

levels in the water column over weeks or months. These techniques were not reviewed for this report. In-situ exposure techniques in use for trace metals in natural waters include diffusion gradient thin-film gels (DGT), hollow fiber permeation liquid membranes (HFPLM), and Donnan membrane technique (DMT) (Sigg et al. 2006). Solid phase microextraction samplers, which consist of glass fiber coated with poly(dimethylsiloxane) in copper casings were moored at coastal sites along southern California for 2-3 months at a time to measure p,p'-DDE in seawater (Zeng et al. 2005). Another option are passive samplers called *semi-permeable membrane devices* (SPMD)<sup>21</sup>. SPMDs are porous plastic tubes containing a fatty material that mimics fish membrane lipids. As water passes through the membrane material, hydrophobic compounds are retained as they would be in fish fatty tissues. These sampling devices are usually deployed in an aquatic environment for three to four weeks and target hydrophobic contaminants such as organopesticides, PAHs, and PCBs. PISCO maintains a number of instrument moorings around Park islands, which might be utilized for such a project.

**12. Utilize NOAA's SAMSAP data to map current patterns of fishing effort outside the MPAs (H).** With the help of Sanctuary staff, publically available SAMSAP data should be examined to see how spatial patterns of fishing effort in Park waters have changed since the creation of the MPAs.

**13. Prioritize the synthesis of time series data from the Park's monitoring programs to discover the impacts of fishing on Park biota (H).** Several years of data from the intertidal and kelp forest monitoring programs, much of which precedes the establishment of the SMRs, have been presented in annual reports (yearly snapshots), but most of the data has not been synthesized (e.g., years compared, trends examined). Consequently, monitoring data were not easily used during this project to evaluate the status of Park species that are targets of recreational or commercial fishing, or that may be indirectly affected by fishing. Instead, inferