSING DATA VALUE IS -1.0

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 11/19/76 STATION: M11 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 266

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
PODON	POLYPHOIDES	1	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	161	MALE	
*					
ACARTIA	TONSA	1	51	FEMALE	
*					
ACARTIA	TONSA	2	292		IMMATURE
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M1 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 111

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
•					
•	EVADNE	NORDHANNI	1		OTHER
•	EVADNE	SPINIFERA	1		OTHER
•					
COPEPODA-CALANOIDA					
ACARTIIDAE					
•	ACARTIA	TONSA	2		IMMATURE
•	ACARTIA	TONSA	1	FEMALE	
•	ACARTIA	TONSA	2	MALE	
•					
PARACALANIDAE					
•	PARACALANUS	PARVUS	1	MALE	
•	PARACALANUS	PARVUS	1		IMMATURE
•	PARACALANUS	PARVUS	1	FEMALE	
•					
PONTELLIDAE					
•	LABIDOCERA	TRISPINOSA	1		IMMATURE
•					
PSEUDOCALANIDAE					
•	CLAUSCCALANUS	FURCATUS	1	FEMALE	
•					
TORTANIDAE					
•	TORTANUS	DISCAUDATUS	1	MALE	
•					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
•	CORYCAEUS	ANGLICUS	1	MALE	
•	CORYCAEUS	ANGLICUS	1	FEMALE	
•	CORYCAEUS	ANGLICUS	1		IMMATURE
•					
OITHONIDAE					
•	OITHONA	OCULATA	1		OTHER
•					
THORACICA					
•					
•	(BARNACLE)		1		NAUPLIUS
•					
BRYOZOA(ECTOPROCTA)					
•					
•					
•			1		CYPRONAUTES
•					
CHORDATA					
OSTEICHTHYS					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: #2 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 190

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*					
*					
*					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
EVADNE	NORDMANNI	1	2		OTHER
*					
EVADNE	SPINIFERA	1	3		OTHER
*					
PENILIA	AVIROSTRIS	1	6		OTHER
*					
PODON	POLYPHEMOIDES	1	2		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	2	FEMALE	
*					
ACARTIA	TONSA	2	200		IMMATURE
*					
ACARTIA	TONSA	1	78	FEMALE	
*					
ACARTIA	TONSA	2	172	MALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	3	MALE	
*					
PARACALANUS	PARVUS	1	13	FEMALE	
*					
PARACALANUS	PARVUS	1	16		IMMATURE
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	19		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	*	1	1		IMMATURE
*					
CLAUSOCALANUS	FURCATUS	1	5	FEMALE	
*					
TORTANIDAE					
TORTANUS	DISCAUDATUS	1	2	MALE	
*					
TORTANUS	DISCAUDATUS	1	1		IMMATURE
*					
TORTANUS	DISCAUDATUS	1	1	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	5	MALE	
*					
CORYCAEUS	ANGLICUS	1	1		IMMATURE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M2 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 190

		POP CODE	POP COUNT	SEX	MATURITY
* CORYCAEUS	ANGLICUS	1	1	FEMALE	
* DITHONIDAE DITHONA	OCULATA	1	8		OTHER
* DECAPODA BRACHYURA	*	1	1		ZOEA
* THORACICA	*	1	3		NAUPLIUS
* (BARNACLE) BRYOZOA (ECTOPROCTA)	*	1	8		CYPRICHAUTES
* CHORDATA-URGCHORDATA LARVACEA	*	1	32		OTHER
* APPENDICULARIA	*	1	19		OTHER
* TMALIACEA	*	1	20		MEDUSAE
* OCLIOLUM	*	1	1		LARVA
* CNIDARIA (COELENTERATA) HYDROZOA	*	1	1		LARVA
* MOLLUSCA GASTROPODA	*	1	1		LARVA
* PELECYFODA	*	1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76	STATION: M3	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIQUOT: 132 REVOLUTIONS:	100					
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	2		OTHER
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
*						
EVADNE	NORMANNI		1	14		OTHER
*						
EVADNE	SPINIFERA		1	4		OTHER
*						
PENILIA	AVIROSTRIS		1	4		OTHER
*						
PCDON	POLYPHEMIDES		1	2		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	CLAUSI		1	4	MALE	
*						
ACARTIA	TONSA		1	16	FEMALE	
*						
ACARTIA	TONSA		1	48	MALE	
*						
ACARTIA	TONSA		2	131		IMMATURE
PARACALANIDAE						
PARACALANUS	PARVUS		1	10		IMMATURE
*						
PARACALANUS	PARVUS		1	13	FEMALE	
*						
PARACALANUS	PARVUS		1	12	MALE	
PONTELLIDAE						
LABIOCERA	TRISPINOSA		1	3		IMMATURE
PSEUDOCALANIDAE						
CLAUSOCALANUS	ARCUICORNIS		1	2	FEMALE	
*						
CLAUSOCALANUS	ARCUICORNIS		1	2	MALE	
*						
CLAUSOCALANUS	FURCATUS		1	4	FEMALE	
*						
CLAUSOCALANUS	MASTIGOPHORUS		1	1		IMMATURE
*						
CLAUSOCALANUS	MASTIGOPHORUS		1	1	FEMALE	
TORTANIDAE						
TORTANUS	DISCAUDATUS		1	1	MALE	
DECAPODA						
BRACHYURA						
*	*		1	2		IDEA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76	STATION: M3	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
BRYOZOA (ECTOPROCTA)						
		*	1	5		CYPHONAUTES
CHAETOGNATHA						
		*	1	2		OTHER
(ARROW-WORM)						
CHORDATA						
OSTEICHTHYS						
		*	1	2		EGG
CHORDATA-URDCHORDATA						
LARYACEA						
		*	1	31		OTHER
APPENDICULARIA						
THALIACEA						
		*	1	17		OTHER
DOLIOLID						
CNIDARIA (COELENTERATA)						
HYDROZOA						
		*	1	11		MEDUSAE
SIPHONOPHORA						
		*	1	1		OTHER
MOLLUSCA						
PELECYPODA						
		*	1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M4 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 160

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
*					
*					
*	*				
*					
CLADOCERA					
*					
EYADNE	NORDMANNI	1	1		OTHER
*					
EYADNE	SPINIFERA	1	1		OTHER
*					
PENILIA	AVIROSTRIS	1	4		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	TONSA	2	104	FEMALE	
*					
ACARTIA	TONSA	2	124	MALE	
*					
ACARTIA	TONSA	1	67		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	7		IMMATURE
*					
PARACALANUS	PARVUS	1	7	FEMALE	
*					
PARACALANUS	PARVUS	1	2	MALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	8		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	FURCATUS	1	1	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1		IMMATURE
*					
COPEPODA-MARPACTICOIDA					
TACHIDIIDAE					
EUTERPINA	ACUTIFRONS	1	1		OTHER
*					
THORACICA					
*					
*	*				
(BARNACLE)		1	1		NAUPLIUS
BRYOZOA (CTOPROCTA)					
*					
*					
*	*				
*					
CHORDATA-URCHORDATA					
LARVACEA					
*					
APPENDICULARIA	*	1	2		OTHER
*					
THALIAACEA					
*					
DOLIOLUM	*	1	1		OTHER
*					
CNIDARIA (COELENTERATA)					
HYDROZOA					
*					
*	*	1	1		NEOUSAE
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76	STATION: MS	HARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*		*	1	1		OTHER
ARTHROPODA						
CRUSTACEA						
CLAODGCERA						
*						
EVADNE		NORMANNI	1	2		OTHER
*						
PENILIA		AVIROSTRIS	1	1		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA		TENSA	2	114		IMMATURE
*						
ACARTIA		TENSA	2	191	MALE	
*						
ACARTIA		TENSA	2	198	FEMALE	
*						
PARACALANIDAE						
PARACALANUS		PARVUS	1	5		IMMATURE
*						
PARACALANUS		PARVUS	1	9	FEMALE	
*						
PONTELLIDAE						
LABIDOCERA		TRISPINOSA	1	11		IMMATURE
*						
LABIDOCERA		TRISPINOSA	1	1	MALE	
*						
COPEPODA-CYCLOPOIDA						
DITHONIDAE						
CITHONA		SINILIS	1	1		OTHER
*						
CHORDATA-UROCHORDATA						
LARYACEA						
*						
APPENDICULARIA		*	1	1		OTHER
*						
THALIACEA						
*						
DOLIDUM		*	1	3		OTHER
*						
CNIDARIA (COELENTERATA)						
HYDROZOA						
*						
*		*	1	2		MEDUSAE
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M6 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 300

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
	EVADNE	NORDMANNI	1	4	OTHER
*					
	PENILIA	AVIROSTRIS	1	4	OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
	ACARTIA	TONSA	2	131	MALE
*					
	ACARTIA	TONSA	2	205	IMMATURE
*					
	ACARTIA	TONSA	2	179	FEMALE
*					
PARACALANIDAE					
	PARACALANUS	PARVUS	1	1	FEMALE
*					
	PARACALANUS	PARVUS	1	2	IMMATURE
*					
	PARACALANUS	PARVUS	1	2	MALE
*					
PONTELLIDAE					
	LABIDOCERA	TRISPINOSA	1	5	IMMATURE
*					
THORACICA					
*					
	(BARNACLE)	*	1	1	NAUPLIUS
CHORDATA-URCHORDATA					
LARVACEA					
*					
	APPENDICULARIA	*	1	1	OTHER
*					
THALIACEA					
*					
	OCLICLUM	*	1	1	OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M7 MARINA DEL REY
 ALIQUOT: 1128 REVOLUTIONS: 110

			POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
*						
	EVADNE	NORDMANNI	1	1		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
	ACARTIA	TONSA	2	294	MALE	
*						
	ACARTIA	TONSA	2	278		IMMATURE
*						
	ACARTIA	TONSA	2	167	FEMALE	
*						
PONTELLIDAE						
	LABIDOCERA	TRISPINDSA	1	1		IMMATURE
*						
ISOPODA						
*						
*		*	1	1		OTHER
*						
CNIDARIA (COELENTERATA)						
HYDROZOA						
*						
*		*	1	2		MECUSAE
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M5 MARINA DEL REY
 ALIQUOT: 1512 REVOLUTIONS: 238

		PDP CODE	PDP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
EVADNE	SPINIFERA	1	1		OTHER
*					
PENILIA	AVIROSTRIS	1	2		OTHER
*					
COPEPODA-CALANCOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	322	MALE	
*					
ACARTIA	TONSA	2	121	FEMALE	
*					
ACARTIA	TONSA	2	310		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	2	FEMALE	
*					
CHORDATA-UROCHORDATA					
THALIACEA					
*					
*					
OCLIDUM	*	1	2		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76	STATION: M9	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIQUCT: 1128 REVOLUTIONS: 265						
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	1		OTHER
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
*						
EVADNE	SPINIFERA		1	1		OTHER
*						
FENILIA	AVIROSTRIS		1	1		OTHER
*						
COPEPODA-CALANDICIA						
ACARTIIDAE						
ACARTIA	TONSA		2	201	MALE	
*						
ACARTIA	TONSA		2	214		IMMATURE
*						
ACARTIA	TONSA		2	163	FEMALE	
*						
DECAPODA						
BRACHYURA						
*	*		1	1		ZOEAE
*						
ISOPODA						
*						
*	*		1	1		OTHER
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M10 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 332

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLAODCERA					
*					
	EVADNE	NORDMANNI	1		OTHER
*					
	PENILIA	AVIROSTRIS	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIICAE					
	ACARTIA	CLAUSI	1	1	FEMALE
*					
	ACARTIA	TONSA	2	292	FEMALE
*					
	ACARTIA	TONSA	2	290	IMMATURE
*					
	ACARTIA	TONSA	2	220	MALE
*					
PARACALANIDAE					
	PARACALANUS	PARVUS	1	1	IMMATURE
*					
	PARACALANUS	PARVUS	1	1	FEMALE
*					
CHORDATA-UROCHORDATA					
THALIACEA					
*					
	DOLIOLUM	*	1	1	OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M11 MARINA DEL REY
 ALIQUOT: 1120 REVOLUTIONS: 160

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TGNSA	2	326	MALE	
•					
ACARTIA	TONSA	2	270		IMMATURE
•					
ACARTIA	TONSA	2	204	FEMALE	
•					
PARACALANIDAE					
PARACALANUS	PARVUS	1	3		IMMATURE
•					
PARACALANUS	PARVUS	1	1	FEMALE	
•					
COPEPODA-MARPACTICOIDA					
TACHIDIIDAE					
ELTERPINA	ACUTIFRONS	1	1		OTHER
•					
ISOPODA					
•					
•	*	1	1		OTHER
•					
CHORDATA					
OSTEICHTHYS					
•					
•	*	1	1		LARVA
•					
CNIDARIA (COELENTERATA)					
HYDROZEA					
•					
•	*	1	1		MEDUSAE
•					
•					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M1 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 163

			POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*		*	1	4		OTHER
ARTHROPODA						
CRUSTACEA						
*						
*						
*		*	1	1		NAUPLIUS
(COPEPOD)						
CLADOCERA						
*						
*	EVAONE	NORDMANNI	1	4		OTHER
*	EVAONE	SPINIFERA	1	3		OTHER
*	PENILIA	AVIROSTRIS	1	5		OTHER
COPEPODA-CALANICIDA						
ACARTIIDAE						
*	ACARTIA	CLAUSI	1	1	MALE	
*	ACARTIA	TONSA	2	239		IMMATURE
*	ACARTIA	TONSA	1	57	MALE	
*	ACARTIA	TONSA	1	46	FEMALE	
EUCALANICAE						
*	EUCALANUS	CRASSUS	1	1	FEMALE	
PARACALANIDAE						
*	PARACALANUS	PARVUS	1	78	FEMALE	
*	PARACALANUS	PARVUS	1	20	MALE	
*	PARACALANUS	PARVUS	1	70		IMMATURE
PONTELLIDAE						
*	LABIDOCERA	TRISPINOSA	1	25		IMMATURE
PSEUDOCALANIDAE						
*	CLAUSCCALANUS	ARCUICORNIS	1	1	MALE	
*	CLAUSCCALANUS	FURCATUS	1	1	MALE	
*	CLAUSCCALANUS	FURCATUS	1	6	FEMALE	
TORTANIDAE						
*	TORTANUS	DISCAUDATUS	1	1		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M1 MARINA DEL REY POP SEX MATURITY
 ALIQUOT: 132 REVOLUTIONS: 163 CODE CCUNT

ANIMAL	POP CODE	POP CCUNT	SEX	MATURITY
ECHINODERMATA				
OPHIURCIDEA				
*				
*				
*				
*				
*				
MOLLUSCA				
GASTROPODA				
*				
*				
*				
*				
PELECYPODA				
*				
*				
*				
*				
*				
	1	3		OPHICPLUTEUS
	1	5		LARVA
	1	14		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M2 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 137

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*					
*					
	*	1	2		OTHER
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
EVAONE	NORDMANNI	1	2		OTHER
*					
EVAONE	SPINIFERA	1	15		OTHER
*					
PENILIA	AVIROSTRIS	1	4		OTHER
*					
PODON	POLYPHEMOIDES	1	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	154		IMMATURE
*					
ACARTIA	TONSA	1	31	MALE	
*					
ACARTIA	TONSA	1	30	FEMALE	
*					
CANDACIIDAE					
CANDACIA	*	1	1		IMMATURE
*					
EUCALANIDAE					
EUCALANUS	CRASSUS	1	1	FEMALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	11	MALE	
*					
PARACALANUS	PARVUS	1	96		IMMATURE
*					
PARACALANUS	PARVUS	1	92	FEMALE	
*					
PONTELLICAE					
LABIDOCERA	TRISPINOSA	1	17		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	*	1	3		IMMATURE
*					
CLAUSOCALANUS	ARCUICORNIS	1	2	MALE	
*					
CLAUSOCALANUS	FURCATUS	1	5	FEMALE	
*					
CLAUSOCALANUS	FURCATUS	1	4	MALE	
*					
CLAUSOCALANUS	FURCATUS	1	2		IMMATURE
*					
CLAUSOCALANUS	HASTIGOPHORUS	1	1	FEMALE	
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M2 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 137

			POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
CNIDARIA (COELENTERATA)						
HYDROZOA						
SIPHONOPHORA						
	*	*	1	10		OTHER
ECHINODERMATA						
ECHINOIDEA						
	*	*	1	1		ECHINOPLUTEUS
		(SEA-URCHIN)				
OPHIUROIDEA						
	*	*	1	5		OPHIOPLUTEUS
MOLLUSCA						
GASTROPODA						
	*	*	1	2		LARVA
PELECYPODA						
	*	*	1	5		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M3 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 158

			POP CODE	POP COUNT	SEX	NATURITY
ANIMAL						
ANNELEIDA						
POLYCHAETA						
*						
*						
*						
*						
*						
ARTHROPODA						
CRUSTACEA						
*						
*						
*						
CLADOCERA						
*						
EVADNE	NORDHAMMI		1	1		OTHER
*						
EVADNE	SPINIFERA		1	3		OTHER
*						
PENILIA	AVIROSTRIS		1	1		OTHER
*						
PODON	POLYPHEMOIDES		1	4		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	CLAUSI		1	1	FEMALE	
*						
ACARTIA	TONSA		2	120		IMMATURE
*						
ACARTIA	TONSA		1	26	FEMALE	
*						
ACARTIA	TONSA		1	19	MALE	
*						
PARACALANIDAE						
PARACALANUS	PARVUS		1	17	MALE	
*						
PARACALANUS	PARVUS		2	106	FEMALE	
*						
PARACALANUS	PARVUS		1	65		IMMATURE
*						
PONTELLIDAE						
LABIDOCERA	TRISPINOSA		1	19		IMMATURE
*						
PSEUDOCALANIDAE						
CLAUSOCALANUS	FURCATUS		1	1	MALE	
*						
CLAUSOCALANUS	FURCATUS		1	1	FEMALE	
*						
TORTANIDAE						
TORTANUS	DISCAUDATUS		1	2		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS	AMAZONICUS		1	1	FEMALE	
*						
CORYCAEUS	ANGLICUS		1	1	FEMALE	

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M3 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 158

		POP CODE	POP COUNT	SEX	MATURITY
* CORYCAEUS	ANGLICUS	1	0		IMMATURE
* CORYCAEUS	ANGLICUS	1	2	MALE	
* DITHONIDAE					
* DITHONA	PLUMIFERA	1	1		OTHER
* DITHONA	SIMILIS	1	1		OTHER
* DECAPODA					
* BRACHYURA		1	1		ZOEAE
* THORACICA					
* (BARNACLE)		1	13		NAUPLIUS
* BRYOZOA (ECTOPROCTA)					
* CHAETOGNATHA		1	4		CYPRINAUTES
* (ARROW-WORM)					
* CHORDATA		1	5		OTHER
* OSTEICHTHYS					
* CHORDATA-UROCHORDATA		1	1		LARVA
* LARVACEA					
* APPENDICULARIA		1	50		OTHER
* THALIACEA					
* DOLIOLUM		1	4		OTHER
* CNIDARIA (COELENTERATA)					
* HYDROZOA					
* SIPHONOPHORA		1	1		OTHER
* MOLLUSCA					
* GASTROPODA		1	4		LARVA
* PELECIPODA					
* PELECIPODA		1	13		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77	STATION: M6	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELICA						
POLYCHAETA						
*						
*						
*		*	1	1		OTHER
ARTHROPODA						
CRUSTACEA						
*						
*						
*		*	1	2		NAUPLIUS
(COPEPOD)						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA						
		CLAUSI	1	1	MALE	
*						
ACARTIA						
		CLAUSI	1	1	FEMALE	
*						
ACARTIA						
		TONSA	2	177		IMMATURE
*						
ACARTIA						
		TCNSA	2	219	FEMALE	
*						
ACARTIA						
		TONSA	2	164	MALE	
PARACALANIDAE						
PARACALANUS						
		PARVUS	1	19	FEMALE	
*						
PARACALANUS						
		PARVUS	1	13		IMMATURE
*						
PARACALANUS						
		PARVUS	1	2	MALE	
PONTELLIDAE						
LABIDOCERA						
		TRISPINOSA	1	3		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
CORYCAEICAE						
CORYCAEUS						
		*	1	1		IMMATURE
*						
CORYCAEUS						
		ANGLICUS	1	1	MALE	
COPEPODA-HARPACTICOIDA						
*						
*		*	1	1		OTHER
DECAPODA						
BRACHYURA						
*		*	1	1		ZOEAE
*						
CARIDEA						
		*	1	1		ZOEAE
(SHRIMP)						
ISOPODA						
*		*	1	2		OTHER
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77	STATION: N4	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALLOUQT: 164	REVOLUTIONS: 172					
THORACICA						
		*	1	9		NAUPLIUS
(BARNACLE)						
CHORDATA						
OSTEICHTHYS						
		*	1	1		EGG
		*	1	3		LARVA
CHORDATA-UROCHORDATA						
LARVACEA						
		*	1	23		OTHER
APPENDICULARIA						
CNIDARIA (COELENTERATA)						
HYDROZEA						
		*	1	2		MEDUSAE
SIPHONOPHORA						
		*	1	1		OTHER
MOLLUSCA						
GASTROPODA						
		*	1	1		LARVA
PELECYPODA						
		*	1	10		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M6 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 143

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
*					
*					
*					
(COPEPOD)	*	1	1		NAUPLIUS
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TCNSA	2	307	FEMALE	
*					
ACARTIA	TCNSA	2	262	MALE	
*					
ACARTIA	TCNSA	2	156		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
PARACALANUS	PARVUS	1	1		IMMATURE
*					
MONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	1		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
OITHONIDAE					
OITHONA	SIMILIS	1	1		OTHER
*					
CNCAEIDAE					
CNCAEA	*	1	1		OTHER
*					
DECAPODA					
BRACHYURA	*	1	2		ZOEAE
*					
CHORDATA-UROCHORDATA					
LARVACEA					
*					
*					
APPENDICULARIA	*	1	6		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M7 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 143

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TNSA	2	271	FEMALE	
*					
ACARTIA	TNSA	2	261		IMMATURE
*					
ACARTIA	TNSA	2	197	MALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	2		IMMATURE
*					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CITHONIDAE					
OITHONA	SIMILIS	1	1		OTHER
*					
DECAPODA					
BRACHYURA	*	1	3		ZOEA
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M8 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 140

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANGIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	218	MALE	
*					
ACARTIA	TONSA	2	297		IMMATURE
*					
ACARTIA	TONSA	2	404	FEMALE	
*					
COPEPODA-HARPACTICOIDA					
*					
*	*	1	1		OTHER
*					
CHORDATA-URECHERDATA					
LARYVACEA					
*					
*					
APPENDICULARIA	*	1	1		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M₉ MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 90

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	203	MALE	
*					
ACARTIA	TONSA	2	235	FEMALE	
*					
ACARTIA	TCNSA	2	288		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
DECAPODA					
BRACHYURA					
*	*	1	47		ZOEA
*					
CARIDEA					
*	*	1	1		ZOEA
(SHRIMP)					
THORACICA					
*					
*	*	1	1		CYPRIS
(BARNACLE)					
CNIDARIA (COELENTERATA)					
HYDROZEA					
*					
*					
*	*	1	2		MEDUSAE
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M10 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 124

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
*					
*	*	1	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	269	FEMALE	
*					
ACARTIA	TONSA	2	208		IMMATURE
*					
ACARTIA	TONSA	2	302	MALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CITHONIDAE					
OITHONA	SIMILIS	1	1		OTHER
*					
COPEPODA-HARPACTICOIDA					
*					
*	*	1	2		OTHER
*					
DECAPODA					
BRACHYURA					
*	*	1	9		IDEA
*					
ISOPODA					
*	*	1	2		OTHER
*					
CHORDATA					
OSTEICHTHYS					
*	*	1	3		LARVA
*					
*	*				
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 1/20/77 STATION: M11 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 109

POP
CODE

POP
COUNT

SEX

MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TONSA

1

54

IMMATURE

*

ACARTIA

TONSA

1

90

FEMALE

*

ACARTIA

TONSA

1

61

MALE

*

PARACALANIDAE

PARACALANUS

PARVUS

1

4

FEMALE

*

COPEPODA-CYCLOPOIDA

CORYCAEIDAE

CORYCAEUS

ANGLICUS

1

1

FEMALE

*

CHAETOGNATHA

*

*

*

*

(ARRCH-WORK)

*

1

1

OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M1 MARINA DEL REY
 ALIDUCT: 164 REVOLUTIONS: 360

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
*					
*					
*		1	2		NAUPLIUS
(COPEPOD)					
CLADOCERA					
*					
EVADNE	NORDMANNI	2	143		OTHER
*					
EVADNE	SPINIFERA	1	24		OTHER
*					
PENILIA	AVIRDSTRIS	1	8		OTHER
*					
PCCON	POLYPHEMOIDES	1	11		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	1	22	MALE	
*					
ACARTIA	TONSA	1	14	FEMALE	
*					
ACARTIA	TONSA	1	64		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	8	MALE	
*					
PARACALANUS	PARVUS	1	53	FEMALE	
*					
PARACALANUS	PARVUS	1	40		IMMATURE
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	8		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	*	1	1		IMMATURE
*					
CLAUSOCALANUS	FURCATUS	1	2	FEMALE	
*					
TEMORIDAE					
TEMORA	*	1	1		OTHER
*					
COPEPODA-CYCLOPIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	FEMALE	
*					
CORYCAEUS	ANGLICUS	1	10		IMMATURE
*					
CORYCAEUS	ANGLICUS	1	2	MALE	
*					
CORYCAEUS	GIESBRECHTI	1	1	FEMALE	
*					
OITHONIDAE					
OITHONA	SIMILIS	1	1		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M1 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 350

		POP CODE	POP COUNT	SEX	MATURITY
COPEPODA-HARPACTICOIDA					
TACHIDIIDAE					
EUTERPINA	ACUTIPRONS	1	1		OTHER
THORACICA					
(BARNACLE)	*	1	7		NAUPLIUS
(BARNACLE)	*	1	1		CYPRIS
BRYOZOA(ECTOPROCTA)					
CHAETOGNATHA	*	1	1		CYPRONAUTES
(ARCH-MCRN)	*	1	5		OTHER
CHORDATA					
OSTEICHTHYS	*	1	2		EGG
CHORDATA-UROCHORDATA					
LARYCEA					
APPENDICULARIA	*	1	96		OTHER
THALIACEA					
DOLIOLUR	*	1	14		OTHER
CNIDARIA (COELENTERATA)					
HYDROZOA	*	1	2		MEDUSAE
SIPHONOPHORA	*	1	19		OTHER
ECHINODERMATA					
ECHINOIDEA	*	1	1		ECHINOPLUTEUS
(SEA-URCHIN)					
MOLLUSCA					
PELECYPODA	*	1	1		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M2 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 283

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
*					
	EVADNE	NORDMANNI	1		OTHER
†					
	EVADNE	SPINIFERA	1		OTHER
*					
	PENILIA	AVIROSTRIS	1		OTHER
†					
	PODON	POLYPHEMIDES	1		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
	ACARTIA	TONSA	1	MALE	
†					
	ACARTIA	TONSA	2		IMMATURE
†					
	ACARTIA	TONSA	1	FEMALE	
*					
PARACALANIDAE					
	PARACALANUS	PARVUS	1	MALE	
†					
	PARACALANUS	PARVUS	1		IMMATURE
†					
	PARACALANUS	PARVUS	1	FEMALE	
*					
PONTELLIDAE					
	LABIDOCERA	TRISPINOSA	1	FEMALE	
†					
	LABIDOCERA	TRISPINOSA	1		IMMATURE
*					
PSEUDOCALANIDAE					
	CLAUSOCALANUS	FURCATUS	1	FEMALE	
†					
	CLAUSOCALANUS	FURCATUS	1		IMMATURE
†					
	CTENOCALANUS	VANUS	1	FEMALE	
†					
	CTENOCALANUS	VANUS	1		IMMATURE
*					
TEMORIDAE					
	TEMORA	*	1		OTHER
†					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
	CORYCAEUS	AMAZONICUS	1	FEMALE	
†					
	CORYCAEUS	ANGLICUS	1	MALE	
†					
	CCORYCAEUS	ANGLICUS	1	FEMALE	
†					
	CORYCAEUS	ANGLICUS	1		IMMATURE
*					
DITHONICAE					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77	STATION: M2	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALICUET: 164	REVOLUTIONS: 283					
<hr/>						
ANIMAL						
MOLLUSCA						
GASTROPODA						
*						
*						
*						
*	*		1	2		LARVA
PELECYPODA						
*						
*						
*	*		1	4		LARVA
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M3

MARINA DEL REY

ALIQUNT: 132 REVOLUTIONS: 151

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
AMPHIFODA-GAMMARIDEA					
*					
*	*	1	1		OTHER
CLADOCERA					
*					
EVAONE	NORDMANNI	2	135		OTHER
*					
EVAONE	SPINIFERA	1	25		OTHER
*					
PENILIA	AVIROSTRIS	1	5		OTHER
*					
PGDON	POLYPHEMOIDES	1	9		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	1	16	MALE	
*					
ACARTIA	TONSA	1	25	FEMALE	
*					
ACARTIA	TONSA	1	40		IMMATURE
*					
CALANIDAE					
CALANUS	*	1	1		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	7	MALE	
*					
PARACALANUS	PARVUS	1	43		IMMATURE
*					
PARACALANUS	PARVUS	1	61	FEMALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	4		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	*	1	1		IMMATURE
*					
CLAUSOCALANUS	FURCATUS	1	1	FEMALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	AFAZONICUS	1	2	MALE	
*					
CORYCAEUS	ANGLICUS	1	3	MALE	
*					
CORYCAEUS	ANGLICUS	1	7		IMMATURE
*					
COPEPODA-HARPACTICOIDA					
*					
*	*	1	15		OTHER
*					
DECAPODA					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77	STATION: M3	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIUQCT: 132	REVOLUTIONS:	151				
BRACHYURA	*		1	4		ZOEA
+						
CARIDEA	*		1	1		ZOEA
+						
(SHRIMP)						
THORACICA	*		1	2		NAUPLIUS
+						
(BARNACLE)	*		1	1		CYPRIS
+						
(BARNACLE)						
BRYOZOA (ECTOPROCTA)	*					
+						
+						
+						
+						
CHAETOGNATHA	*		1	14		CYPHONAUTES
+						
+						
(ARROW-WORM)	*		1	2		OTHER
CHORDATA						
OSTEICHTHYS	*		1	1		EGG
+						
+						
+						
CHORDATA-UROCHORDATA	*		1	1		LARVA
LARVACEA						
+						
APPENDICULARIA	*		1	69		OTHER
+						
THALIACEA						
+						
DOLIOLUM	*		1	6		OTHER
+						
CNIDARIA (COELENTERATA)						
HYDROZOA	*		1	1		MEDUSAE
+						
+						
SIPHONOPHORA	*		1	9		OTHER
+						
+						
MOLLUSCA						
GASTROPODA-OPISTHOBRANCHIA	*		1	1		OTHER
PTEROPODA						
+						
PELECYPODA	*		1	5		LARVA
+						
+						
+						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77	STATION: M4	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQUCT: 1256	REVOLUTIONS: 213		CODE	COUNT		
ANIMAL						
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
*						
EVADNE	NORMANNI		1	11		OTHER
*						
EVADNE	SPINIFERA		1	2		OTHER
*						
PENILIA	AVIROSTRIS		1	1		OTHER
*						
PGDON	POLYPHEMIDES		1	19		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	TONSA		2	209	FEMALE	
*						
ACARTIA	TONSA		2	154	MALE	
*						
ACARTIA	TONSA		1	70		IMMATURE
*						
PARACALANIDAE						
PARACALANUS	PARVUS		1	3	FEMALE	
*						
PARACALANUS	PARVUS		1	3		IMMATURE
*						
PARACALANUS	PARVUS		1	2	MALE	
*						
DECAPODA						
BRACHYURA						
*	*		1	1		ZOEAE
*						
THORACICA						
*						
*	*		1	1		NAUPLIUS
*						
(BARNACLE)						
CHORDATA-UROCHORDATA						
LARVACEA						
*						
*						
APPENDICULARIA	*		1	1		OTHER
*						
CNIDARIA (CDELETERATA)						
HYDROZOA						
SIPHONOPHORA						
*						
*	*		1	1		OTHER
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M5 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 190

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*	*	1	3		OTHER
ARTHROPODA					
CRUSTACEA					
CLAUDCERA					
*					
EVADNE	NCROMANNI	1	3		OTHER
*					
PCDON	POLYPHEMOIDES	1	20		OTHER
*					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TGNSA	2	332		IMMATURE
*					
ACARTIA	TGNSA	2	255	FEMALE	
*					
ACARTIA	TGNSA	2	383	MALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	2		IMMATURE
*					
PARACALANUS	PARVUS	1	3	FEMALE	
*					
PARACALANUS	PARVUS	1	2	MALE	
*					
PONTHELLIDAE					
LABIDOCERA	TRISPINOSA	1	2		IMMATURE
*					
PSEUDOCALANIDAE					
CLAUSOCALANUS	FURCATUS	1	1	MALE	
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	MALE	
*					
DECAPODA					
BRACHYURA					
*	*	1	1		ZOEAE
*					
THORACICA					
*	*	1	6		NAUPLIUS
*					
(BARNACLE)					
CHAETOGNATHA					
*					
*					
*	*	1	1		OTHER
*					
(BRANCH-WORM)					
CHORDATA-UROCHORDATA					
LARVACEA					
*					
*					
APPENDICULARIA	*	1	5		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M6 MARINA DEL REY
 ALIQUOT: 1128 REVOLUTIONS: 103

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
CLADOCERA				
* PCDON	POLYPHEMOIDES	1		OTHER
* COPEPODA-CALANOIDA				
ACARTIIDAE				
ACARTIA	TONSA	2		IMMATURE
* ACARTIA	TONSA	2		FEMALE
* ACARTIA	TONSA	2		MALE
* PARACALANIDAE				
PARACALANUS	PARVUS	1		FEMALE
* THORACICA				
* (BARNACLE)	*	1		NAUPLIUS

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M7 PARINA DEL REY
 ALIQUOT: 1512 REVOLUTIONS: 333

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIICAE					
ACARTIA	TONSA	2	322	MALE	
•					
ACARTIA	TONSA	2	226	FEMALE	
•					
ACARTIA	TONSA	2	352		IMMATURE
•					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	FEMALE	
•					
DECAPODA					
BRACHYURA					
•					
•	*	1	5		ZOEA
CHORDATA-URROCHORDATA					
LARVACEA					
•					
•					
APPENDICULARIA	*	1	4		OTHER
•					
CNIDARIA (COELENTERATA)					
HYDREZCA					
•					
•					
•	*	1	1		MEDUSAE
•					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M8 MARINA DEL REY
 ALIQUOT: 1128 REVOLUTIONS: 200

		PDP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
*					
*					
*					
*					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TCNSA	2	133		IMMATURE
*					
ACARTIA	TONSA	2	147	MALE	
*					
ACARTIA	TONSA	2	241	FEMALE	
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M9 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 193

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	320	FEMALE	
•					
ACARTIA	TONSA	1	97		IMMATURE
•					
ACARTIA	TONSA	2	202	MALE	
•					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	2		IMMATURE
•					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1		IMMATURE
•					
DECAPODA					
BRACHYURA					
•	*	1	53		ZOEAE
•					
CARIDEA					
•	*	1	3		ZOEAE
(SHRIMP)					
CHORDATA					
OSTEICHTHYS					
•					
•	*	1	4		EGG
•					
CNIDARIA (COELENTERATA)					
HYDROZEA					
•					
•	*	1	2		MEDUSAE
•					
•					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M10 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 230

POP
CODE

POP
COUNT

SEX

MATURITY

ANIMAL	POP CODE	POP COUNT	SEX	MATURITY
ARTHROPODA				
CRUSTACEA				
COPEPODA-CALANCOIDA				
ACARTIIDAE				
ACARTIA	TCNSA	2	394	FEMALE
*				
ACARTIA	TCNSA	1	93	MALE
*				
ACARTIA	TCNSA	2	139	IMMATURE
*				
COPEPODA-HARPACTICOIDA				
*				
*	*	1	1	OTHER
*				
TACHIDIIDAE				
EUTERPINA	ACUTIFRONS	1	1	OTHER
*				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M11 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 190

	PDP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
CLADOCERA				
*				
PODON	POLYPHEOIDES	1		OTHER
*				
COPEPODA-CALANOIDA				
ACARTIIDAE				
ACARTIA	TCNSA	2	274	FEMALE
*				
ACARTIA	TONSA	2	226	MALE
*				
ACARTIA	TCNSA	2	119	IMMATURE
*				
PARACALANIDAE				
PARACALANUS	PARVUS	1	2	MALE
*				
PARACALANUS	PARVUS	1	1	IMMATURE
*				
COPEPODA-CYCLOPOIDA				
CORYCAEIDAE				
CORYCAEUS	ANGLICUS	1	3	IMMATURE
*				
DECAPODA				
BRACHYURA				
*				
*		1	1	ZOEA
*				
*				
*				
*		1	1	OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77	STATION: M1	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQUEY: 132	REVOLUTIONS:	244	CODE	COUNT		
ANIMAL						
ARTHROPODA						
CRUSTACEA						
AMPHIFODA-CAMMARIDEA						
*		*	1	2		OTHER
*						
CLADOCERA						
*			1	1		OTHER
PODON						
POLYPHEMOIDES						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA						
		CLAUSE	1	1	MALE	
*						
ACARTIA						
		CLAUSE	1	2		IMMATURE
*						
ACARTIA						
		TONSA	1	39	FEMALE	
*						
ACARTIA						
		TONSA	2	228		IMMATURE
*						
ACARTIA						
		TONSA	1	47	MALE	
*						
PARACALANIDAE						
PARACALANUS						
		PARVUS	1	24	FEMALE	
*						
PARACALANUS						
		PARVUS	1	14		IMMATURE
*						
PONTELLIDAE						
LABIDOCERA						
		TRISPINOSA	1	54		IMMATURE
*						
TORTANIDAE						
TORTANUS						
		DISCAUDATUS	1	1	MALE	
*						
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS						
		ANGLICUS	1	2	FEMALE	
*						
CORYCAEUS						
		ANGLICUS	1	2		IMMATURE
*						
GITHONIDAE						
GITHONA						
		PLUMIFERA	1	1		OTHER
*						
GITHONA						
		SIMILIS	1	1		OTHER
*						
DECAPODA						
BRACHYURA						
*		*	1	18		ZOEA
*						
THORACICA						
*			1	2		NAUPLIUS
*		*				
(BARNACLE)						
*		*	1	1		CYPRIS
*						
(BARNACLE)						
BRYOZOA(ECTOPROCTA)						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77	STATION: M2	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIOUQT: 132	REVOLUTIONS:	600				
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*		*	1	9		OTHER
ARTHROPODA						
CRUSTACEA						
*						
*		*	1	1		NAUPLIUS
(COPEPOD)						
CLADOCERA						
*						
EVADNE		NORDMANNI	1	2		OTHER
*						
EVADNE		SPINIFERA	1	9		OTHER
*						
PEDON		POLYPHEMOIDES	1	9		OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA		CLAUSI	1	2		IMMATURE
*						
ACARTIA		TONSA	2	203		IMMATURE
*						
ACARTIA		TONSA	1	29	FEMALE	
*						
ACARTIA		TONSA	1	37	MALE	
PARACALANIDAE						
PARACALANUS		PARVUS	1	20	FEMALE	
*						
PARACALANUS		PARVUS	1	11		IMMATURE
PONTHELLIDAE						
LABIDOCERA						
		TRISPINGSA	1	29		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEICAE						
CORYCAEUS		ANGLICUS	1	1	FEMALE	
*						
CORYCAEUS		ANGLICUS	1	2		IMMATURE
DITHONIDAE						
DITHONA		SINILIS	1	1		OTHER
COPEPODA-MARPACTICOIDA						
*		*	1	1		OTHER
DECAPODA						
BRACHYURA						
*		*	1	17		ZOEAE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77	STATION: M2	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIDUCT: 132	REVOLUTIONS: 600		CODE	COUNT		
THORACICA						
	*	*	1	8		CYPRIS
	(BARNACLE)	*	1	5		NAUPLIUS
	(BARNACLE)	*				
BRYOZOA (ECTOPROCTA)						
	*	*	1	3		CYPRONAUTES
CHORDATA						
OSTEICHTHYS						
	*	*	1	2		LARVA
	*	*	1	1		EGG
CNIDARIA (COELENTERATA)						
HYDROZOA						
	*	*	1	4		MEDUSAE
ECHINODERMATA						
OPHIOUROIDEA						
	*	*	1	1		OPHIOPLUTEUS
MOLLUSCA						
GASTROPODA						
	*	*	1	1		OTHER
	*	*	1	2		LARVA
PELECYPODA						
	*	*	1	2		LARVA

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M3 MARINA DEL REY
 ALIQUOT: 18 REVOLUTIONS: 200

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*	*	1	2		OTHER
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
*	*	1	1		OTHER
CLADOCERA					
PODON	POLYPHEMOIDES	1	1		OTHER
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	105	MALE	
ACARTIA	TONSA	2	136		IMMATURE
ACARTIA	TCNSA	2	187	FEMALE	
PARACALANIDAE					
PARACALANUS	PARVUS	1	13	FEMALE	
PARACALANUS	PARVUS	1	6		IMMATURE
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	20		IMMATURE
LABIDOCERA	TRISPINOSA	1	2	MALE	
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	FEMALE	
CORYCAEUS	ANGLICUS	1	2		IMMATURE
CITHONIDAE					
CITHONA	PLUMIPERA	1	2		OTHER
DECAPODA					
BRACHYURA	*	1	3		ZOEA
THORACICA					
(BARNACLE)	*	1	3		NAUPLIUS
(BARNACLE)	*	1	3		CYPRIS
BRYOZOA(ECTOPROCTA)					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M3 MARINA DEL REY
 ALIQUOT: 10 REVOLUTIONS: 200

	POP CODE	POP COUNT	SEX	MATURITY
CHAETOGNATHA	1	2		CYPRONAUTES
(ARROU-WORM)	1	3		OTHER
MOLLUSCA				
GASTROPODA	1	3		LARVA
PELECYPODA	1	1		OTHER
PHORONIDEA	1	5		LARVA
	1	1		OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77	STATION: WA	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALLOQUOT: 160	REVOLUTIONS: 165					
<hr/>						
ANIMAL						
ANNELIDA						
POLYCHAETA						
*						
*						
*	*		1	2		OTHER
*						
ARTHROPODA						
CRUSTACEA						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	TONSA		2	500	MALE	
*						
ACARTIA	TONSA		2	411	FEMALE	
*						
ACARTIA	TONSA		1	30		IMMATURE
*						
PARACALANIDAE						
PARACALANUS	PARVUS		1	2		IMMATURE
*						
PONTELLIDAE						
LABIDOCERA	TRISPINOSA		1	2		IMMATURE
*						
DECAPODA						
BRACHYURA	*		1	1		ZOEAE
*						
ISOPODA						
*	*		1	1		OTHER
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M7 MARINA DEL REY
 ALIQUOT: 132 REVOLUTIONS: 125

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANIDIA					
ACARTIIDAE					
ACARTIA	TONSA	2	163	FEMALE	
*					
ACARTIA	TONSA	2	974	MALE	
*					
ACARTIA	TONSA	1	21		IMMATURE
*					
ACARTIA	TONSA	2	660	FEMALE	
*					
ACARTIA	TONSA	2	361	MALE	
*					
ACARTIA	TONSA	1	32		IMMATURE
*					
DECAPODA					
BRACHYURA					
*	*	1	1		ZOEA
*					
*	*	1	1		ZOEA
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: MB MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 303

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TCNSA	2	342	FEMALE	
*					
ACARTIA	TONSA	2	783	MALE	
*					
ACARTIA	TCNSA	2	125		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1		IMMATURE
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	1		IMMATURE
*					
COPEPODA-HARPACTICOIDA					
*					
*	*	1	1		OTHER
CHAETOGNATHA					
*					
*					
*					
*	*	1	1		OTHER
(ARROW-WORM)					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M9 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 245

POP
CODE

POP
COUNT

SEX

MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

CLADOCERA

*
POODN

POLYPHEMIDIES

1

1

OTHER

*
COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TONSA

2

132

IMMATURE

*
ACARTIA

TONSA

2

418

FEMALE

*
ACARTIA

TONSA

2

674

MALE

*
PARACALANIDAE

PARACALANUS

PARVUS

1

1

FEMALE

*
PARACALANUS

PARVUS

1

1

IMMATURE

*
DECAPODA

BRACHYURA

*

1

2

ZOEAE

*
CARIDEA

*

1

1

ZOEAE

*
(SHRIMP)

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M10 MARINA DEL REY
 ALIQUOT: 164 REVOLUTIONS: 175

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	280	MALE	
•					
ACARTIA	TONSA	1	74		IMMATURE
•					
ACARTIA	TONSA	2	269	FEMALE	
•					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: H11 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 320

PDP CODE PDP CGUNT SEX MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TCNSA

2

270

FEMALE

•

ACARTIA

TCNSA

2

526

MALE

•

ACARTIA

TCNSA

1

75

IMMATURE

•

PLANKTON DATA LISTING * HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M2 MARINA DEL REY
 ALIQUOT: 1024 REVOLUTIONS: 319

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
*					
*	*	1	1		OTHER
ARTHROPODA					
CRUSTACEA					
*					
*	*	1	1		NAUPLIUS
(COPEPOD)					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	5	MALE	
*					
ACARTIA	CLAUSI	1	3	FEMALE	
*					
ACARTIA	CLAUSI	1	1		IMMATURE
*					
ACARTIA	TONSA	2	411	FEMALE	
*					
ACARTIA	TONSA	1	93		IMMATURE
*					
ACARTIA	TONSA	2	187	MALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOZA	1	2		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
DITHONIDAE					
DITHONA	PLUMIFERA	1	1		OTHER
*					
THORACICA					
*					
*	*	1	2		NAUPLIUS
(BARNACLE)					
CHAETOGNATHA					
*					
*					
*	*	1	1		OTHER
(ARROW-WORM)					
CNIDARIA (COELENTERATA)					
HYDROZOA					
*					
*	*	1	1		MEDUSAE
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M3 MARINA DEL REY

ALIQOUT: 116 REVOLUTIONS: 228

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
*					
*	*	1	3		OTHER
*					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	2		IMMATURE
*					
ACARTIA	CLAUSI	1	2	MALE	
*					
ACARTIA	TONSA	2	184	MALE	
*					
ACARTIA	TONSA	1	77	FEMALE	
*					
ACARTIA	TONSA	2	114		IMMATURE
*					
PONTILLIDAE					
LABIDOCERA	TRISPINOSA	1	2		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
DI THONIDAE					
DI THONA	SIMILIS	1	1		OTHER
*					
DECAPODA					
BRACHYURA					
*	*	1	1		ZOE A
*					
THORACICA					
*					
*	*	1	1		NAUPLIUS
*	(BARNACLE)				
*	*	1	8		CYPRIS
*	(BARNACLE)				
CHORDATA					
OSTEICHTHYS					
*					
*	*	1	1		LARVA
*					
CNIDARIA (COELENTERATA)					
HYDROZOA					
*					
*	*	2	146		MEDUSAE
*					
MOLLUSCA					
PELECYPODA					
*					
*	*	1	1		LARVA
*					
PHORONIDEA					
*					
*	*	1	1		ACTINOTROCH
*					
*					
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: 44 MARINA DEL REY
 ALIQUOT: 1024 REVOLUTIONS: 255

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHRPODA				
CRUSTACEA				
COPEPODA-CALANOIDA				
ACARTIIDAE				
ACARTIA	CLAUSI	1	MALE	
*				
ACARTIA	CLAUSI	1	FEMALE	
*				
ACARTIA	CLAUSI	1		IMMATURE
*				
ACARTIA	TONSA	2	FEMALE	
*				
ACARTIA	TONSA	2		IMMATURE
*				
ACARTIA	TONSA	2	MALE	
*				
PONTELLIDAE				
LABIDOCERA	TRISPINOSA	1		IMMATURE
*				
TORTANIDAE				
TORTANUS	DISCAUDATUS	1		IMMATURE
*				
DECAPODA				
BRACHYURA	*	1		ZOEA
*				
THORACICA	*	1		NAUPLIUS
*				
(BARNACLE)	*	1		
CYDARIA (COELENTERATA)				
HYDROZOA	*	1		MEDUSAE
*				
*				
*				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/21/77 STATION: M5 MARINA DEL REY
 ALIQUOT: 1024 REVOLUTIONS: 265

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	TONSA	2	150		IMMATURE
*					
ACARTIA	TONSA	2	148	FEMALE	
*					
ACARTIA	TONSA	2	346	MALE	
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE:	STATION:	POP	POP	SEX	MATURITY
4/21/77	M5	CODE	COUNT		
ALIQOUT:	REVOLUTIONS:				
1256	228				
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	420	FEMALE	
*					
ACARTIA	TONSA	2	160	MALE	
*					
ACARTIA	TONSA	1	63		IMMATURE
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M7 MARINA DEL REY
 ALIQUOT: 1024 REVOLUTIONS: 300

POP
CODE POP
COUNT SEX MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TONSA

2

476

MALE

♂

ACARTIA

TONSA

2

163

IMMATURE

♂

ACARTIA

TONSA

1

65

FEMALE

♀

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 9/21/77 STATION: M8 MARINA DEL REY
 ALIQUOT: 154 REVOLUTIONS: 160

POP
 CODE POP
 COUNT SEX MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TONSA

2

489

FEMALE

*

ACARTIA

TONSA

1

24

IMMATURE

*

ACARTIA

TONSA

2

141

MALE

*

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: N9 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 143

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ARTHROPODA				
CRUSTACEA				
COPEPODA-CALANOIDA				
ACARTIIDAE				
ACARTIA	TONSA	2	FEMALE	
*				
ACARTIA	TONSA	1		IMMATURE
*				
ACARTIA	TONSA	2	MALE	
*				
COPEPODA-CYCLOPOIDA				
DITHONDAE				
DITHONA	PLUMIFERA	1		OTHER
*				
CNIDARIA (COELENTERATA)				
HYDROZOA				
*				
*				
*	*	1		MEDUSAE
*				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/21/77 STATION: M10 MARINA DEL REY
 ALIQUOT: 1128 REVOLUTIONS: 150

POP
CODE

POP
COUNT

SEX

MATURITY

ANIMAL

ARTHROPODA

CRUSTACEA

COPEPODA-CALANOIDA

ACARTIIDAE

ACARTIA

TONSA

2

520

FEMALE

*

ACARTIA

TONSA

1

22

IMMATURE

*

ACARTIA

TONSA

2

342

MALE

*

CNIDARIA (COELENTERATA)

HYDROZOA

*

*

*

- *

*

1

1

MEDUSAE

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/21/77 STATION: #11 MARINA DEL REY
 ALIQUOT: 1128 REVOLUTIONS: 145

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	TONSA	2	173	MALE	
*					
ACARTIA	TONSA	2	294	FEMALE	
*					
ACARTIA	TONSA	1	46		IMMATURE
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77	STATION: M1	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQUT:	18 REVOLUTIONS:	318	CODE	COUNT		
ANIMAL						
ANNELIDA						
POLYCHAETA						
*		*	1	1		OTHER
ARTHROPODA						
CRUSTACEA						
*		*	1	2		NAUPLIUS
(COPEPOD)						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA		CLAUSI	1	2		IMMATURE
*						
ACARTIA		CLAUSI	1	3	FEMALE	
*						
ACARTIA		CLAUSI	1	6	MALE	
*						
ACARTIA		TONSA	2	114		IMMATURE
*						
ACARTIA		TONSA	2	132	MALE	
*						
ACARTIA		TONSA	2	177	FEMALE	
CALANIDAE						
CALANUS		HELGOLANDICUS	1	1		IMMATURE
PARACALANIDAE						
PARACALANUS		PARVUS	1	12	FEMALE	
*						
PARACALANUS		PARVUS	1	4	MALE	
*						
PARACALANUS		PARVUS	1	23		IMMATURE
PONTELLIDAE						
LABIDOCERA		TRISPINOSA	1	22		IMMATURE
COPEPODA-CYCLOPOIDA						
CORYCAEIDAE						
CORYCAEUS		ANAZONICUS	1	1	FEMALE	
*						
CORYCAEUS		ANGLICUS	1	1		IMMATURE
DITHONIDAE						
DITHONA		SINILIS	1	2		OTHER
DECAPODA						
BRACHYURA						
*		*	1	1		MEGALOPS
THORACICA						
*		*	1	6		NAUPLIUS

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77 STATION: M2 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 130

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSE	1	8	MALE	
*					
ACARTIA	CLAUSE	1	2		IMMATURE
*					
ACARTIA	TONSA	2	118	FEMALE	
*					
ACARTIA	TONSA	1	90	MALE	
*					
ACARTIA	TONSA	2	192		IMMATURE
*					
CALANIDAE					
CALANUS	HELGOLANDICUS	1	1		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	2	MALE	
*					
PARACALANUS	PARVUS	1	19		IMMATURE
*					
PARACALANUS	PARVUS	1	7	FEMALE	
*					
PONTELLIDAE					
LABIDOCERA	TRISPINOSA	1	18		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	AMAZONICUS	1	1	MALE	
*					
CORYCAEUS	AMAZONICUS	1	1	FEMALE	
*					
CORYCAEUS	ANGLICUS	1	2		IMMATURE
*					
OITHONIDAE					
OITHONA	SIMILIS	1	1		OTHER
*					
ONCAEIDAE					
ONCAEA	*	1	1		OTHER
*					
DECAPODA					
BRACHYURA	*	1	1		ZOEAE
*					
THORACICA					
*					
*		1	4		NAUPLIUS
(BARNACLE)					
BRYOZOA (ECTOPROCTA)					
*					
*					
*					
*		1	3		CYPRICHAUTES
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77 STATION: M2 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 130

			POP CODE	POP COUNT	SEX	MATURITY
CHORDATA						
OSTEICHTHYS						
*						
*						
*						
*	*		1	2		EGG
CHORDATA-URGCHORDATA						
LARVACEA						
*						
*						
APPENDICULARIA	*		1	3		OTHER
*						
THALIACEA						
*						
*						
DOLIOLUM	*		1	2		OTHER
*						
CNIDARIA (COELENTERATA)						
HYDRICZA						
*						
*						
*	*		1	9		MEDUSAE
*						
MOLLUSCA						
PELECYPODA						
*						
*						
*	*		1	1		LARVA
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77	STATION: M3	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ALIQLOT: 132 REVOLUTIONS: 220						
ANIMAL						
ANNELEIDA						
POLYCHAETA						
*						
*	*		1	1		OTHER
*						
ARTHROPODA						
CRUSTACEA						
CLADOCERA						
*						
PODON	POLYPHEMIDES		1	5		OTHER
*						
COPEPODA-CALANOIDA						
ACARTIIDAE						
ACARTIA	CLAUSI		1	4	FEMALE	
*						
ACARTIA	CLAUSI		1	18	MALE	
*						
ACARTIA	CLAUSI		1	5		IMMATURE
*						
ACARTIA	TONSA		1	90	FEMALE	
*						
ACARTIA	TONSA		2	122		IMMATURE
*						
ACARTIA	TONSA		1	76	MALE	
*						
PARACALANIDAE						
PARACALANUS	PARVUS		1	5		IMMATURE
*						
PARACALANUS	PARVUS		1	2	FEMALE	
*						
PONTYLLIDAE						
LABIDOCERA	TRISPINOSA		1	1		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
CITHONIDAE						
GITHONA	PLUMIFERA		1	1		IMMATURE
*						
COPEPODA-HARPACTICOIDA						
*						
*	*		1	1		OTHER
*						
THORACICA						
*						
*	*		1	1		NAUPLIUS
(BARNACLE)						
ASCHELMINTHES						
NEMATODA						
*						
*	*		1	1		OTHER
*						
BRYOZOA (ECTOPROCTA)						
*						
*	*		1	2		CYPHONAUTES
*						
CHORDATA-UROCHORDATA						
ASCIDIACEA						
*						
*	*		1	1		LARVA
*						
LARVACEA						
*						
APPENDICULARIA			1	1		OTHER
*						
CNIDARIA (CCELENERATA)						
HYDROZOA						
*						
*	*		1	2		MEDUSAE
*						
MOLLUSCA						
GASTROPODA						
*						
*	*		1	1		LARVA
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/15/77 STATION: M5 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 221

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
CLADOCERA					
* PODON	POLYPHEMIDES	1	2		OTHER
COPEPODA-CALANCOIDA					
ACARTIIDAE					
* ACARTIA	CLAUSI	1	4	FEMALE	
* ACARTIA	CLAUSI	1	2		IMMATURE
* ACARTIA	CLAUSI	1	1	MALE	
* ACARTIA	TONSA	2	237	FEMALE	
* ACARTIA	TONSA	2	203		IMMATURE
* ACARTIA	TONSA	2	416	MALE	
PARACALANIDAE					
* PARACALANUS	PARVUS	1	1	MALE	
* PARACALANUS	PARVUS	1	2		IMMATURE
TORTANIDAE					
* TORTANUS	DISCAUDATUS	1	1		IMMATURE
DECAPODA					
* BRACHYURA	*	1	1		ZOEAE
CHORDATA-URDCHORDATA					
LARYNGEA					
* APPENDICULARIA	*	1	1		OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77	STATION: M6	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIQLOT: 116	REVOLUTIONS: 275		CODE	COUNT		
ANIMAL						
ARTHROPOCA						
CRUSTACEA						
CLADOCERA						
* PCDON		POLYPHEMOIDES	1	1		OTHER
* COPEPODA-CALANOIDA						
ACARTIIGAE						
ACARTIA		CLAUSI	1	2	MALE	
* ACARTIA		TONSA	2	112	MALE	
* ACARTIA		TONSA	1	97	FEMALE	
* ACARTIA		TONSA	1	72		IMMATURE
* PARACALANIDAE						
PARACALANUS		PARVUS	1	11		IMMATURE
* PARACALANUS		PARVUS	1	3	MALE	
* PARACALANUS		PARVUS	1	4	FEMALE	
* PONTELLIDAE						
LABIDOCERA		TRISPINOSA	1	2	FEMALE	
* COPEPOCA-MARPACTICOIDA						
* TACHIDIIDAE			1	1		OTHER
EUTERPIA		ACUTIFRONS	1	1		OTHER
* DECAPODA						
BRACHYURA			1	3		ZOEAE
* THORACICA						
* (BARNACLE)			1	1		CYPRIS
CHAETOGNATHA						
* (ARROW-WORM)			1	2		OTHER
CHORDATA-UROCHORDATA						
ASCIDIACEA			1	1		LARVA
* LARVACEA						
* APPENDICULARIA			1	3		OTHER

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77 STATION: M7

MARINA DEL REY

ALLOQUET: 1024 REVOLUTIONS: 448

		PDP CODE	PDP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANGIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
*					
ACARTIA	CLAUSI	1	2	MALE	
*					
ACARTIA	TONSA	2	131		IMMATURE
*					
ACARTIA	TONSA	2	297	MALE	
*					
ACARTIA	TONSA	2	206	FEMALE	
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1	FEMALE	
*					
PARACALANUS	PARVUS	1	1		IMMATURE
*					
CHORDATA-UROCHORDATA					
LARVACEA					
*					
*					
APPENDICULARIA	*	1	1		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77	STATION: M8	MARINA DEL REY	POP	POP	SEX	MATURITY
ALIOUCT: 16	REVOLUTIONS: 165		CODE	COUNT		
ANIMAL						
ARTHROPODA						
CRUSTACEA						
*						
*						
*		*	1	1		NAUPLIUS
	(COPEPOD)					
CLADOCERA						
*						
	PODON	POLYPHEMOCIDES	1	1		OTHER
COPEPODA-CALANOIDA						
ACARTIIDAE						
	ACARTIA	TONSA	2	314	FEMALE	
*						
	ACARTIA	TONSA	1	86		IMMATURE
*						
	ACARTIA	TONSA	1	79	MALE	
*						
CALANIDAE						
	CALANUS	HELGOLANDICUS	1	1		IMMATURE
*						
PARACALANIDAE						
	PARACALANUS	PARVUS	1	1	FEMALE	
*						
	PARACALANUS	PARVUS	1	8		IMMATURE
*						
PONTELLIDAE						
	LABIDOCERA	TRISPINOSA	1	2		IMMATURE
*						
PSEUDOCALANIDAE						
	CTENOCALANUS	VANUS	1	1	FEMALE	
*						
TORTANIDAE						
	TORTANUS	DISCAUDATUS	1	1		IMMATURE
*						
COPEPODA-CYCLOPOIDA						
OITHONIDAE						
	OITHONA	*	1	1		OTHER
*						
ONCAEIDAE						
	CNCAEA	*	1	1		OTHER
*						
COPEPODA-HARPACTICOIDA						
*		*	1	1		OTHER
*						
CHORDATA-UROCHORDATA						
ASCIDIACEA						
*						
*		*	1	2		LARVA
*						
LARYACEA						
*						
	APPENDICULARIA	*	1	4		OTHER
*						
CNIDARIA (COELENTERATA)						
HYDROZEA						
*		*	1	1		MEDUSAE
*						
*						
*						

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77 STATION: M9 MARINA DEL REY
 ALIQUOT: 1120 REVOLUTIONS: 170

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	7	MALE	
*					
ACARTIA	TONSA	2	527	MALE	
*					
ACARTIA	TONSA	2	431	FEMALE	
*					
ACARTIA	TONSA	2	124		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	1		IMMATURE
*					
COPEPODA-CYCLOPOIDA					
CORYCAEIDAE					
CORYCAEUS	ANGLICUS	1	1	MALE	
*					
DECAPODA					
BRACHYURA					
*	*	1	3		ZOEA
*					
CARIDEA					
*	*	1	3		ZOEA
	(SHRIMP)				
THORACICA					
*	*	1	1		NAUPLIUS
	(BARNACLE)				

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77 STATION: M10 MARINA DEL REY
 ALIQUOT: 116 REVOLUTIONS: 242

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
COPEPODA-CALANIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	MALE	
*					
ACARTIA	TONSA	2	574	MALE	
*					
ACARTIA	TONSA	2	387	FEMALE	
*					
ACARTIA	TONSA	2	196		IMMATURE
*					
CALANIDAE					
CALANUS	MELGOLANDICUS	1	1		IMMATURE
*					
PARACALANIDAE					
PARACALANUS	PARVUS	1	4		IMMATURE
*					
COPEPODA-HARPACTICOIDA					
TACHIDIIDAE					
EUTERPINA	ACUTIFRONS	1	2		OTHER
*					
THORACICA					
*					
(BARNACLE)	*	1	1		NAUPLIUS
CHORDATA-URDCHORDATA					
ASCIDIACEA					
*					
*	*	1	2		LARVA
*					
LARYACEA					
*					
*	APPENDICULARIA	1	7		OTHER
*					

PLANKTON DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 5/19/77 STATION: M11 MARINA DEL REY
 ALIQUOT: 1256 REVOLUTIONS: 158

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHRPODA					
CRUSTACEA					
CLADOCERA					
* PODON	POLYPHEMOIDES	1	1		OTHER
* COPEPODA-CALANCOIDA					
ACARTIIDAE					
ACARTIA	CLAUSI	1	1	FEMALE	
* ACARTIA	CLAUSI	1	5	MALE	
* ACARTIA	TONSA	2	356	FEMALE	
* ACARTIA	TONSA	2	242		IMMATURE
* ACARTIA	TONSA	2	634	MALE	
THORACICA					
* * (BARNACLE)	*	1	1		NAUPLIUS
CHORDATA-URC CHORDATA					
LARVACEA					
* * APPENDICULARIA	*	1	1		OTHER
* *					

APPENDIX D

BENTHIC SPECIES

Population Code Intervals

0 = many, present, few, etc.
(non-numerical quantity)

1 = 1 - 99

2 = 100 - 999

3 = 1000 - 9999

4 = 10,000 - above

-/= species occurrence not detected

5 = presence of colonial animal
that cannot be counted as individuals

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M1 PARINA DEL REY

SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP COOE	POP COUNT	SEX	MATURITY
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
	AMPHARETIDAE				
	AMPHARETE	LABROPS	1	1	
*					
	CAPITELLIDAE				
	CAPITELLA	CAPITATA	2	298	
*					
	CAPITITA	AMBISETA	1	7	
*					
	CHAETOPTERIDAE				
	SPIOCHAETOPTERUS	CCSTARUM	1	1	
*					
	CIRRATULIDAE				
	CAULLERIELLA	*	1	1	IMMATURE
*					
	DORVILLEIDAE				
	SCHISTOMERINGOS	LCNGICCRNIS	1	5	
	(G.D.-STAUONEREIS.SP.-ARTICULATA.RUDOLPHI)				
	GLYCERIDAE				
	GLYCERA	CAPITATA	1	2	
*					
	GONIADIDAE				
	GONIADA	BRUNNEA	1	1	
*					
	LUMBRINERIDAE				
	LUMBRINERIS	*	1	3	
*					
	LUMBRINERIS	TETRAURA	1	1	
*					
	MALCANIDAE				
	AXIDTHELLA	*	1	1	
*					
	NEPHTYIDAE				
*		*	1	1	IMMATURE
*					
	NEREIDAE				
*		*	1	4	IMMATURE
*					
	ONUPHIDAE				
	DIOPATRA	*	1	2	IMMATURE
*					
	DIOPATRA	SPLENDIDISSIMA	1	2	
*					
	OPHELICIDAE				
	ARMANCIA	BIOCOLATA	1	20	
*					
	POLYOPHTHALMUS	PICTUS	1	2	
*					
	PHYLLOCOCIDAE				
	ETEONE	DILATAE	1	1	
*					
	EUMIDA	BIFOLIATA	1	1	
*					
	PHYLLODOCE	*	1	3	
*					
	POLYNOIDAE				
	HARMOTHOE	PRIOPS	1	1	
*					
	SPICNIDAE				
	PARAPRIONOSPIO	PINNATA	1	5	
*					
	POLYDORA	LIGNI	1	1	
*					
	POLYDORA	SOCIALIS	1	1	
*					
	PRIONOSPIO	CIRRIFERA	1	1	
*					
	PRIONOSPID	HETEROBRANCHIA-NEWPORTENSIS	1	9	
*					
	PRIONOSPID	PYGMAEUS	1	1	
*					
	PSEUDOPOLYDORA	PAUCIBRANCHIATA	1	7	
*					
	SPIOPHANES	MISSIONENSIS	1	3	
*					

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M1 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
ARTHROPODA					
CRUSTACEA					
AMPHIFODA-CAPRELLIOEA					
*					
*		*	1	1	
*					
CUMACEA					
*					
CXYUROSTYLIS	PACIFICA	1	1		
DECAPODA					
*					
*		*	1	1	MEGALOPS
BRACHYURA-CANCRIIDAE					
CANCER	ANTHONYI	1	1		IMMATURE
BRACHYURA-GRAPSIDAE					
HEMIGRAPSUS	OREGONENSIS	1	1		
ISOPODA-VALVIFERA					
IDOTEIDAE					
EDOTEA		*	1	1	
INSECTA					
*					
CHIRONOMIDAE		*	1	2	LARVA
PYCNOGONIDA					
*					
PALLENIDAE		*	1	9	
ASCHELMINTHES					
NEMATODA					
*					
*		*	3	1200	
*					
*					

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/74 STATION: M1 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
MOLLUSCA					
GASTROPODA-OPISTHOBRANCHIA					
CEPHALASPICEA					
AGLAJIDAE					
	AGLAJA	*	1	2	
GASTROPODA-PROSOBRANCHIA					
MESOGASTROPODA					
NATICIDAE					
	NEVERITA	RECLUSIANA	1	1	
NEOGASTROPODA					
COLUMBELLIDAE					
	MITRELLA	*	1	1	IMMATURE
NASSARIIDAE					
	NASSARIUS	MENDICUS	1	3	IMMATURE
	NASSARIUS	PERPINGUIS	1	1	
OLIVIDAE					
	OLIVELLA	BAETICA	1	1	
PELECYPODA					
	*				
	*	*	1	2	IMMATURE
PTERICIDA					
PECTINIDAE					
	LEPTOPECTEN	LATIAURATUS	1	1	IMMATURE
(BROAD-EARED-PECTEN)					
VENEROIDA					
CARDIIDAE					
	LAEVICARDIUM	SUBSTRIATUM	1	2	
COOPERELLIDAE					
	COOPERELLA	SUBDIAPHANA	1	9	
ERYCINIDAE					
	LASAEA	SUBVIRIDIS	1	1	
MACTRIDAE					
	*	*	1	2	IMMATURE
	SPIsula	*	1	1	
SOLECURTIDAE					
	TAGELUS	SUBTERES	1	2	
TELLINIDAE					
	MACOMA	*	1	1	IMMATURE
	MACOMA	NASUTA	1	3	
(BENT-NOSE-CLAN)					
	TELLINA	*	1	8	IMMATURE
	TELLINA	MODESTA	1	36	
VENERIDAE					
	PROTOTHACA	*	1	3	IMMATURE
NEMERTEA					
	*				
	*	*	1	3	
ANNELIDA					
OLIGOCHAETA					
	*				
TUBIFICIDAE					
	PELOSCOLEX	GABRELLAE	1	31	
	*				

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/26/76	STATION: M2	MARINA DEL REY	POP	POP	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES			CODE	COUNT		
GRAB TYPE: CAMPBELL						
ANIMAL						
ANNELIDA						
CLIGCHAETA						
	*					
	*					
	*	*	1	53		
POLYCHAETA						
	*					
CAPITELLIDAE						
CAPITELLA						
	*	CAPITATA	2	513		
	*					
	*	CAPITITA	1	30		
	*					
	*	NCTOMASTUS	1	10		
	*					
DORVILLEIDAE						
SCHISTONERINGOS						
		LONGICORNIS	1	21		
		(G. D.-STAUONEREIS, SP.-ARTICULATA, RUOOLPHI)				
LUMBRINERIDAE						
LUMBRINERIS						
	*		1	22		
	*					
NEREIDAE						
NEANTHES						
	*	ARENACEODENTATA	1	4		
	*					
ONUPHIDAE						
DIOPATRA						
	*	SPLENDIDISSIMA	1	1		
	*					
OPHELIDAE						
ARMANDIA						
	*	BIGCULATA	1	2		
	*					
PHYLLOCCIDAE						
EUMIDA						
	*	BIFOLIATA	1	1		
	*					
SPICNIDAE						
PARAPRIONOSPIO						
	*	PINNATA	1	7		
	*					
	*	POLYDORA	1	2		
	*					
	*	PRIONOSPIO	1	22		
	*					
	*	PRIONOSPIO	1	12		
	*					
	*	PRIONOSPIO	1	1		
	*					
ARTHROPODA						
CRUSTACEA						
AMPHIFODA-GAMMARIDEA						
	*					
	*		1	1		
	*					
COPEPODA-CYCLOPOIDA						
	*					
	*		1	3		
	*					
CUMACEA						

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M2	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES		GRAB TYPE: CAMPBELL				
<hr/>						
* DIASTYLOPSIS	TENUIS		1	1		
* CXYUROSTYLIS	PACIFICA		1	8		
* DECAPODA BRACHYURA-PINNOTHERIDAE	*		1	1		
* ASCHELMINTHES NEMATODA						
* *	*		1	25		
* MOLLUSCA GASTROPODA-PROSOGERANCHIA NEOGASTROPODA COLUMBELLIDAE MITRELLA	CARINATA		1	1		
* NASSARIIDAE NASSARIUS	*		1	2		IMMATURE
* PELECYPODA VENEROIDA CARDIIDAE LAEVICARDIUM	SUBSTRIATUM		1	3		
* MONTACUTIDAE MYSELLA	PEDROANA		1	1		
* SOLECURTIIDAE TAGELUS	SUBTERES		1	2		
* TELLINIDAE MACOMA	ACOLASTA		1	1		
* MACOMA (BENT-NOSE-CLAM)	NASUTA		1	25		
* TELLINA	*		1	2		IMMATURE
* TELLINA	MODESTA		1	6		
* VENERIDAE PROTOPHACA	*		1	2		IMMATURE
* ANNELIDA OLIGOCHAETA						
* TUBIFICIDAE PELOSCOLEX	GABRELLAE		1	22		
* *						

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M3 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
ANNELIDA				
GLIGCHAETA				
*				
*				
*				
*				
	*	1		20
POLYCHAETA				
*				
CAPITELLIDAE				
CAPITELLA				
	CAPITATA	1		1
*				
CAPITITA				
	AMBISETA	1		70
*				
NOTOMASTUS				
	TENUIS	1		53
*				
CIRRATULIDAE				
CAULLERIELLA				
	HAMATA	1		3
*				
CIRRATULUS				
	CIRRATUS	1		9
*				
THARYX				
	*	1		10
*				
DORVILLEIDAE				
SCHISTOMERINGOS				
	LONGICORNIS	1		6
	(G.O.-STAUONERETS, SP.-ARTICULATA, RUDDOLPHI)			
GLYCERIDAE				
GLYCERA				
	AMERICANA	1		2
*				
GLYCERA				
	ROUXII	1		1
*				
HESIONIDAE				
GYPTIS				
	BRUNNEA	1		1
*				
LUMBRINERIDAE				
LUMBRINERIS				
	*	1		10
*				
NEREIDAE				
NEANTHES				
	ARENACEDDENTATA	1		3
*				
OPHELIIDAE				
ARMANDIA				
	BIDCULATA	1		5
*				
POLYOPHTHALMUS				
	PICTUS	1		18
*				
ORBINIIDAE				
HAPLOSCOLOPLOS				
	ELONGATUS	1		6
*				
PHYLLOCCIDAE				
ANATIDES				
	*	1		1
*				
ETEGNE				
	*	1		1
*				
EULALIA				
	*	1		1
*				
POLYNOIDAE				

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/26/76	STATION: M3	MARINA DEL REY	POP	POP	SEX	NATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES	GRAB TYPE: CAMPBELL		CODE	COUNT		
*	*		1	1		IMMATURE
POYNOIDAE						
HARMOTHOE	HIRSUTA		1	1		
SABELLIDAE						
CHONE	*		1	11		
POTAMILLA	*		1	3		
SERPULIDAE						
HYDROIDES	PACIFICA		2	333		
SPIONIDAE						
BOCCARCIA	HAMATA={UNCATA}		1	89		
POLYDORA	LIGNI		1	28		
PRIONCSPIO	CIRRIFERA		1	10		
PRIONOSPIO	METEROBRANCHIA-NEWPORTENSIS		1	28		
PSEUDOPOLYDORA	PAUCIBRANCHIATA		1	14		
SPIOPHANES	MISSIONENSIS		1	2		
STREBLCSPIO	BENEDICTI		1	1		
SPIROBIDAE						
JANUA (DEXIOSPIRA)	BRASILIENSIS		1	90		
SYLLIDAE						
EXOGONE	*		1	2		
SPHAEROSYLLIS	*		1	1		
TEPEBELLIDAE						
PISTA	DISJUNCTA		1	2		
ARTHROPODA						
CRUSTACEA						
AMPHIFODA-GAMMARIDEA						
	*		1	70		
COPEPODA-CYCLIPOIDA						
	*		1	20		
DECAPODA						
	*		1	2		LARVA
BRACHYURA-CANCRIDAE						
CANCER	*		1	3		IMMATURE
BRACHYURA-GRAPSIDAE						
HENIGRAPSUS	OREGONENSIS		1	4		
CARIDEA-ALPHEIDAE						
ALPHEUS	EQUIDACTYLUS		1	3		

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M3 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
ARTHROPODA					
CRUSTACEA					
ISOPODA					
*					
*		*	1		1
*					
TANAIDACEA					
*					
	LEPTOCHELIA	*	1		58
*					
THORACICA					
*					
	BALANUS	PACIFICUS	1		12
*					
	BALANUS	TINTINNABULUM-CALIFORNICUS	1		21
*					
	BALANUS	TRIGONUS	1		7
*					
PYCNOGONIDA					
*					
	EUPENTACTA	*	1		13
*					
BRYOZOA (ECTOPROCTA)					
GYMNOLAEMATA					
CHEILOSTOMATA					
CHEILOPORINIDAE					
	WATERSIPORA	ARCUATA	5		-1
*					
BICELLERIELLIDAE					
	BUGULA	CALIFORNICA	5		-1
*					
	BUGULA	NERITINA	5		-1
*					
CELLEPORIDAE					
	CELLEPORARIA (HOLDORELLBRUNNEA		5		-1
*					
CHEILOPORINIDAE					
	CRYPTOSULA	PALLASIANA	5		-1
*					
SCHIZOPORELLIDAE					
	SCHIZOPORELLA	UNICORNIS	5		-1
*					
CTENOSTOMATA					
VESICULARIIDAE					
	BOWERBANKIA	GRACILIS	5		-1
*					
CHORDATA					
OSTEICHTHYS					
GOBIESOCIFORMES					
GOBIESOCIDAE					
	GOBIESOX	RHESSODON	1		2
		(CALIFORNIA-CLINGFISH)			
CHORDATA-UROCHORDATA					
ASCIDIACEA					
STOLIDOBRANCHIA					
*					
*		*	1		8
*					
	BOTRYLLUS	*	1		5
*					
	STYELA	CLAVA	1		2
*					
	STYELA	PLICATA	1		2
*					
CNIDARIA (COELENTERATA)					
ANTHOZOA					
ACTINIARIA					
*					
	ANTHOPLEURA	*	1		1
*					
					IMMATURE

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M3 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT	SEX	MATURITY
ECHINODERMATA				
OPHIUROIDEA				
*				
*				
*				
*				
*	1	3		IMMATURE
MOLLUSCA				
GASTROPODA-PROSOBRANCHIA				
MESOGASTROPODA				
LAMELLARIIDAE	SHARONAE	1	1	
*				
CALYPTRAEIDAE				
CREPIDULA	ONYX	2	463	
(ONYX-SLIPPER-SHELL)				
CREPIDULA	PREGRANS	1	6	
*				
CREPIDATELLA	LINGULATA	1	91	
(HALF-SLIPPER-SHELL)				
NEOGASTROPODA				
COLUMBELLIDAE				
MITRELLA	*	1	3	
*				
MITRELLA	CARINATA	1	4	
*				
PELECYPODA				
*				
*				
*				
*				
MYTILCIDA				
MYTILIDAE				
MYTILUS	EDULIS	1	23	
(BAY-MUSSEL)				
PTERIOIDA				
OSTREIDAE				
OSTREA	LURIDA	1	2	
*				
VENERCIDA				
CARDIIDAE				
LAEVICARDIUM	SUBSTRIATUM	1	4	
*				
MONTACUTIOAE				
ORBITELLA	*	1	8	
*				

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M3 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
MOLLUSCA					
PELECYPODA					
VENERIDAE					
PETRICOLIDAE					
PETRICOLA					
*					
1					
12					
TELLINIDAE					
LEPORIMETIS					
*					
OBESA					
1					
1					
IMMATURE					
VENERIDAE					
PROTHACA					
*					
1					
35					
IMMATURE					
POLYPLACOPHORA (AMPHINEURA)					
*					
*					
*					
*					
*					
1					
2					
IMMATURE					
NEMERTEA					
*					
*					
*					
*					
*					
*					
1					
2					
PROTOZOA					
SARCOIDINA					
FORAMINIFERA					
*					
*					
*					
1					
10					

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M4	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL						
ANIMAL						
ANNELIDA						
* POLYNOIDA						
* HARMOTHOE	(?)	SCRIPTORIA	1	3		
* OLIGOCHAETA						
* * * * *			1	13		
* POLYCHAETA						
* CAPITELLIDAE						
* CAPITELLA		CAPITATA	1	1		
* CAPITITA		AMBISETA	2	386		
* NECTOMASTUS		TENUIS	1	46		
* CIRRATULIDAE						
* CAULLERIELLA	*		1	1		IMMATURE
* CAULLERIELLA		HAMATA	1	1		
* CHAETOZONE		CORONA	1	3		
* THARYX	*		1	11		
* THARYX		NR.-TESSELATA	1	1		
* COSSURIDAE						
* COSSURA		CANDIDA	1	3		
* DORVILLEIDAE						
* SCHISTONERINGS		LONGICORNIS	1	27		
* (G.O.-STAUONEREIS, SP.-ARTICULATA, RUDDLPHI)						
* GONIADIDAE						
* GLYCINDE		ARMIGERA	1	1		
* GONIADA		BRUNNEA	1	23		
* LUMBRINERIDAE						
* LUMBRINERIS	*		2	248		
* NEREIDAE						
* NEANTHES		ARENACEODENTATA	1	1		
* NEREIS		LATESCENS	1	1		
* NEREIS		PROCERA	1	2		
* ONUPHIDAE						
* DIOPATRA	*		1	1		IMMATURE

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M4

MARINA DEL REY

SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
OPHELIIIDAE					
ARMANDIA	BIOCULATA	1	8		
*					
POLYOPHTHALMUS	PICTUS	1	4		
*					
ORBINIICAE					
HAPLOSCOLOPLOS	ELONGATUS	1	84		
*					
PHYLLODCCIDAE					
PHYLLODCC	*	1	1		
*					
POLYNOIDAE					
HARMOTHOE	ILBERTI	1	2		
*					
SABELLIDAE					
CHONE	*	1	1		
*					
PCTAVILLA	*	1	1		
*					
SERPULIDAE					
HYDROIDES	PACIFICA	1	14		
*					
SPICNICAE					
NERINIDES	ACUTA	1	22		
*					
POLYDORA	LIGNI	1	9		
*					
PRIONOSPID	CIRRIFERA	1	24		
*					
PRIONOSPID	HETEROBRANCHIA-NEWPORTENSIS	1	67		
*					
PRIONOSPID	PYGMAEUS	1	33		
*					
PSEUDOPOLYDORA	PAUCIBRANCHIATA	1	17		
*					
SPIOPHANES	MISSIONENSIS	1	12		
*					
STREBLCSPID	BENEDICTI	1	5		
*					
SYLLIDAE					
SPHAEROSYLLIS	*	1	2		
*					
TEREBELLIDAE					
AMAEANA	OCCIDENTALIS	1	53		
*					
ARTHROPODA					
CRUSTACEA					
AMPHIFODA-CAPRELLIDEA					
*					
*	*	1	7		
*					
AMPHIFODA-GAMMARIDEA					
*					
*	*	1	10		
*					
CUMACEA					
*					
DIASTYLOPSIS	TENUIS	1	4		
*					
OXYUROSTYLIS	PACIFICA	1	25		
*					

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M4	MARINA DEL REY	POP	POP	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES	GRAB TYPE: CAMPBELL		CODE	COUNT		
ANIMAL						
ARTHROPODA						
CRUSTACEA						
DECAPODA						
BRACHYURA-GRAPSIDAE						
	HENIGRAPSUS	*	1	1		
	*					
BRACHYURA-PINNACHERIDAE						
	*	*	1	1		
	*					
CARIDEA-ALPHEIDAE						
	ALPHEUS	EQUIDACTYLUS	1	5		
	*					
MACRURA-CALLIANASSIDAE						
	CALLIANASSA	*	1	1		
	(BURROWING-SHRIMP)					
OSTRACODA						
	*					
	CYLINDROLEBERIS	*	1	1		
	*					
	PHILOMEDUS	*	1	1		
	*					
PYCNOGONIDA						
	*					
	*					
	EUPENTACTA	*	1	1		
	*					
ASCHELMINTHES						
NEMATODA						
	*					
	*					
	*	*	1	15		
	*					
BRYOZA (ECTOPROCTA)						
GYMNOLEBATA						
CTENOSTOMATA						
	VESICULARIIDAE					
	ZOOECYTRON	VERTICILLATUM	1	1		
	*					
CHELICERATA						
BICELLERIELLIDAE						
	BUGULA	NERITINA	1	4		
	*					
CHORDATA-UROCHORDATA						
ASCIDIACEA						
STOLIDOBRANCHIA						
	*					
	STYELA	CLAVA	1	2		
	*					
CNIDARIA (COELENTERATA)						
HYDROZEA						
HYDRICIDA						
	PLUMULARIIDAE					
	AGLAOPHENIA	NR.-PLUMA	1	3		

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: MS	MARINA DEL REY	POP	POP	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES	GRAB TYPE: CAMPBELL		CODE	COUNT		
ANIMAL						
POLYCHAETA						
* COSSURIDAE						
	COSSURA	PYGODACTYLATA	1	7		
* ANNELIDA						
POLYCHAETA						
* CAPITELLIDAE						
	CAPITITA	AMBISETA	2	357		
* NECTOMASTUS						
		TENUIS	1	1		
* CIRRATULIDAE						
	CHAETAZONE	CCRONA	1	65		
* THARYX						
			1	2		
* THARYX						
		NR.-TESSELATA	1	6		
* COSSURIDAE						
	COSSURA	CANDIDA	1	4		
* DORVILLEIDAE						
	SCHISTONERINGS	LONGICORNIS	1	1		
	(G.D.-STAUONEREIS, SP.-ARTICULATA, RUDOLPHI)					
* HESIONIDAE						
	GYPTIS	BREVIPALPA (ARENICOLA-GLABRA)	1	3		
* LUMBRINERIDAE						
	LUMBRINERIS	*	1	67		
* NEREIDAE						
		*	1	1		IMMATURE
* ORBINIIDAE						
	HAPLOSCOLOPLOS	ELONGATUS	1	9		
* POLYNOIDAE						
	HARNOTHOE	*	1	1		
* HARNOTHOE						
		IMBRICATA	1	1		
* SPICNIDAE						
	NERINIDES	ACUTA	1	14		
* PRIONOSPID						
		CIRRIFERA	1	1		
* PRIONOSPID						
		HETEROBRANCHIA-NEWPORTENSIS	1	14		
* PRIONOSPID						
		PYGMAEUS	1	1		
* PSEUDOPOLYDORA						
		PAUCIBRANCHIATA	1	75		

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M6 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
POLYCHAETA					
*					
COSSURIDAE					
COSSURA	PYGODACTYLATA	1	10		
*					
ANNELEIDA					
OLIGOCHAETA					
*					
*					
*	*	1	4		
*					
POLYCHAETA					
*					
CAPITELLIDAE					
CAPITELLA	CAPITATA	1	2		
*					
CAPITITA	AMBIBETA	1	38		
*					
NOTOMASTUS	TENUIS	1	2		
*					
CIRRATULIDAE					
CHAETODONE	CORONA	1	3		
*					
CIRRATULUS	CIRRATUS	1	2		
*					
CIRRIFORMIA	LUXURIOSA	1	1		
*					
THARYX	*	1	33		
*					
DORVILLEIDAE					
SCHISTOMERINGOS	LONGICORNIS	1	7		
(G. D. - STAUONEREIS, SP. - ARTICULATA - RUDOLPHI)					
GLYCERIDAE					
GLYCERA	AMERICANA	1	1		
*					
LUMBRINERIDAE					
LUMBRINERIS	*	1	68		
*					
NEREIDAE					
NEREIS	PROCERA	1	1		
*					
ORBINIIDAE					
HAPLOSCOLOPLOS	ELONGATUS	1	45		
*					
SERPULIDAE					
HYDROIDES	PACIFICA	1	7		
*					
SPICNIDAE					
BOCCARDIA	HAMATA=(UNCATA)	1	3		
*					
NERINIDES	ACUTA	1	18		
*					
POLYDORA	LIGNI	1	21		
*					

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: N6	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES		GRAB TYPE: CAMPBELL				
PRIONOSPID	CIRRIFERA		1	1		
*						
PRIONOSPID	HETEROBRANCHIA-NEWPORTENSIS		1	57		
*						
PSEUDOPOLYDORA	PAUCIBRANCHIATA		1	29		
*						
STREBLCSPID	BENEDICTI		1	19		
*						
SYLLIDAE						
TYPOSYLLIS	MYALINA		1	4		
*						
TEREBELLIDAE						
AMAEANA	OCCIDENTALIS		1	2		
*						
ARTHROPODA						
CRUSTACEA						
AMPHIPODA-GAMMARIDEA						
*						
*	*		1	1		
*						
COPEPODA-CYCLOPOIDA						
CLAUSICIDAE						
CLAUSICIUM	VANCOUVERENSE		1	5		
*						
DECAPODA						
BRACHYURA-GRAPSIDAE						
HENIGRAPUS	OREGONENSIS		1	1		
*						
MACRURA-CALLIANASSIDAE						
CALLIANASSA	*		1	1		
(BURROWING-SHRIMP)						
OSTRACODA						
*						
*	*		1	1		
*						
CHORDATA						
OSTEICHTHYS						
PERCIFORMES						
GOBIIDAE						
CLEVELANDIA	IGS		1	1		
(ARROW-GOBY)						
ILYPNUS			1	1		
(CHEEKSPOT-GOBY)						
CHORDATA-URCCHORDATA						
ASCIDIACEA						
STOLIDOBRANCHIA						
*						
STYELA	PLICATA		1	1		
*						
CNIDARIA (COELENTERATA)						
ANTHOZOA						
ACTINIARIA						
*						
DIADUMENE	*		1	1		IMMATURE
*						
MOLLUSCA						
GASTROPODA-OPISTHOBRANCHIA						
CEPHALASPIDEA						
SCAPHANDRIDAE						
ACTEOCINA	CULCITELLA		1	2		
*						

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M6 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL				
MOLLUSCA				
GASTROPODA-PROSOBRANCHIA				
MESOGASTROPODA				
CALYPTRAEIDAE				
CREPIDULA	ONYX	1		4
(ONYX-SLIPPER-SHELL)				
PELECYPODA				
VENERIDAE				
PETRICOLIAE				
PETRICCLA	*	1		2
*				
TELLINIDAE				
MACOMA	NASUTA	1		6
(BENT-NOSE-CLAM)				
VENERIDAE				
PROTOTHACA	*	1		28
*				
NEMERTEA				
*				
*				
*				
*				
*				
*				
*		1		1

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M7 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	MATURITY
ANIMAL					
POLYCHAETA					
*					
COSSURIDAE					
CESSURA	PYGODACTYLATA	2	478		
*					
ANNELEIDA					
CLIGOCCHAETA					
*					
*					
*	*	1	5		
*					
POLYCHAETA					
*					
CAPITELLIDAE					
CAPITELLA	CAPITATA	1	25		
*					
CAPITITA	AMBISETA	1	57		
*					
NOTOMASTUS	TENUIS	1	1		
*					
CHAETOPTERIDAE					
*	*	1	1		IMMATURE
*					
CIRRATULIDAE					
CHAETOZONE	CERONA	1	1		
*					
CIRRIFORMIA	LUXURIOSA	1	2		
*					
THARYX	*	1	18		
*					
THARYX	NR ₀ -TESSELATA	1	1		
*					
DORVILLEIDAE					
SCHISTOMERINGOS	LONGICORNIS	1	4		
(G.D. ₀ -STAURONEREIS, SP. ₀ -ARTICULATA, RUDOLPHI)					
FLABELLIGERIDAE					
*	*	1	1		
*					
LUMBRICERIDAE					
LUMBRINERIS	*	1	36		
*					
NEPHTHYIDAE					
NEPHTYS	FERRUGINEA	1	2		
*					
ORBINIIDAE					
HAPLOSCOLOPUS	ELONGATUS	1	3		
*					
SPICNIDAE					
BOCCARCIA	HAMATA-(UNCATA)	1	1		
*					
NERINICES	ACUTA	1	6		
*					
POLYDORA	LIGNI	1	6		
*					

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M7	MARINA DEL REY				
SAMPLE NUMBER 1 OF 2 SAMPLES		GRAB TYPE: CAMPBELL	POP CODE	POP COUNT	SEX	MATURITY
PRIONOSPID	*	CIRRIFERA	1	3		
PRIONOSPID	*	HETEROBRANCHIA-NEWPORTENSIS	1	1		
PSEUDOPOLYDORA	*	PAUCIBRANCHIATA	1	5		
SPIOPHANES	*	MISSIONENSIS	1	1		
STREBLICSPID	*	BENEDICTI	2	334		
SYLLIDAE						
EXOgone	*	LCUREI	1	1		
ARTHROPODA						
CRUSTACEA						
COPEPODA-CYCLOPOIDA	*		1	2		
CHORDATA						
OSTEICHTHYS						
PERCIFORMES						
Gobiidae						
CLEVELANDIA	*	ICS	1	3		
(AFRCW-GC8Y)						
MOLLUSCA						
GASTROPODA-CPISTHOBRANCHIA						
CEPHALASPIDEA						
SCAPHANORIDAE						
ACTECCINA	*	HARPA	1	4		
PELECYPODA						
	*		1	1		IMMATURE
VENERCIDA						
SEMELIDAE						
THEORA	*	LUBRICA	1	1		
SOLECURTIDAE						
TAGELUS	*	SUBTERES	1	8		
TELLINICAE						
MACOMA	*	NASUTA	1	7		
(BENT-NOSE-CLAM)						
VENERIDAE						
PROTOTHACA	*		1	3		IMMATURE
PROTOTHACA	*	STAMINEA	1	1		

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M5	MARINA DEL REY	POP CODE	POP COUNT	SEX	MATURITY
ANIMAL						
ANNELEICA						
CLIGGCHAETA						
*						
*						
*		*	1	1		
POLYCHAETA						
*						
CAPITELLIDAE						
CAPITELLA						
	CAPITATA		1	76		
*						
CAPITITA						
	AMBISETA		1	12		
*						
CIRRATULIDAE						
CIRRATULUS						
	CIRRATUS		1	5		
*						
THARYX						
			1	2		
*						
DORVILLEIDAE						
SCHISTONERINGS						
	LONGICORNIS		1	4		
	(G. O. - STAURONEREIS, SP. - ARTICULATA, RUDOLPHI)					
LUMBRINERIDAE						
LUMBRINERIS						
			1	13		
*						
ORBINIIDAE						
MAPLOSCOLOPLOS						
	ELCNGATUS		1	40		
*						
SPICNIDAE						
ECCARCIA						
	MAMATA=(UNCATA)		1	11		
*						
NERINIDES						
	ACUTA		1	42		
*						
POLYDORA						
	LIGNI		1	13		
*						
PRIONOSPID						
	METEROBRANCHIA-NEWPORTENSIS		1	8		
*						
PSEUDOPOLYDORA						
	PAUCIBRANCHIATA		1	25		
*						
STREBLOSPID						
	BENEDICTI		2	138		
*						
SYLLIDAE						
EXOGONE						
	LCUREI		1	1		
*						
CHORDATA						
OSTEICHTHYS						
PERCIFORMES						
GOBIDAE						
ILYPNUS						
	(CHEEKSPOT-GOBY)		1	1		
MOLLUSCA						
GASTROPODA-OPISTHBRANCHIA						
CEPHALASPIDEA						
SCAPHANDRIDAE						
ACTECCINA						
	CULCITELLA		2	134		
*						
PELECYPODA						
VENERCIDA						
PETRICOLIDAE						
PETRICOLA						
	TELLINIALIS		1	3		
*						
TELLINIDAE						
MACOMA						
			1	1		IMMATURE
*						
MACOMA						
	NASUTA		1	1		
	(BENT-NOSE-CLAN)					
VENERIDAE						
PROTOTHACA						
			1	2		IMMATURE
*						

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M9	MARINA DEL REY	POP	POP	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES	GRAB TYPE: CAMPBELL		CODE	COUNT		
ANIMAL						
POLYCHAETA						
* CESSURIDAE						
CESSURA		PYGDOACTYLATA	1	54		
ANNELEIDA						
OLIGOCCHAETA						
* * *		*	1	9		
POLYCHAETA						
* CAPITELLIDAE						
CAPITELLA		CAPITATA	1	28		
* CAPITITA		AMBISETA	1	16		
* NCTOMASTUS		TENUIS	1	1		
* CHRYSOPETALIDAE						
PALEANCTUS		BELLIS	1	1		
* CIRRATULIDAE		*	1	3		IMMATURE
* CHAETOZONE		CERONA	1	1		
* THARYX		*	1	79		
* DORVILLEIDAE		*	1	3		
* SCHISTOMERINGOS		LENGICORNIS	1	1		
(G.D.-STAUDNEREIS, SP.-ARTICULATA, RUDOLPHI)						
* GLYCERIDAE						
GLYCERA		AMERICANA	1	1		
* LUMBRINERIDAE						
LUMBRINERIS		*	1	5		
* NEPHTYIDAE						
NEPHTYS		FERRUGINEA	1	1		
* OPPELIIDAE						
ARMANZIA		BICCOLATA	1	1		
* ORBINIIDAE						
MAPLSCOLOPLCS		ELONGATUS	1	4		
* SERPULIDAE						
HYDROICES		PACIFICA	1	9		
* SPICNIDAE						
BOCCARCIA		MAMATA=(UNCATA)	1	2		
* NERINICES		ACUTA	1	16		
* POLYDORA		LIGNI	1	8		
* PRIONOSPID		CIRRIFERA	1	1		
* PRIONOSPID		HETEROBRANCHIA-NEUPORTENSIS	1	5		
* PSEUDOPOLYDORA		PAUCIBRANCHIATA	1	33		
* STREBLCSPID		BENEDICTI	2	238		
* SYLLIDAE						
TYPOSYLLIS		HYALINA	1	45		

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76	STATION: M9	MARINA DEL REY				
SAMPLE NUMBER 1 OF 2 SAMPLES	GRAB TYPE: CAMPBELL		POP CODE	POP COUNT	SEX	MATURITY
ARTHROPODA						
CRUSTACEA						
AMPHIPODA-GAMMARIDEA						
	*					
	*	*	1	8		
COPEPODA-CYCLOPOIDA						
	*					
	*	*	1	2		
ISOPODA						
	*					
	*	*	1	1		
TANAIDACEA						
	*					
		ANATANAIS	NORMANI	1	7	
CHORDATA						
OSTEICHTHYS						
PERCIFORMES						
Gobiidae						
		ILYPNUS		1	1	
		(CHEEKSPOT-GOBY)				
MOLLUSCA						
GASTROPODA-OPISTHOBRANCHIA						
CEPHALASPIDEA						
SCAPHANDRIDAE						
		ACTEOCINA	CULCITELLA	1	6	
GASTROPODA-PROSOBRANCHIA						
MESOGASTROPODA						
CALYPTRAEIDAE						
		CREPIDULA	ONYX	1	6	
		(ONYX-SLIPPER-SHELL)				
PELECYPODA						
MYTILIDIA						
MYTILIDAE						
		MYTILUS	EDULIS	1	6	
		(BAY-MUSSEL)				
VENERCIDA						
PETRICOLIIDAE						
		PETRICOLA	TELLIMYALIS	1	1	
SEVELIDAE						
		THEORA	LUBRICA	1	2	
ANIMAL						
MOLLUSCA						
PELECYPODA						
VENERCIDA						
VENERIDAE						
		PROTOHACA		1	10	IMMATURE

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/28/76 STATION: M10 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

ANIMAL	POP CODE	POP COUNT	SEX	MATURITY
POLYCHAETA				
* COSSURIDAE				
COSSURA	PYGODACTYLATA	2		112
ANNELEIDA				
OLIGOCHAETA				
*				
*	*	1		23
POLYCHAETA				
*				
CAPITELLIDAE				
CAPITELLA	CAPITATA	1		38
*				
CAPITITA	AMBISETA	1		11
*				
NCTCMASTUS	TENUIS	1		1
*				
CIRRATULIDAE				
CHAETOZONE	CCRONA	1		2
*				
CIRRATULUS	CIRRATUS	1		2
*				
CIRRIFERMIA	LUXURIOSA	1		2
*				
THARYX	*	1		10
*				
DORVILLEIDAE				
SCHISTOCMERINGOS	LONGICORNIS	1		17
(G.O.-STAUONEREIS, SP.-ARTICULATA, RUDDOLPHI)				
HESIONIDAE				
OPHIODROMUS	PUGETTENSIS	1		11
*				
LUMBRINERIDAE				
LUMBRINERIS	*	1		2
*				
LUMBRINERIS	ERECTA	1		2
*				
NEPHTYIDAE				
NEPHTYS	FERRUGINEA	1		1
*				
ORBINIIDAE				
MAPLOSOCOLPLOS	ELONGATUS	1		10
*				
SPICNIDAE				
NERINIDES	ACUTA	1		10
*				
PELYCORA	LIGNI	1		17
*				
PRIONOSPIO	CIRRIFERA	1		3
*				
PRIONOSPIO	HETEROBRANCHIA-NEWPORTENSIS	1		6
*				
PSEUDOPOLYCORIA	PAUCIBRANCHIATA	1		6
*				
STREBLOSPIO	BENEDICTI	2		442
*				
CHORDATA				
OSTEICHTHYS				
PERCIFORMES				
GOBIIDAE				
CLEVELANDIA	IOS	1		1
(ARECH-GOBY)				
ILYPNUS		1		3
(CHEEKSPOT-GOBY)				
MOLLUSCA				
GASTROPODA-GPISTHOBRANCHIA				
CEPHALASPICEA				
SCAPHANDRIDAE				
ACTEOCINA	CULCITELLA	1		25
*				
PELECYPODA				
VENERCIDA				
VENERIDAE				
PROTOTHACA	*	1		1
*				

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/20/76 STATION: #11 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL POP CODE POP COUNT SEX MATURITY

ANIMAL

	POP CODE	POP COUNT	SEX	MATURITY
POLYCHAETA				
* COSSURIDAE				
CCSSURA	PYGODACTYLATA	1		
* ANNELIDA				
OLIGochaeta				
* * *	*	1		9
* POLYCHAETA				
* CAPITELLIDAE				
CAPITITA	AMBISETA	2		150
* NCTOMASTUS	TENUIS	1		1
* CIRRATULIDAE				
CHAETODONE	CCRONA	1		13
* THARYX	*	1		3
* LUMBRINERIDAE				
LUMBRINERIS	*	1		15
* ORBINIIDAE				
MAPLOSCOLOPLOS	ELENGATUS	1		24
* SERPULICAE				
HYDROIDES	PACIFICA	1		1
* SPICNIDAE				
BOCCARDIA	HANATA*(UNCATA)	1		1
* NERINIDES	ACUTA	1		16
* POLYDORA	LIGNI	1		10
* PRIONOSPID	CIRRIFERA	1		1
* PRIONOSPID	HETEROBRANCHIA-NEWPORTENSIS	1		26
* PSEUDOPOLYDORA	PAUCIBRANCHIATA	2		124
* STREBLCSPIO	BENICTI	2		416
* MOLLUSCA				
GASTROPODA-OPISTHOBRANCHIA				
CEPHALASPIDEA				
SCAPHANDRIDAE				
ACTEOCINA	CULCITELLA	1		91
* PELECYPODA				
VENERCIDA				
SEMELIDAE				
THEORA	LUBRICA	1		4
* TELLINIDAE				
MACOMA	*	1		1
* VENERIDAE				
PROTOTHACA	*	1		1
* NEMERTEA				
* * *	*	1		1

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M1 MARINA DEL REY
SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT
* POLYDORA	LIGNI	1	11
* PRIONOSPIO	CIRRIFERA	1	1
* PRIONOSPIO	HETEROBANCHIA-NEWPORTENSIS	1	10
* PRIONOSPIO	PYGMAEUS	1	2
* SPIOPHANES	MISSIONENSIS	1	12
* SYLLIDAE			
* EXOgone	GEMMIFERA	1	1
* ARTHROPODA			
* CRUSTACEA			
* AMPHIPODA-GAMMARIDEA			
* *	*	1	13
* CUMACEA			
* *	*	1	2
* DIASTYLOPSIS	TENUIS	1	33
* DXYUROSTYLIS	PACIFICA	1	75
* DECAPODA			
* BRACHYURA-CANCRIDAE			
* CANCER	*	1	3
* PYCNOGONIDA			
* *			
* EUPENTACTA	*	1	57
* MOLLUSCA			
* GASTROPODA-PROSOBRANCHIA			
* NEOGASTROPODA			
* OLIVIDAE			
* OLIVELLA	BAETICA	1	1
* PELECYPODA			
* *	*	1	3
* *			
* VENEROIDA			
* CARDIIDAE			
* LAEVICARDIUM	SUBSTRATUM	1	2
* COOPERELLIDAE			
* COOPERELLA	SUBDIAPHANA	1	1
* ERYCINIDAE			
* LASAEA	SUBVIREDIS	1	1
* LEPTONIDAE			
* LEPTON	MEROEUM	1	1
* NACTRIDAE			
* *	*	1	5

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M1 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		PJP CODE	POP COUNT

ANIMAL			
MOLLUSCA			
PELECYPODA			
VENERIDAE			
MACTRIDAE			
SPIRULA	*	1	1
*			
MONTACUTIDAE			
MYSELLA	*	1	2
*			
TELLINIDAE			
MACOMA	*	1	2
*			
MACOMA	NASUTA	1	1
(BENT-NOSE-CLAM)			
TELLINA	*	1	1
*			
TELLINA	MODESTA	1	7
*			
VENERIDAE			
PROTOTHACA	*	1	5
*			
NEMERTEA			
*			
*			
*			
*			
*			
*	*	1	4
ANNELIDA			
OLIGOCHAETA			
*			
TUBIFICIDAE			
PELOSCOLEX	GABRELLAE	2	191
*			

MISSING DATA VALUE IS -140

BENTHIC DATA LISTING + HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: #2 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT
* PSEUDOPOLYDORA	PAUCIBRANCHIATA	1	3
* SPIOPHANES	MISSIONENSIS	1	4
* ARTHROPODA			
CRUSTACEA			
AMPHIPODA-CAPRELLIDEA			
* * *	*	1	3
AMPHIPODA-GAMMARIDEA			
* * *	*	1	4
COPEPODA-CALANOIDA			
* * *	*	1	1
COPEPODA-CYCLOPOIDA			
* * *	*	1	3
COPEPODA-HARPACTICOIDA			
* * *	*	1	16
CUMACEA			
* OXYUROSTYLIS	PACIFICA	1	63
* DECAPODA			
MACRURA-CALLINANASSIDAE			
CALLINANASSA (BURROWING-SHRIMP)	*	1	1
ISOPODA			
* * *	*	1	2
PYCNOGONIDA			
* * *	*	1	2
EUPENTACTA			
* ASCHELMINTHES			
NEMATODA			
* * * *	*	3	4929
MOLLUSCA			
GASTROPODA-PROSOBRANCHIA			
NEOGASTROPODA			
NASSARIIDAE			
NASSARIUS	PERPINGUIS	1	1
* PELECYPODA			
* * * *	*	1	9

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M3 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT	SEX	MATURITY
* POLYNOIDAE	*	1		
* HARMOTHOE	*	1		
* SABELLIDAE	*	1		
* CHONE	*	3		
* SPIONIDAE				
* PARAPRIONOSPIO	PINNATA	1		
* PRIONOSPIO	CIRRIFERA	1		
* PRIONOSPIO	HETEROBRANCHIA-NEWPORTENSIS	1		
* PRIONOSPIO	PYGMAEUS	1		
* SPIOPHANES	MISSICNENSIS	1		
* TEREBELLIDAE				
* PISTA	FASCIATA	1		
* ARTHROPODA				
* CRUSTACEA				
* AMPHIPODA-GAMMARIDEA				
* *	*	1		
* CUMACEA				
* OKYUROSTYLIS	PACIFICA	1		
* ASCHELMINTHES				
* NEMATODA				
* *	*	1		
* MOLLUSCA				
* GASTROPODA-OPISTHOBANCHIA				
* CEPHALASPIDEA				
* SCAPHANDRIDAE				
* ACTEOCINA	CULCITELLA	1		
* GASTROPODA-PROSOBRANCHIA				
* MESOGASTROPODA				
* CALYPTRAEIDAE				
* CREPIDULA	ONYX	1		
* (ONYX-SLIPPER-SHELL)				
* PELECYPODA				
* *	*	1		
* *	*	4		IMMATURE
* VENEROIDA				
* MONTACUTIDAE				
* MYSELLA	PEDROANA	1		
* SOLECURTIDAE				
* TAGELUS	SUBTERES	1		
* *				

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: #4 MARINA DEL REY
SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT
ANIMAL			

ANNELIDA			
OLIGOCHAETA			
*			
*			
*	*	1	8
POLYCHAETA			
*			
AMPHARETIDAE			
ANPHICTEIS	SCAPH CERANCHIATA	1	1
*			
CAPITELLIDAE			
CAPITITA	AMBI SETA	2	352
*			
NOTOMASTUS	TENUIS	1	10
*			
CHAETOPTERIDAE			
SPIOCHAETOPTERUS	COSTARUM	1	2
*			
CIRRATULIDAE			
CHAETOZONE	CORONA	1	16
*			
CHAETOZONE	SETOSA	1	1
*			
THARYX	*	1	23
*			
COSSUPIIDAE			
COSSURA	PYGODACTYLATA	1	90
*			
DORVILLEIDAE			
SCHISTOMERINGUS	LONGICORNIS	1	49
(G.D.-STAURONEREIS, SP.-ARTICULATA, RUDDOLPHI)			
GLYCERIDAE			
GLYCERA	CAPITATA	1	2
*			
GONIADIDAE			
GONIADA	BRUNNEA	1	20
*			
HESIONIDAE			
GYPTIS	BREVIPALPA (ARENICOLA-GLABRA)	1	3
*			
OPHIODROMUS	PUGETTENSIS	1	1
*			
LUMBRINERIDAE			
LUMBRINERIS	*	2	243
*			
NEPHTYIDAE			
NEPHTYS	CAECOIDES	1	5
*			
NEPHTYS	CORNUTA-FRANCISCANA	1	4
*			
OPHELIIDAE			
ARMANDIA	BIDCULATA	1	2
*			
POLYOPHTHALMUS	PICTUS	1	2

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: MA MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT
ORBINIIDAE			
HAPLOSCOLOPLOS	ELONGATUS	1	45
PECTINARTIIDAE			
PECTINARIA	CALIFORNIENSIS-NEWPORTENSIS	1	3
PHYLLODOCIDAE			
ETEONE	*	1	3
EJMIDA	BIFOLIATA	1	4
POLYNOIDA			
HARMOTHOE	(?) SCRIPTORIA	1	9
POLYNOIDA			
HARMOTHOE	PRIOPS	1	2
SABELLIDAE			
SERPULIDAE			
HYDROTIDES	PACIFICA	1	1
SPIONIDAE			
NERINIDES	ACUTA	1	5
PARAPRIONOSPID	PINNATA	1	1
PRIONOSPID	CIRRIFERA	1	17
PRIONOSPID	HETEROCERANCHIA-NEWPORTENSIS	1	91
PRIONOSPID	PYGMAEUS	1	67
PSEUDOPOLYDORA	PAUCIBRANCHIATA	1	3
SPIOPHANE S	MISSISSIPPIENSIS	1	10
STREBLOSPID	BENEDICTI	1	2
SYLLIDAE			
BRANIA	*	1	3
TEREBELLIDAE			
AMAEANA	OCCIDENTALIS	1	21
ARTHROPODA			
CRUSTACEA			
AMPHIPODA-GAMMARIDEA			
CUMACEA			
DIASTYLOPSIS	TENUIS	1	1
OXYUROSTYLIS	PACIFICA	1	13
DECAPODA			
BRACHYURA-GRAPSIDAE			
HENIGRAPSUS	OREGONENSIS	1	1

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M4 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT
ANIMAL		
ARTHROPODA		
PYCNOGONIA		
*		
*		
EUPENTACTA	*	1
*		
ASCHELMINTHES		
NEMATODA		
*		
*	*	12
*		
MOLLUSCA		
PELECYPODA		
VENEROIDA		
MONTACUTIDAE		
MYSELLA	*	4
*		
NEMERTEA		
*		
*		
*		
*	*	12
*		

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M6 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT
UPOGEBIA	*	1	2
(MUDSHRIMP)			
MOLLUSCA			
GASTROPODA-OPISTHOBRANCHIA			
CEPHALASPIDEA			
SCAPHANDRIDAE			
ACTEONINA	CULCITELLA	1	10
*			
PELECYPODA			
VENEROIDA			
PETRICOLIDAE			
PETRICOLA	TELLINIALIS	1	1
*			
TELLINIDAE			
LEPORIMETIS	OBESA	1	1
*			

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M5 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT	SEX	NATURITY

ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
CAPITELLIDAE					
CAPITITA	AMBISETA	2	267		
*					
NOTOMASTUS	TENUIS	1	1		
*					
CIRRATULIDAE					
CHAETOZONE	CORONA	1	25		
*					
FHARYX	*	1	1		
*					
COSSURIDAE					
COSSURA	CANDIDA	1	1		
*					
LUMBRINERIDAE					
LUMBRINERIS	*	1	73		
*					
NEREIDAE					
NEREIS	PROCERA	1	3		
*					
ORBINIIDAE					
HAPLDSCOLOPLOS	ELONGATUS	1	15		
*					
PARAONIDAE					
ACESTA	HORIKOSHII	1	1		
*					
PILARGIIDAE					
SIGAMBRA	TENTACULATA	1	1		
*					
POLYNOIDA					
HARMOTHOE	(7) SCRIPTORIA	1	3		
*					
SPIONIDAE					
NERINIDES	ACUTA	1	4		
*					
POLYDORA	LIGNI	1	1		
*					
PRIONOSPID	CIRRIFERA	1	3		
*					
PRIONOSPID	METEROBRANCHIA-NEWPORTENSIS	1	6		
*					
PRIONOSPID	PYGMAEUS	1	1		
*					
PSEUDOPOLYDORA	PAUCIBRANCHIATA	1	96		
*					
TEREBELLIDAE					
AMAEANA	OCCIDENTALIS	1	5		
*					
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-CAPRELLIDEA					
*					
*	*	1	1		

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M5 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT	SEX	MATURITY
* MYSIDACEA				
* * (MYSID)	*	1		1
MOLLUSCA				
GASTROPODA-OPISTHOBRANCHIA				
CEPHALASPIDEA				
SCAPHANDRIDAE				
ACTEOCINA	CULCITELLA	1		2
* PELECYPODA				
VENEROIDA				
SEMELIDAE				
THEORA	LUBRICA	1		1
* SOLECURTIDAE				
TAGELUS	SUBTERES	1		1
* TELLINIDAE				
MACOMA	NASUTA	1		1
(BENT-NOSE-CLAM)				
TELLINA	*	1		1
* NEMERTEA				
* * * * *	*	1		2

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77	STATION: M6	MARINA DEL REY	POP	POP	SEX	MATURITY
SAMPLE NUMBER 1 OF 2 SAMPLES	GRAB TYPE: CAMPBELL		CODE	COUNT		

TANAIDACEA						
* LEPTOCHELIA	*		1	2		
* CHORDATA						
OSTEICHTHYS						
PERCIFORMES						
GOBIIDAE						
CLEVELANDIA	105		1	1		
(ARROW-GOBY)						
ILYPNUS	GILBERTI		1	1		
(CHEEK SPOT-GOBY)						
MOLLUSCA						
GASTROPODA-OPISTHOBRANCHIA						
CEPHALASPIDEA						
SCAPHANDRIDAE						
ACTEOCINA	CULCITELLA		1	3		
* PELECYPODA						
VENEROIDA						
VENERIDAE						
CHIONE	*		1	1		IMMATURE
* PROTOTHACA						
* * * * *						

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M10 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

	POP CODE	POP COUNT
* * * DECAPODA BRACHYURA-PINNOTHERIDAE * * MACRURA-CALLINANASSIDAE UPOGEBIA (MUDSHRIMP)	* 1 1 1	 16 1 6
CHORDATA OSTEICHTHYS PERCIFORMES GOBIIDAE CLEVELANDIA (ARROW-GOBY)	 105 1	 1 1
MOLLUSCA GASTROPODA-OPISTHOBRANCHIA CEPHALASPIDEA SCAPHANDRIDAE ACTEOCINA * *	 CULCITELLA 1	 11

MISSING DATA VALUE IS -1.0

BENTHIC DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 3/17/77 STATION: M11 MARINA DEL REY
 SAMPLE NUMBER 1 OF 2 SAMPLES GRAB TYPE: CAMPBELL

		POP CODE	POP COUNT
ANIMAL			
ANNELEIDA			
OLIGOCHAETA			
*			
*			
*	*	1	15
POLYCHAETA			
*			
CAPITELLIDAE			
CAPITELLA	CAPITATA	1	5
*			
CAPITITA	AMBISETA	1	73
*			
CIRRATULIDAE			
*	*	1	2
*			
CHAETZONE	CORONA	1	3
*			
THARYX	*	1	6
*			
COSSURIDAE			
COSSURA	PYGODACTYLATA	1	5
*			
DORVILLEIDAE			
SCHISTOMERINGOS	LONGICORNIS	1	2
(G. D. - STAURONEREIS, SP. - ARTICULATA, RUOCLPHI)			
LUMBRINERIDAE			
LUMBRINERIS	*	1	21
*			
LUMBRINERIS	ERECTA	1	1
*			
ORBINIIDAE			
HAPLOSCOLOPLOS	ELONGATUS	1	12
*			
PHYLLODOCIDAE			
ANATIDES	*	1	1
*			
PILARGIIDAE			
SIGAMBRA	TENTACULATA	1	1
*			
SPIONIDAE			
NERINIDES	ACUTA	1	11
*			
POLYDORA	LIGNI	1	9
*			
PRIONOSPIO	CIRRIFERA	1	1
*			
PRIONOSPIO	METERBRANCHIA-NEWPORTENSIS	1	14
*			
PSEUDOPOLYDORA	PAUCIBRANCHIATA	1	34
*			
STREBLOSPIO	BENEDICTI	2	128
*			
TEREBELLIDAE			
ANAEANA	OCCIDENTALIS	1	1

APPENDIX E

SETTLING
AND
FOULING SPECIES

Population Code Intervals

0 = many, present, few, etc.
(non-numerical quantity)

1 = 1 - 99

2 = 100 - 999

3 = 1000 - 9999

4 = 10,000 - above

-/= species occurrence not detected

5 = presence of colonial animal
that cannot be counted as individuals

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M3

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELEIDA				
POLYCHAETA				
*				
OPHELIIDAE				
POLYOPHTHALMUS	PICTUS	2	-1.000	128
*				
SERPULIDAE				
HYDROIDES	PACIFICA	2	-1.000	320
*				
SPIONIDAE				
POLYDJRA	SOCIALIS	1	-1.000	32
*				
ARTHROPODA				
CRUSTACEA				
AMPHIPODA-CAPRELLIDEA				
CAPRELLIDAE				
CAPRELLA	*	1	-1.000	32
*				
CAPRELLA	CALIFORNICA	1	-1.000	64
*				
CAPRELLA	EQUILIPPA	2	-1.000	288
*				
AMPHIPODA-GAMMARIDEA				
COROPHIDAE				
COROPHIUM	ACHERUSICUM	2	-1.000	160
*				
GAMMARIDAE				
ELASMOPIUS	RAPAX	1	-1.000	32
*				
ISCHYROCERIDAE				
JASSA	FALCATA	2	-1.000	256
*				
BRYOZOA (ECTOPROCTA)				
GYMNOLAEMATA				
CHEILOSTOMATA				
BICELLERIELLIDAE				
BUGULA	CALIFORNICA	5	0.320	-1
*				
CHORDATA-URCHORDATA				
ASCIDIACEA				
APLUSOBRANCHIA				
*				
DIPLOSOMA	MACDONALDI	5	0.320	-1
*				
PHLESOBRANCHIA				
*				
CIONA	INTESTINALIS	2	-1.000	416
*				
STOLIDOBRANCHIA				
*				
BOTRYLLUS	*	5	1.600	-1
*				
Cnidaria (COELENTERATA)				
HYDROZOA				
HYDROIDA				
CAMPANULARIIDAE				
OBELIA	*	5	0.320	-1
*				
MOLLUSCA				
PELECYPODA				
MYTILOIDA				
MYTILIDAE				
MYTILUS	EDULIS	1	-1.000	64
(RAY-MUSSEL)				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M4

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
* CAPITELLIDAE				
	CAPITELLA	CAPITATA	-1.000	16
* OPHELIDAE				
	POLYOPHTHALMUS	PICTUS	-1.000	64
* SERPULIDAE				
	HYDROIDES	PACIFICA	-1.000	192
* SPIRONIDAE				
	POLYDORA	LIGNI	-1.000	16
* SPIRORBIDAE				
	*	*	-1.000	16
* SYLLIDAE				
	EXOGONE	LOUREI	-1.000	16
ARTHROPODA				
CRUSTACEA				
* (COPEPOD)				
	*	*	-1.000	32
* AMPHIPODA-CAPRELLIDAE				
	CAPRELLIDAE	*	-1.000	80
	CAPRELLA	EQUILIBRA	-1.000	32
* AMPHIPODA-GAMMARIDAE				
	COROPHIDAE	ACHERUSICUM	-1.000	32
	COROPHIUM	BRASILIENSIS	-1.000	176
	ERICTHONTUS	*	-1.000	
	GAMMARIDAE	RAPAX	-1.000	16
	ELASMOPUS	*	-1.000	
	ISCHYROCERIDAE	FALCATA	-1.000	16
	JASSA	*	-1.000	
BRYOZOA (ECTOPROCTA)				
GYMNOLASMATA				
	CHEILOSTOMATA	NERITINA	0.160	-1
	BICELLERTELLIDAE	*	-1.000	
	BUGULA	*	-1.000	
CHORDATA-URDCHORDATA				
ASCIDIACEA				
APLOUSOBRANCHIA				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: 46

MARINA DEL REY

			POPULATION CODE	WEIGHT	POPULATION COUNT

ANIMAL					
ANNELEIDA					
POLYCHAETA					
*					
OPHELIIDAE					
POLYOPHTHALMUS	PICTUS		1	-1.000	16
*					
SERPULIDAE					
HYDROIDES	PACIFICA		1	-1.000	32
*					
SPIONIDAE					
POLYDORA	LIGNI		1	-1.000	16
*					
SPIRORBIDAE	*		1	-1.000	48
*					
SYLIDAE	*		1	-1.000	48
*					
*					
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDAE					
GAMMARIDAE					
ELASMOPOUS	RAPAX		1	-1.000	32
*					
CHORDATA-UROCHORDATA					
ASCIIDIACEA					
PHLEBOBRANCHIA					
*					
CIONA	INTESTINALIS		2	-1.000	320
*					
STOLIDOBRANCHIA					
*					
BOTRYLLUS	*		5	0.480	-1
*					

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M7

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
	* CAPITELLIDAE CAPITELLA	CAPITATA	-1.000	32
	* DORVILLEIDAE OPHRYSIROCHA	PUERILIS	-1.000	32
	* SERPULIDAE HYDROIDES	PACIFICA	-1.000	64
	* SPIONIDAE	*	-1.000	32
	* POLYDORA	LIGNI	-1.000	320
	* POLYDORA	LIMICOLA	-1.000	64
ARTHROPODA				
CRUSTACEA				
	* * (COPEPOD)	*	-1.000	64
AMPHIPODA-GAMMARIDEA				
	* COROPHIDAE ERICHTHONIUS	BRASILIENSIS	-1.000	32
	* GAMMARIDAE ELASMOPUS	RAPAX	-1.000	32
CHORDATA-URDCHORDATA				
ASCIDIACEA				
	* PHLEBOBRANCHIA			
	* CIONA	INTESTINALIS	-1.000	1568
	* STOLIDOBRANCHIA			
	* BOTRYLLUS	*	0.320	-1
MOLLUSCA				
PELECYPODA				
	* MYDIA HIATELLIDAE HIATELLA	ARCTICA	-1.000	32

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M9

MARINA DEL REY

			POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL					
ANNELIDA					
POLYCHAETA					
	OPHELIDAE				
	POLYOPHTHALMUS	PICTUS	1	-1.000	1
	SERPULIDAE				
	HYDROIDES	PACIFICA	1	-1.000	10
	SPIONIDAE				
	POLYDORA	LIGNI	1	-1.000	10
	SPIROBIDAE	*	1	-1.000	1
	SYLLIDAE				
	EUSYLLIS	ASSIMILIS	1	-1.000	1
ARTHROPODA					
CRUSTACEA					
	(COPEPOD)	*	1	-1.000	11
AMPHIPODA-GAMMARIDEA					
	AMPHITHOE	PLUMULOSA	1	-1.000	1
	COROPHIDAE				
	COROPHIUM	ACHERUSICUM	1	-1.000	10
	ERICHTHONIUS	BRAZILIENSIS	1	-1.000	5
	GAMMARIDAE				
	ELASMOPUS	RAPAX	1	-1.000	64
	STENOTHOIDEAE				
	STENTHORE	VALIDA	1	-1.000	1
ISOPODA					
	SPHAEROMATIDAE				
	PARACERCEIS	SCULPTA	2	-1.000	406
CHORDATA-JROCHORDATA					
ASCIDIACEA					
	PHLEBORRANCHIA				
	CIONA	INTESTINALIS	2	-1.000	382
MOLLUSCA					
PELECYPODA					
		*	1	-1.000	1
PLATYHELMINTHES					
TURBELLARIA					
	POLYCLADIDA				
	(POLYCLAD-FLATWORMS)	*	1	-1.000	7

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: 49

MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL			
ANNELEIDA			
POLYCHAETA			
* CAPITELLIDAE CAPITELLA	CAPITATA	-1.000	1
* DORVILLEIDAE OPHRYOTROCHA	PUERILIS	-1.000	2
* OPHELIIDAE ARMANOIA	BIOCOLATA	-1.000	1
* SERPULIDAE HYDROIDES	PACIFICA	-1.000	15
* SPIONIDAE POLYDORA	LIGNI	-1.000	220
* SPIROBIDAE	*	-1.000	20
* SYLLIDAE	*	-1.000	2
ARTHROPODA			
CRUSTACEA			
* * (COPEPOD)	*	-1.000	5
AMPHIPODA-GAMMARIDEA CUMMULIIDAE CUMMULIUM	ACHERUSICUM	-1.000	10
* GAMMARIDAE ELASGOPUS	RAPAX	-1.000	42
* ISOPODA SPHAERONATIDAE PARACERCEIS	SCULPTA	-1.000	80
* THORACICA BALANUS	AMPHITRITE	-1.000	1
* ASCHELMINTHES NEMATODA	*	-1.000	2
* BRYOZOA(ECTOPROCTA) GYMNOZOAENATA CHEILOSTOMATA MEMBRANIPORIDAE MEMBRANIPORA	MEMBRANACEA	0.010	-1

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 10/14/76 STATION: M11 MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
*				
	DORVILLEIDAE			
	DORHYDROCHA	PUERILIS	-1.000	2
*				
	OPHELIIDAE			
	POLYOPHTHALMUS	PICTUS	-1.000	2
*				
	SERPULIDAE			
	HYDROIDES	PACIFICA	-1.000	72
*				
	SPIONIDAE			
	POLYDORA	*	-1.000	6
*				
	POLYDORA	LIGNI	-1.000	26
*				
	SPIRORRIDA	*	-1.000	16
*				
	SYLLIDAE	*	-1.000	2
*				
ARTHROPODA				
CRUSTACEA				
AMPHIPODA-GAMMARIDEA				
	COROPHIDAE			
	COROPHIUM	ACHERUSICUM	-1.000	22
*				
	ERICTHON (US	BRASILIENSIS	-1.000	2
*				
	GAMMARIDAE			
	ELASMOPIUS	RAPAX	-1.000	84
*				
	ISOPODA			
	SPHAEROMATIDAE			
	PARACEPCEIS	SCULPTA	-1.000	150
*				
ASCHELYNTHES				
NEMATODA				
*				
	*	*	-1.000	2
*				
BRYOZOA (ECTOPROCTA)				
GYMNOLAEMATA				
CHEILOSTOMATA				
	MEMBRANIPORIDAE			
	MEMBRANIPORA	MEMBRANACEA	0.020	-1
*				
Cnidaria (COELENTERATA)				
ANTHOZOA				
*				
	*	*	-1.000	2
*				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M1

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
*				
	NEREIDAE			
	PLATYNEREIS	BICANALICULATA	-1.000	50
*				
	OPHELIDAE			
	POLYOPHTHALMUS	PICTUS	-1.000	216
*				
	PHYLLODOCIDAE			
	EUNTOA	SANGUINEA	-1.000	8
*				
	SERPULIDAE			
	HYDROIDES	PACIFICA	-1.000	4
*				
	SPIONIDAE			
	POLYDORA	LIGNI	-1.000	8
*				
	SYLLIDAE			
	AUTOLYTUS	*	-1.000	4
*				
ARTHROPODA				
CRUSTACEA				
*				
*		*	-1.000	480
	(COPEPOD)			
	AMPHIPODA-GAMMARIDEA			
*		*	-1.000	100
*				
	COROPHITOAE			
	COROPHIUM	ACHERUSICUM	-1.000	12
*				
	ERICHTHONIUS	BRASILIENSIS	-1.000	24
*				
	ISCHYROCERIDAE			
	JASSA	FALCATA	-1.000	272
*				
TANAIDACEA				
*				
	ANATANAIS	NORMANI	-1.000	4
*				
THORACICA				
*				
	BALANUS	AMPHITRITE	-1.000	4
*				
PYCNOGONIDA				
*				
*		*	-1.000	4
	(SEA-SPIDER)			
ASCHELMYXES				
NEMATODA				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76

STATION: M1

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
*				
*				
*				
*				
BRYOZOA (ECTOPROCTA)	*	1	-1.000	68
GYMNOLAEATA				
CHEILOSTOMATA				
MEMBRANIPORIDAE				
MEMBRANIPORA	MEMBRANACEA	5	0.040	-1
CNIDARIA (COELENTERATA)				
HYDROZOA				
HYDROIDA				
CAMPANULARIIDAE				
OBELIA	*	5	1.660	-1
MOLLUSCA				
GASTROPODA-OPISTHOBRANCHIA				
NUDIBRANCHIA				
*				
*				
GASTROPODA-PROSOBRANCHIA	*	1	-1.000	60
ARCHAEGASTROPODA				
ACMAEIDAE	*	1	-1.000	4
(LIMPETS)				
PELECYPODA				
*				
*				
*				
MYOIDA	*	2	-1.000	184
HIATELLIDAE				
HIATELLA	ARCTICA	1	-1.000	24
MYTILOIDA				
MYTILIDAE				
MYTILUS	EDULIS	3	-1.000	1656
(BAY-MUSSEL)				
PTERIOIDA				
PECTINIDAE				
-EPTOPECTEN	LATIAURATUS	1	-1.000	56
(BROAD-EARED-PECTEN)				
PROTOZOA				
SARCODINA				
FORAMINIFERA				
*	*	1	-1.000	4
(FORAMS)				
PLANT				
PHAEOPHYCOPHYTA				
PHAEOPHYCEAE				
ECTOCARPALES				
*				
ECTOCARPUS	*	5	0.200	-1
*				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M3

MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT

ANIMAL			
ANNELIDA			
POLYCHAETA			
* NEREIDAE			
* PLATYNEREIS	BICANALICULATA	-1.000	4
* OPHELIIDAE			
* POLYOPHTHALMUS	PICTUS	-1.000	16
* SERPULIDAE			
* EUPOMATUS	GRACILIS	-1.000	12
* SPIONIDAE			
* POLYDORA	LIGNE	-1.000	60
ARTHROPODA			
CRUSTACEA			
* (COPEPOD)	*	-1.000	20
* AMPHIPODA-GAMMARIDEA			
* (COPEPOD)	*	-1.000	324
* COROPHIDAE			
* COROPHIUM	ACHERUSICUM	-1.000	56
* ERICHTHONIUS	BRASILIENSIS	-1.000	584
* GAMMARIDAE			
* ELASMOPUS	RAPAX	-1.000	204
* ISCHYROCERIDAE			
* JASSA	FALCATA	-1.000	28
* STENOCHTHIDAE			
* STENOCHTHE	VALIDA	-1.000	68
DECAPODA			
CARIDEA			
* (SHRIMP)	*	-1.000	4
* ISOPODA			
* SPHAERONTIDAE			
* PARACERCEIS	SCULPTA	-1.000	120
THORACICA			
* BALANUS	AMPHITRITE	-1.000	4
CHORDATA-UROCHORDATA			
ASCIDIACEA			
PHLEBOBRANCHIA			

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: 44

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
*				
	CAPITELLIDAE			
	CAPITELLA	CAPITATA	-1.000	24
*				
	OPHELIIDAE			
	POLYOPHTHALMUS	PICTUS	-1.000	32
*				
	SPIONIDAE			
	POLYDORA	LIGNE	-1.000	64
*				
	SPIROBIDAE	*	-1.000	16
*				
	SYLLIDAE	*	-1.000	32
*				
ARTHROPODA				
CRUSTACEA				
*				
*		*	-1.000	24
	(COPEPOD)			
AMPHIPODA-CAPRELLIDAE				
	CAPRELLIDAE			
	CAPRELLA	CALIFORNICA	-1.000	24
*				
	CAPRELLA	EQUILIBRA	-1.000	24
*				
AMPHIPODA-GAMMARIDAE				
	COROPHIIDAE			
	COROPHIUM	ACHERUSICUM	-1.000	104
*				
	ERICHTHONIUS	BRASILIENSIS	-1.000	224
*				
	GAMMARIDAE			
	ELASNOPUS	RAPAX	-1.000	48
*				
	ISCHYROCERIDAE			
	JASSA	FALCATA	-1.000	104
*				
	STENOTHOIDAE			
	STENOTHOE	VALIDA	-1.000	48
*				
ISOPODA				
	SPHAEROMATIDAE			
	PARACERCEIS	SCULPTA	-1.000	24
*				
CHORDATA-UROCHORDATA				
ASCIIDIACEA				
APLOUSOBRANCHIA				
*				
	DIPLOSOMA	MACDONALDI	0.000	-1

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: 44

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
* PLEBROBRANCHIA				
* CIGNA	INTESTINALIS	2	-1.000	200
* STOLIDOBANCHIA				
* BOTRYLLUS	*	5	0.080	-1
* CNIDARIA (COELENTERATA)				
* HYDROZOA				
* HYDROIDA				
* PLUMULARIIDAE				
* AGLAOPHENTA	*	5	0.080	-1
* MOLLUSCA				
* GASTROPODA-OPISTHORACHIA				
* NJOBIRANCHIA	*	1	-1.000	24
* PELECYPODA				
* *	*	1	-1.000	16
* MYTILOIDA				
* MYTILIDAE				
* MYTILUS	EOULIS	1	-1.000	8
* (BAY-MUSSEL)				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/15/76 STATION: M6

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELEIDA				
POLYCHAETA				
*				
	CAPITELLIDAE			
	CAPITELLA	CAPITATA	-1.000	2
*				
	SPIONIDAE			
	POLYDORA	LIGHT	-1.000	5
*				
	SPIROBIDAE	*	-1.000	23
*				
	SYLLIDAE	*	-1.000	5
*				
ARTHROPODA				
CRUSTACEA				
*				
*		*	-1.000	139
	(COPEPOD)			
	AMPHIPODA-CAPRELLIDAE			
	CAPRELLIDAE			
	CAPRELLA	CALIFORNICA	-1.000	2
*				
	AMPHIPODA-GAMMARIDAE			
	COROPHIDAE			
	ERICTHONIUS	BRASILIENSIS	-1.000	2
*				
	GAMMARIDAE			
	ELASMOPUS	RAPAX	-1.000	3
*				
ISOPODA				
	MUNNIDAE			
	MUNNA	*	-1.000	3
*				
	SPHAEROMATIDAE			
	PARACERCEIS	SCULPTA	-1.000	58
*				
MYSIDACEA				
*				
*		*	-1.000	1
	(MYSID)			
TANAIDACEA				
*				
	ANATANAIS	NORMANI	-1.000	1
*				
ASCHELMINTHES				
NEMATODA				
*				
*		*	-1.000	3
*				
CHORDATA-UROCHORDATA				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: #7

MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL			
ANNELIDA			
POLYCHAETA			
* CAPITELLIDAE CAPITELLA	CAPITATA	-1.000	5
* NEREIDAE PLATYNEREIS	BICANALICULATA	-1.000	1
* OPHELIIDAE POLYOPHTHALMUS	PICTUS	-1.000	1
* SERPULIDAE HYDROIDES	PACIFICA	-1.000	1
* SPIONIDAE POLYDOPA	LIGNI	-1.000	23
* SPIROBIDAE *	*	-1.000	32
* SYLLIDAE *	*	-1.000	2
ARTHROPODA			
CRUSTACEA			
* * (COPEPOD)	*	-1.000	12
AMPHIPODA-CAPRELLIDAE CAPRELLIDAE CAPRELLA	EQUILIBRA	-1.000	1
* AMPHIPODA-GAMMARIDAE COROPHIDAE COROPHIUM	ACHERUSICUM	-1.000	4
* ERICHTHONIUS	BRASILIENSIS	-1.000	1
* GAMMARIDAE ELASMOPUS	PAPAK	-1.000	3
* ISCHYROGERIDAE JASSA	PALCATA	-1.000	2
* ISOPODA SPHAEROMATIDAE PARACERCEIS	SCULPTA	-1.000	16
* THORACICA * (BARNACLE)	*	-1.000	1
BRYOZOA(ECTOPROCTA)			
GYMNOZOA CHEILOSTOMATA MEMBRANIPORIDAE MEMBRANIPORA			
	MEMBRANACEA	0.010	-1
CHORDATA-UROCHORDATA			
ASCIDIACEA PLEUROBRANCHIA * CIONA			
	INTESTINALIS	-1.000	46
* STOLIDOBRANCHIA * BOTRYLLUS *	*	0.010	-1

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M9

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
*				
CAPITELLIDAE				
CAPITELLA	CAPITATA	1	-1.000	1
*				
NEREIDAE				
PLATYNEREIS	BICANALICULATA	1	-1.000	1
*				
OPHELIIDAE				
POLYDORH THALMUS	PICTUS	1	-1.000	1
*				
SPIONIDAE				
POLYDORA	LIGNE	1	-1.000	19
*				
SPIROBIDAE				
*				
*				
*				
ARTHROPODA				
CRUSTACEA				
*				
*				
*				
(COPEPOD)		1	-1.000	34
AMPHIPODA-GAMMARIDEA				
COROPHIDAE				
COROPHIUM	ACHERUSICUM	1	-1.000	2
*				
GAMMARIDAE				
ELASMOPUS	RAPAX	1	-1.000	25
*				
ISCHYROCERIDAE				
JASSA	FALCATA	1	-1.000	2
*				
ISOPODA				
SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	1	-1.000	39
*				
CHORDATA-UROCHORDATA				
ASCIDIACEA				
PLEUROBRANCHIA				
*				
CIONA	INTESTINALIS	1	-1.000	45
*				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*				
*				
(POLYCLAD-FLATWORMS)		1	-1.000	2

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 12/16/76 STATION: M11 MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELEIDA				
POLYCHAETA				
*				
CAPITELLIDAE				
CAPITELLA	CAPITATA	1	-1.000	2
*				
SPIONIDAE				
POLYDORA	LIGNI	1	-1.000	5
*				
SPIRORRHOIDEAE				
*	*	1	-1.000	12
*				
ARTHROPODA				
CRUSTACEA				
*				
*				
(COPEPOD)				
AMPHIPODA-CAPRELLIDAE				
CAPRELLIDAE				
CAPRELLA	CALIFORNICA	1	-1.000	2
*				
CAPRELLA	EQUILIBRA	1	-1.000	2
*				
AMPHIPODA-GAMMARIDAE				
COROPHIIDAE				
COROPHIUM	ACHERUSICUM	1	-1.000	15
*				
ERICTHONIUS	BRASILIENSIS	1	-1.000	2
*				
GAMMARIDAE				
ELASMOPUS	RAPAX	1	-1.000	21
*				
ISOPODA				
SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	1	-1.000	56
*				
ASCHELMINTHES				
NEMATODA				
*				
*	*	1	-1.000	4
*				
CHORDATA-UROCHORDATA				
ASCIDIACEA				
PHLEBOBRANCHIA				
*				
CIONA	INTESTINALIS	1	-1.000	1
*				

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: #1

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
* CHRYSOPE TALIDAE				
	PALEANOTUS	BELLIS	-1.000	2
* NEREIDAE				
	PLATYNEREIS	BICANALICULATA	-1.000	93
* OPHELIIDAE				
	POLYOPHTHALMUS	PICTUS	-1.000	538
* PHYLLOCOCCIDAE				
	EULALIA	*	-1.000	3
* EUMIDA				
	SANGUINEA		-1.000	5
* POLYNOIDAE				
	HALOSYDNA	BREVISETOSA	-1.000	8
* SABELLARIIDAE				
	SABELLARIA	ALCOCKI	-1.000	3
* SERPULICAE				
	HYDROIDES	PACIFICA	-1.000	8
* SPICNIDAE				
	POLYDGRA	LIGNI	-1.000	7
* SYLLIDAE				
	AUTOLYTUS	*	-1.000	1
* ARTHROPODA				
CRUSTACEA				
* (CCPEPOD)				
		*	-1.000	304
* AMPHIPODA-CAPRELLIDEA				
	CAPRELLICAE			
	CAPRELLA	CALIFORNICA	-1.000	4
	CAPRELLA	EQUILIBRA	-1.000	1
* AMPHIPODA-GAMMARIDEA				
	COROPHIIDAE			
	CCROPHIUM	ACHERUSICUM	-1.000	2
* ISCHYROCERIDAE				
	JASSA	FALCATA	-1.000	4445
* PODOCERIDAE				
	PODOCERUS	BRASILIENSIS	-1.000	12

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: #1

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
STENOCHIDAE				
STENTHORE	VALIDA	1	-1.000	2
•				
TANAICACEA				
•				
ANATANAIS	NORMANI	1	-1.000	1
•				
THORACICA				
•				
CHTHAMALUS	*	1	-1.000	2
•				
PYCNOGONIDA				
•				
•				
•	*	1	-1.000	1
(SEA-SPIDER)				
ASCHELMINTHES				
NEMATODA				
•				
•	*	1	-1.000	15
•				
BRYOZOA (ECTOPROCTA)				
GYMNOLAEMATA				
CHEILICSTOMATA				
•	*	5	0.010	-1
•				
MEMBRANIPORIDAE				
MEMBRANIPORA	MEMBRANACEA	5	0.010	-1
•				
MEMBRANIPORA	MEMBRANACEA	5	0.010	-1
•				
MOLLUSCA				
GASTROPODA				
•				
•	*	1	-1.000	3
•				
GASTROPODA-OPISTHOBRANCHIA				
CEPHALASPICEA				
ATYIDAE				
MANINOEA	*	1	-1.000	1
•				
GASTROPODA-OPISTHOBRANCHIA				
NUDIBRANCHIA				
•	*	1	-1.000	19
•				
PELECYPODA				
•				
•	*	2	-1.000	433
•				
MYOIDA				
HIATELLIDAE				
HIATELLA	ARCTICA	1	-1.000	5
•				
MYTILCIDA				
MYTILIDAE				
MYTILUS	EDULIS	5	-1.000	1485
(RAY-MUSSEL)				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M1 MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
MOLLUSCA				
PELECYPEDA				
PTERICIDA				
PECTINIDAE				
LEPTOPECTEN	LATIAURATUS	1	-1.000	44
(BROAD-EARED-PECTEN)				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*				
*				
(POLYCLAD-FLATWORMS)	*	1	-1.000	3
PROTOZOA				
SARCODINA				
FORAMINIFERA				
*				
*				
(FORAMS)	*	1	-1.000	12
PLANT				
*				
*				
*				
*				
(ALGAE)	*	5	0.230	-1

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M3

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELICA				
POLYCHAETA				
*				
CAPITELLIDAE				
CAPITELLA	CAPITATA	1	-1.000	4
*				
CHAETOPTERIDAE				
CHAETOPTERUS	VARIOPEDATUS	1	-1.000	1
*				
NEREIDAE				
PLATYNEREIS	BICANALICULATA	1	-1.000	7
*				
OPHELIIDAE				
POLYOPHTHALMUS	PICTUS	1	-1.000	78
*				
POLYNOICIDAE				
*	*	1	-1.000	5
*				
SABELLARIIDAE				
SABELLARIA	ALCOCKI	1	-1.000	1
*				
SERPULIDAE				
HYCROIDES	PACIFICA	1	-1.000	4
*				
SPIONIDAE				
POLYDORA	LIGNI	1	-1.000	28
*				
POLYDORA	SOCIALIS	1	-1.000	2
*				
SPIROBIDAE				
*	*	1	-1.000	1
*				
SYLLIDAE				
BRANIA	*	1	-1.000	2
*				
EXOCCONE				
LCUREI	LCUREI	1	-1.000	2
*				
ARTHROPOCA				
CRUSTACEA				
*				
*				
(COPEPOD)				
AMPHIFODA-CAPRELLIOEA				
CAPRELLIDAE				
CAPRELLA	EQUILIBRA	1	-1.000	1
*				
CAPRELLA	VERRUCOSA	1	-1.000	1
*				
AMPHIFODA-CANMARIDEA				
COROPHIDAE				
COROPHIUM	ACHERUSICUM	1	-1.000	26
*				
ERICHTHNIUS	BRASILIENSIS	1	-1.000	61

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: N3

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
* GAMMARIDAE ELASMOPUS	RAPAX	1	-1.000	29
* ISCHYROCERIDAE JASSA	FALCATA	2	-1.000	102
* STENOTHOIDAE STENTHOE	VALIDA	1	-1.000	15
* DECAPODA				
* * (CRAB)	*	1	-1.000	2
* ISOPODA				
* * SPHAEROMATIDAE PARACERCEIS	SCULPTA	1	-1.000	19
* TANAIDACEA				
* ANATANAIS	NORMANI	1	-1.000	2
* ASCHELMINTHES NEMATODA				
* * * BRYOZOA (ECTOPROCTA) GYMNOLEHATA CHEILICSTOMATA BICELLERIELLIDAE BUGULA				
* MEMBRANIPORICAE MEMBRANIPORA	NERITINA	5	0.020	-1
* MEMBRANIPORICAE MEMBRANIPORA	MEMBRANACEA	5	0.010	-1
* CHORDATA-UROCHORDATA ASCIGIACEA STOLIDOBRANCHIA				
* BCTRYLLUS	*	5	0.010	-1
* CNIDARIA (COELENTERATA) HYDROZEA HYDRICIDA CANPANULARIIDAE OBELIA				
* PLUMULARIIDAE AGLAOPHENIA	*	5	0.010	-1
* TUBULARIIDAE TUBULARIA	*	5	0.150	-1
* MOLLUSCA GASTROPODA				
* * *	*	1	-1.000	2

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M3

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
MOLLUSCA				
GASTROPODA-OPISTHOBRANCHIA				
NUDIBRANCHIA				
	*			
	*	*	-1.000	1
	*			
PELECYPODA				
	*			
	*	*	-1.000	244
	*			
MYTILOIDA				
MYTILIDAE				
MYTILUS				
		EDULIS	-1.000	50
(BAY-MUSSEL)				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
	*			
	*	*	-1.000	2
(POLYCLAD-FLATWORMS)				
PLANT				
RHODOPHYCOPHYTA				
FLORIDECOPHYCEAE				
CERAMIALES				
	*			
	*	*	0.010	-1
	*			
POLYSIPHONIA				
	*			

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: MA

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELEA				
POLYCHAETA				
* CAPITELLIDAE				
CAPITELLA	CAPITATA	1	-1.000	3
* NEREIDAE				
PLATYNEREIS	BICANALICULATA	1	-1.000	1
* OPHELIIDAE				
POLYOPHTHALMUS	PICTUS	1	-1.000	13
* PHYLLGOCOCIDAE				
EULALIA	*	1	-1.000	1
* SERPULIDAE				
HYDROIDES	PACIFICA	1	-1.000	2
* SPICNIDAE				
POLYDORA	LIGNI	1	-1.000	15
* SPIROBIDAE				
*	*	1	-1.000	13
* SYLLIDAE				
*	*	1	-1.000	19
ARTHROPODA				
CRUSTACEA				
* (COPEPOD)				
*	*	1	-1.000	28
AMPHIFODA-CAPRELLIDEA				
CAPRELLIDAE				
CAPRELLA	CALIFORNICA	1	-1.000	1
* CAPRELLA	EQUILIBRA	1	-1.000	2
AMPHIFODA-GAMMARIDEA				
COROPHIIDAE				
COROPHIUM	ACHERUSICUM	1	-1.000	6
* GAMMARIDAE				
ELASMOPIUS	RAPAX	1	-1.000	13
* ISCHYROCERIDAE				
JASSA	FALCATA	1	-1.000	3
* STENOHOIDAE				
STENOTHOE	VALIDA	1	-1.000	42
DECAPODA				
BRACHYURA-CANCRIIDAE				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M4 MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
CANCER	*	1	-1.000	1
ISCPCDA				
MUNNIDAE				
MUNNA	*	1	-1.000	1
SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	1	-1.000	1
BRYOZOA(ECTOPROCTA)				
GYMNOLAEMATA				
CHEILOSTOMATA				
BICELLERIELLIDAE				
BUGULA	CALIFORNICA	5	0.010	-1
CHORDATA-UROCHORDATA				
ASCIIDIACEA				
PHLEBOBRANCHIA				
CIONA	INTESTINALIS	1	-1.000	4
CNIDARIA (COELENTERATA)				
HYDROZOA				
HYDRIDA				
CAMPANULARIIDAE				
OBELIA	*	5	0.010	-1
PLUMULARIIDAE				
AGLAOPHEDIA	*	5	0.010	-1
TUBULARIIDAE				
TUBULARIA	*	5	1.970	-1
MOLLUSCA				
GASTROPODA-OPISTHOBRANCHIA				
NUDIBRANCHIA				
PELECYPODA	*	1	-1.000	8
MYTILCOIDA				
MYTILIDAE				
MYTILUS	EDULIS	1	-1.000	11
(BAY-MUSSEL)				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
(POLYCLAD-FLATWORMS)	*	1	-1.000	1

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M7

MARINA DEL REY

			POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL					
ANNELECA					
POLYCHAETA					
*					
	OPHELIIDAE				
	POLYOPHTHALMUS	PICTUS	1	-1.000	2
*					
	SPIONIDAE				
	POLYDORA	LIGNI	1	-1.000	2
*					
	SPIROBIDAE	*	1	-1.000	20
*					
	SYLLIDAE	*	1	-1.000	9
*					
ARTHROPODA					
CRUSTACEA					
*					
*		*	1	-1.000	13
	(COPEPOD)				
AMPHIFODA-CAPRELLIDEA					
	CAPRELLIDAE				
	CAPRELLA	EQUILIBRA	1	-1.000	1
*					
AMPHIFODA-GAMMARIDEA					
	COROPHIIDAE				
	COROPHIUM	ACHERUSICUM	1	-1.000	1
*					
	GAMMARIDAE				
	ELASHOPUS	RAPAX	1	-1.000	2
*					
ISOPODA					
	LIMNORIDAE				
	LIMNORIA	TRIPUNCTATA	1	-1.000	1
*					
	SPHAEROMATIDAE				
	PARACERCEIS	SCULPTA	1	-1.000	2
*					
ASCHELMINTHES					
NEMATODA					
*					
*		*	1	-1.000	3
*					
BRYOZOA (ECTOPROCTA)					
GYMNOLEAMATA					
CHEILESTOMATA					
	BICELLERIELLIDAE				
	EUGULA	NERITINA	5	0.010	-1
*					
CNIDARIA (COELENTERATA)					
HYDROZOA					
HYDRICIDA					
	CAMPANULARIIDAE				
	OBELIA	*	5	0.010	-1
*					
	TUBULARIIDAE				
	TUBULARIA	*	5	0.010	-1
*					
PLANT					
PHAEOPHYCOPHYTA					
PHAEOPHYCEAE					
ECTOCARPALES					
*					
	ECTOCARPUS	*	5	0.010	-1
*					
RHODOPHYCOPHYTA					
FLORIDOPHYCEAE					
CERAMIALES					
*					
	POLYSTIPHONIA	*	5	0.010	-1
*					

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: MB

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELEIDA				
POLYCHAETA				
* CIRRATULIDAE	*			
THARYX		1	-1.000	1
* SPIRACHEIDAE	*			
SPIRACHEIDAE		1	-1.000	3
* ARTHROPODA				
CRUSTACEA				
* (COPEPOD)	*			
2		2	-1.000	118
AMPHIPODA-CAPRELLIDAE				
CAPRELLIDAE				
CAPRELLA	CALIFORNICA	1	-1.000	1
* AMPHIPODA-GAMMARIDAE				
CORCOPHIIDAE				
CORCOPHIUM	ACHERUSIUM	3	-1.000	1098
* GAMMARIDAE				
ELASMOPOUS	RAPAX	1	-1.000	3
* ISCHYROCERIDAE				
JASSA	FALCATA	1	-1.000	1
* ISOPODA				
LIMNORIDAE				
LIMNORIA	TRIPUNCTATA	1	-1.000	2
* SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	2	-1.000	129
* TANAIDACEA				
ANATANAIS	NORMANI	1	-1.000	5
* ASCHELMINTHES				
NEMATODA				
* CHORDATA-UROCHORDATA				
ASCIDIACEA				
PHLEBOBRANCHIA				
* CIGNA	INTESTINALIS	1	-1.000	4
* MOLLUSCA				
PELECYPODA				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATIONS: M8

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
MYTILCIDA				
MYTILIDAE				
MYTILUS	EDULIS	1	-1.000	1
(BAY-MUSSEL)				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*				
*				
(POLYCLAD-FLATWORMS)	*	1	-1.000	1
PROTOZOA				
SARCOIDINA				
FORAMINIFERA				
*				
*				
(FORAMS)	*	1	-1.000	1
PLANT				
*				
*				
*				
*				
(ALGAE)	*	5	0.010	-1
CHLOROPHYCOPHYTA				
CHLOROPHYCEAE				
ULVALES				
*				
ENTEROMORPHA	*	5	-1.000	-1
*				
PHAEOPHYCOPHYTA				
PHAEOPHYCEAE				
ECTOCARPALES				
*				
ECTOCARPUS	*	5	-1.000	-1
*				
RHODOPHYCOPHYTA				
FLORIDOPHYCEAE				
CERAMIALES				
*				
POLYSIPHONIA	*	5	-1.000	-1
*				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M9

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT	
ANIMAL					
ANNELECA					
POLYCHAETA					
* NEREIDAE					
	PLATYNEREIS	BICANALICULATA	1	-1.000	1
* OPHELIDAE					
	POLYDIPHTHALMUS	PICTUS	1	-1.000	1
* POLYNOIDAE					
		*	1	-1.000	2
* SPIROORBIDAE					
		*	1	-1.000	13
* SYLLIDAE					
		*	1	-1.000	1
ARTHROPODA					
CRUSTACEA					
AMPHIPODA-GAMMARIDEA					
CORCOPHIIDAE					
	COROPHIUM	ACHERUSICUM	1	-1.000	5
* GAMMARIDAE					
	ELASMCIPUS	RAFAX	1	-1.000	9
* ISCHYROCERIDAE					
	JASSA	FALCATA	1	-1.000	3
* ISPODA					
SPHAERONATIDAE					
	PARACERCEIS	SCULPTA	1	-1.000	16
* BRYOZOA (ECTOPROCTA)					
GYMNOCLEAMATA					
CHEILICSTOMATA					
MEMBRANIPORIDAE					
	MEMBRANIPORA	MEMBRANACEA	5	0.010	-1
* CHORDATA-UROCHORDATA					
ASCIDIACEA					
PHLEBOBRANCHIA					
	CIDNA	INTESTINALIS	1	-1.000	12
* MOLLUSCA					
PELECYPODA					
MYTILCIDA					
	MYTILIDAE	ECULIS	1	-1.000	1
	MYTILUS				
	(BAY-MUSSEL)				

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 2/17/77 STATION: M11

MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL			
ANNELIDA			
POLYCHAETA			
* CAPITELLIDAE			
CAPITELLA	CAPITATA	1	-1.000
*			
SERPULIDAE			
HYDROIDES	PACIFICA	1	-1.000
*			
SPICNICAE			
POLYDORA	LIGNI	1	-1.000
*			
SPIRACRIDAE			
*	*	1	-1.000
*			
SYLLIDAE			
*	*	1	-1.000
*			
ARTHROPODA			
CRUSTACEA			
AMPHIPODA-GAMMARIDEA			
COROPHIIDAE			
COROPHIUM	ACHERUSICUM	1	-1.000
*			
GAMMARIDAE			
ELASMOPUS	RAPAX	1	-1.000
*			
ISCHYROCERIDAE			
JASSA	FALCATA	1	-1.000
*			
ISOPODA			
LIMNORICAE			
LIMNORIA	TRIPUNCTATA	1	-1.000
*			
SPHAEROPATIDAE			
PARACERCEIS	SCULPTA	1	-1.000
*			
TANAIDACEA			
*			
ANATANAIS	NORMANI	1	-1.000
*			
CHORDATA-UROCHORDATA			
ASCIDIACEA			
PHLEBOBRANCHIA			
*			
CIONA	INTESTINALIS	1	-1.000
*			
MOLLUSCA			
PELECYPODA			
MYTILOIDA			
MYTILIDAE			
MYTILUS	EDULIS	1	-1.000
(BAY-MUSSEL)			

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M1

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
*				
MESONIDAE				
DPHIGORHUS	PLGETTENSIS	1	-1.000	4
*				
NEREIDAE				
PLATYNEREIS	BICANALICLLATA	1	-1.000	4
*				
POLYNOIDAE				
HALDSYONA	BREVISETOSA	1	-1.000	8
*				
SABELLARIIDAE				
SABELLARIA	*	1	-1.000	4
*				
SERPULIDAE				
HYDROIDES	PACIFICA	1	-1.000	16
*				
SPIGNIDAE				
POLYDORA	LIGNI	1	-1.000	4
*				
POLYDORA	LINICOLA	1	-1.000	4
*				
POLYDORA	SOCIALIS	1	-1.000	4
*				
SPIROGRIIDAE				
*				
*				
ARTHROPODA				
CRUSTACEA				
*				
*				
(COPEPOD)				
AMPHIPODA-CAPRELLIDEA				
*				
*				
CAPRELLIDAE				
CAPRELLA	VEHRUCOSA	1	-1.000	44
*				
AMPHIPODA-GAMMARIDEA				
COROPHIDAE				
COROPHIUM	ACHERUSTICUM	1	-1.000	8
*				
ISCHYROCERIDAE				
JASSA	FALCATA	3	-1.000	6320
*				
PODCCERIDAE				
PODCCERUS	CRESTATUS	1	-1.000	16
*				
THORACICA				
*				
CHTHAMALUS	*	1	-1.000	8

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M1

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ASCHELMINTHES				
NEMATODA				
*	*	1	-1.000	12
ECHINODERMATA				
ECHINOIDEA				
*	*	1	-1.000	8
(SEA-URCHIN)				
MOLLUSCA				
GASTROPODA				
*	*	1	-1.000	12
PELECYPODA				
*	*	2	-1.000	212
MYOIDA				
HIATELLIDAE				
HIATELLA	ARCTICA	1	-1.000	12
PTERIOIDA				
PECTINIDAE				
LEPTOPECTEN	LATIALRATUS	1	-1.000	4
(BROAD-EARED-PECTEN)				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*	*	1	-1.000	8
(POLYCLAD-FLATWORMS)				
PROTOZOA				
SARCOZOA				
FORAMINIFERA				
*	*	1	-1.000	92
(FORAMS)				
PLANT				
*	*	5	0.360	-1
(ALGAE)				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: 43

MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL			
ANNELEIDA			
POLYCHAETA			
* CHRYSPETALIDAE			
PALEANOTUS	BELLIS	-1.000	1
* NEREIDAE			
PLATYNEREIS	BICANALICULATA	-1.000	6
* OPHELIDAE			
POLYOPHTHALMUS	PICTUS	-1.000	8
* PHYLLIROCCIDAE			
EULALIA	*	-1.000	2
* POLYNCIDAE			
*	*	-1.000	2
* HALOSYDNA			
BREVISETCSA		-1.000	3
* SABELLARIIDAE			
SABELLANIA	*	-1.000	1
* SERPULIDAE			
HYDROIDES	PACIFICA	-1.000	10
* SPIUNIDAE			
POLYDORA	LIMICOLA	-1.000	16
* SPIROBIDAE			
*	*	-1.000	4
* SYLLIDAE			
EXOGONE	*	-1.000	5
ARTHROPODA			
CRUSTACEA			
*			
*			
(COPEPOD)	*	-1.000	21
* AMPHIPODA-CAPRELLIDAE			
CAPRELLIDAE			
CAPRELLA	CALIFORNICA	-1.000	18
* AMPHIPODA-GAMMARIDAE			
COROPHIIDAE			
COROPHIUM	ACHERUSICUM	-1.000	50
*			
ERICTHONUS	BRASILIENSIS	-1.000	73
GAMMARIDAE			
ELASMOGYPUS	RAPAX	-1.000	12
*			
*			

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: #3 MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ISCHYMOCCERIDAE				
JASSA	FALCATA	2	-1.000	279
PTOCCERIDAE				
PTOCCERUS	CRISTATUS	1	-1.000	47
STENOTHOIDEAE				
STENOTHOE	VALIDA	1	-1.000	6
ISOPODA				
MUNNIDAE				
MUNNA	*	1	-1.000	2
SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	1	-1.000	1
TANAIDACEA				
ANATANAIS	NORMANI	1	-1.000	2
THORACICA				
CHTHAMALUS	*	1	-1.000	2
ASCHELMINTHES				
NEMATODA				
*	*	1	-1.000	2
BRYOZOA (ECTOPROCTA)				
GYMNOLAEMATA				
CHEILUSTOMATA				
SICELLERIELLIDAE				
BUGULA	NERITINA	5	0.010	-1
CNIDARIA (COELENTERATA)				
HYDROZOA				
HYDROIDA				
PLUMULARIIDAE				
AGLAOPHENA	*	5	0.060	-1
MOLLUSCA				
GASTROPODA				
*	*	1	-1.000	8
GASTROPODA-OP (STHOBRANCHIA				
CEPHALASPIDEA				
ATYIDAE				
HAMINOEA	*	1	-1.000	1
GASTROPODA-OP (STHOBRANCHIA				
MUDIBRANCHIA				
*	*	1	-1.000	5
PELECYPODA				
*	*	1	-1.000	67
MYOIDA				
HIATELLIDAE				
HIATELLA	ARCTICA	1	-1.000	1
MYTILIDA				
MYTILIDAE				
MYTILUS	EDULIS	2	-1.000	189
(BAY-MUSSEL)				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*	*	1	-1.000	1
(POLYCLAD-PLATYCRMS)				
PLANT				
CHLOROPHYCOPHYTA				
CHLOROPHYCEAE				
ULVALES				
ULVA	*	5	0.010	-1

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M4

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELEIDA				
POLYCHAETA				
*				
CTENODRILIDAE				
CTENODRILUS	SERRATUS	1	-1.000	2
*				
NEREIDAE				
PLATYNEREIS	BICANALICULATA	1	-1.000	5
*				
OPHELIDAE				
ARMANDIA	BIOCULATA	1	-1.000	1
*				
POLYOPHTHALMUS	PICTUS	1	-1.000	1
*				
PHYLLODOCIDAE				
EULALIA	*	1	-1.000	1
*				
POLYNOIDAE	*	1	-1.000	1
*				
SERPULIDAE				
HYDROIDES	PACIFICA	1	-1.000	32
*				
SPIONIDAE				
POLYDORA	*	1	-1.000	21
*				
SPINOREIDAE	*	2	-1.000	205
*				
SYLLIDAE				
EXOgone	*	1	-1.000	13
*				
ARTHROPODA				
CRUSTACEA				
*				
*				
(COPEPOD)	*	1	-1.000	26
AMPHIPODA-CAPRELLIDAE				
*				
*				
CAPRELLIDAE				
CAPRELLA	CALIFORNICA	1	-1.000	34
*				
AMPHIPODA-GAMMARIDAE				
CURCUMIDAE				
CURCUMIUM	ACHERUSTICUM	1	-1.000	24
*				
ERICHTHONIUS	ERASILIENSIS	2	-1.000	190
*				
GAMMARIDAE				
ELASMODUS	RAPAX	1	-1.000	25
*				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBOR'S ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M4

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ISAEIDAE				
GAMMAROPSIDAE	THOMPSONI	1	-1.000	10
ISCHYROCERIDAE				
JASSA	FALCATA	2	-1.000	264
PODJICERIDAE				
PODOGERUS	CRISTATUS	1	-1.000	65
STENOTHOICIDAE				
STENOTHICE	VALIDA	1	-1.000	1
ISOPODA				
SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	1	-1.000	3
TANAIDACEA				
ANATANAIS	NORMANI	1	-1.000	1
THORACICA				
CHTHAMALUS	*	1	-1.000	1
HYDROZEA (ECTOPROCTA)				
SYMMULAEATA				
CHEILOSTEMATA				
*	*	5	0.010	-1
BICELLERIELLIDAE				
BUGULA	NERITINA	5	0.010	-1
CHORDATA-UROCHORDATA				
ASCIIDIACEA				
PHLEBOBRANCHIA				
CIONA	INTESTINALIS	1	-1.000	12
STOLIDOBRANCHIA				
BOTRYLLUS	*	5	0.040	-1
CYLIJARIA (CELEENTERATA)				
HYDROZEA				
HYDROIDA				
CAMPANULARIIDAE				
OBELIA	*	5	0.010	-1
PLUMULARIIDAE				
AGLADIPHENIA	*	5	0.010	-1
MOLLUSCA				
GASTROPODA				
*	*	1	-1.000	2
PELECYPODA				
*	*	1	-1.000	61
MYOIDA				
HIATELLIDAE				
HIATELLA	ARCTICA	1	-1.000	1
MYTILOIDA				
MYTILIDAE				
MYTILUS	EDULIS	2	-1.000	203
(BAY-MUSSEL)				
PROTOZOA				
SARCODINA				
FORAMINIFERA				
*	*	1	-1.000	5
(FORAMS)				

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: V6

MARINA DEL REY

			POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL					
ANNELIDA					
POLYCHAETA					
*					
	CAPITELLIDAE				
	CAPITELLA	CAPITATA	1	-1.000	4
*					
	CIRRATULIDAE				
	CAULLERIELLA	HAMATA	1	-1.000	4
*					
	CHAETOCYONE	CORONA	1	-1.000	4
*					
	CTENODRILIDAE				
	CTENODRILUS	SERRATUS	1	-1.000	76
*					
	DORVILLEIDAE				
	SCHISTOMERINGOS	LONGICORRIS	1	-1.000	4
	(G.D.-STEURONERE (S.SP.-ARTICULATA, PUDICHI)				
	SPIONIDAE				
	POLYDORA	*	1	-1.000	60
*					
	PRIONOSPIC	*	1	-1.000	3
*					
	SPIROREIDAE	*	1	-1.000	29
*					
	SYLLIDAE	*	1	-1.000	25
*					
ARTHROPODA					
CRUSTACEA					
*					
			1	-1.000	4
	(COPEPOD)				
	AMPHIPODA-CAPRELLIDAE				
*			1	-1.000	4
*					
	AMPHIPODA-GAMMARIDAE				
	COROPHIDAE				
	COROPHIUM	ACHERUSICUM	1	-1.000	1
*					
	ISUPODA				
	MUNNIDAE	*	1	-1.000	3
*					
	SPHAEROMATIDAE				
	PARACERCEIS	SCULPTA	1	-1.000	4
*					
	TANAIDACEA				
*					
	ANATANAIS	NORMANI	1	-1.000	1
*					

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M6

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
CHORDATA-UROCHORDATA				
ASCIDIACEA				
PHLEBOBRANCHIA				
*				
CIONA	INTESTINALIS	1	-1.000	8
*				
MOLLUSCA				
GASTROPODA				
*				
*	*	1	-1.000	1
*				
GASTROPODA-OPISTHOBRANCHIA				
CEPHALASPIDEA				
ACTEONIDAE				
RICTAXIS	PUNCTOCAELATUS	1	-1.000	1
*				
ATYIDAE				
HAMENDEA	*	1	-1.000	1
*				
GASTROPODA-OPISTHOBRANCHIA				
NUDIBRANCHIA				
*	*	1	-1.000	1
*				
PELECYPODA				
MYTILOIDA				
MYTILIDAE				
MYTILUS	EDULIS	1	-1.000	15
(BAY-MUSSEL)				
NEMERTEA				
*				
*	*	1	-1.000	1
*				
*				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*	*	1	-1.000	1
*				
(POLYCLAD-FLATWORMS)				
PROTOZOA				
SARCODINA				
FORAMINIFERA				
*	*	1	-1.000	16
*				
(FORAMS)				

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M7

MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL			
ANNELIDA			
POLYCHAETA			
*			
CAPITELLIDAE			
CAPITELLA	CAPITATA	-1.000	1
*			
CTENODRILIDAE			
CTENODRILUS	SERRATUS	-1.000	5
*			
NEREIDAE			
PLATYNEREIS	BICANALICULATA	-1.000	3
*			
SERPULIDAE			
HYDROIDES	PACIFICA	-1.000	160
*			
SPIONIDAE			
POLYDORA	LIGNI	-1.000	19
*			
SPIRORSIDAE			
*	*	-1.000	266
*			
SYLLIDAE			
*	*	-1.000	17
*			
ARTHROPODA			
CRUSTACEA			
*			
*			
*			
(COPEPOD)			
AMPHIPODA-CAPRELLIDEA			
CAPRELLIDAE			
CAPRELLA	CALIFORNICA	-1.000	1
*			
AMPHIPODA-GAMMARIDEA			
CJROPHIIDAE			
CJROPHIUM	ACHERUSICUM	-1.000	10
*			
ERICTHONIUS	BRASILIENSIS	-1.000	1
*			
GAMMARIDAE			
ELASMOPIUS	RAPAX	-1.000	9
*			
ISCHYROCIDAE			
JASSA	FALCATA	-1.000	3
*			
ISOPODA			
SPHAEROMATIDAE			
PARACERCEIS	SCULPTA	-1.000	3
*			
THORACICA			
*			
CHTHAMALUS	*	-1.000	1
*			
CORYDORIS			

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: V7

MARINA DEL REY

POPULATION CODE WEIGHT POPULATION COUNT

	POPULATION CODE	WEIGHT	POPULATION COUNT
BRYOZOA (CYTODROCTA)			
GYMNOLAEMATA			
CHEILOSTOMATA			
*			
*			
*			
CHORDATA-URCHORDATA			
ASCIDIACEA			
APLOUSOBRANCHIA			
*			
DIPLOSOMA	MCDONALDI	0.010	-1
*			
PHLEBOBRANCHIA			
*			
CIONA	INTESTINALIS	-1.000	23
*			
STOLIDOBRANCHIA			
*			
SOTRYLLUS	*	0.120	-1
*			
MOLLUSCA			
GASTROPODA-OPISTHOBRAFIA			
NUDIBRANCHIA			
*			
*			
*			
PELECYPODA			
*			
*			
*			
MYTILOIDA			
MYTILIDAE			
MYTILUS	EDULIS	-1.000	5
(BAY-MUSSEL)			

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M9

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
* CAPITELLIDAE				
CAPITELLA	CAPITATA	1	-1.000	1
* CTENODRILIDAE				
CTENODRILUS	SERRATUS	1	-1.000	1
* DORVILLEIDAE				
OPHRYOTROCHA	PUERILIS	1	-1.000	1
* NEREIDAE				
PLATYNEREIS	BICANALICULATA	1	-1.000	1
* OPHELIDAE				
POLYOPHTHALMUS	PECTUS	1	-1.000	1
* SERPULIDAE				
HYDROIDES	PACIFICA	1	-1.000	59
* SPIONIDAE				
POLYDORA	LIGNE	1	-1.000	19
* SPIROBIDAE				
*	*	2	-1.000	206
* SYLLIDAE				
*	*	1	-1.000	8
ARTHROPODA				
CRUSTACEA				
* *				
* (COPEPOD)				
AMPHIPODA-CAPRELLIDAE		1	-1.000	11
CAPRELLIDAE				
CAPRELLA	CALIFORNICA	1	-1.000	3
* AMPHIPODA-GAMMARIDEA				
COROPHIIDAE				
COROPHIUM	ACHERUSICUM	1	-1.000	31
* GAMMARIDAE				
ELASMOPIUS	RAPAX	1	-1.000	4
* ISOPODA				
SPHAEROMATIDAE				
PARACERCEIS	SCULPTA	1	-1.000	5
* THORACICA				
* CHTHAMALUS	*	1	-1.000	3

MISSING DATA VALUE IS -1.0

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: M9

MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ASCHELMINTHES				
NEMATODA				
*				
*				
*	*			
BRYOZOA (ECTOPROCTA)				
GYMNULAEATA				
CHEILOSTOMATA				
BICELLERIELLIDAE				
BUGULA	NERITINA	5	0.010	-1
*				
CHORDATA-UROCHORDATA				
ASCIDIACEA				
PHLEBOBRANCHIA				
*				
CIONA	INTESTINALIS	1	-1.000	91
*				
STOLIDOBRANCHIA				
*				
BOTRYLLUS	*	5	0.020	-1
*				
CNIDARIA (COELENTERATA)				
HYDROZOA				
HYDROIDA				
CAMPANULARIICAE				
OBELIA	*	5	0.010	-1
*				
ECHINODERMATA				
ECHINOIDEA				
*				
*	*			
(SEA-URCHIN)		1	-1.000	1
MOLLUSCA				
GASTROPODA-PROSOBRANCHIA				
MESOGASTROPODA				
CALYPTRAEIDAE				
CREPIDULA	*	1	-1.000	63
*				
PELECYPODA				
MYTILOIDA				
MYTILIDAE				
MYTILUS	EDULIS	1	-1.000	4
(BAY-MUSSEL)				
PHORONIDEA				
*				
*				
*	*			
*				
PLATYHELMINTHES				
TURBELLARIA				
POLYCLADIDA				
*				
*	*			
(POLYCLAD-PLATYFORMS)		1	-1.000	1
PROTOZOA				
SARCOIDINA				
FORAMINIFERA				
*				
*	*			
(FORAMS)		1	-1.000	1
PLANT				
CHLOROPHYCOPHYTA				
CHLOROPHYCEAE				
ULVALES				
*				
ENTEROMORPHA	*	5	0.010	-1
*				

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: V11 MARINA DEL REY

		POPULATION CODE	WEIGHT	POPULATION COUNT
ANIMAL				
ANNELIDA				
POLYCHAETA				
•				
CAPITELLIDAE				
CAPITELLA	CAPITATA	1	-1.000	1
•				
CHRYSOPETALIDAE				
PALEANCTUS	BELLIS	1	-1.000	2
•				
CIRRATULIDAE				
CHAETOGONE	CORDNA	1	-1.000	3
•				
COSSURIDAE				
COSSURA	CANOICA	1	-1.000	5
•				
CTENODRILIDAE				
CTENODRILUS	SERRATUS	1	-1.000	10
•				
HESIONIDAE				
GYPTIS	BREVI-FALPA (AFENICCLA-GLABRA)	1	-1.000	2
•				
NEREIDAE				
PLATYNEREIS	BICANALICULATA	1	-1.000	1
•				
OPHELIIDAE				
ARMANDIA	BICULATA	1	-1.000	1
•				
PECTINARIIDAE				
PECTINARIA	*	1	-1.000	1
•				
PHYLLOCCIDAE				
EULALIA	*	1	-1.000	1
•				
SERPULIDAE				
HYDROIDES	PACIFICA	1	-1.000	5
•				
SPIONIDAE				
POLYDORA	LIGNI	1	-1.000	24
•				
PRIONOSPIO	*	1	-1.000	3
•				
SPIRORBIDAE				
*	*	2	-1.000	145
•				
SYLLIDAE				
EUSYLLIS	*	1	-1.000	1
•				
EXOZONE	*	1	-1.000	15
•				
ARTHROPODA				
CRUSTACEA				
•				
*				
*	*	1	-1.000	5

SETTLING RACK DATA LISTING - HARBORS ENVIRONMENTAL PROJECTS

DATE: 4/21/77 STATION: VII MARINA DEL REY

	POPULATION CODE	WEIGHT	POPULATION COUNT
COPEPODA AMPHIPODA-GAMMARIDEA COROPHIDAE COROPHIUM	ACHERUSICUM	-1.000	62
* GAMMARIDAE ELASMOPIUS	RAPAX	-1.000	1
* DECAPODA BRACHYURA	*	-1.000	1
* ISOPODA SPHAEROMATICA PARACERCEIS	SCULPTA	-1.000	23
* TANAIDACEA ANATANAIS	NORMANI	-1.000	2
* THORACICA CHTHANALUS	*	-1.000	1
* ASCHELMINTHES NEMATODA	*	-1.000	39
* BRYOZOA (ECTOPROCTA) GYMNOLAEMATA CHEILOSTOMATA MEMBRANIPORIDAE MEMBRANIPORA	MEMBRANACEA	0.010	-1
* CHORDATA-URECHORDATA ASCIDIACEA PHLEGOBRANCHIA CIONA	INTESTINALIS	-1.000	9
* STOLIDOBRANCHIA BOTRYLLUS	*	0.010	+1
* MOLLUSCA PELECYPODA MYTILOIDA MYTILIDAE MYTILUS (BAY-MUSSEL)	EDULIS	-1.000	1
* PLATYHELMINTHES TURBELLARIA POLYCLAVIDA (POLYCLAID-FLATWORMS)	*	-1.000	5
* PROTIZOA SARCOIDINA FORAMINIFERA (FORAMS)	*	-1.000	29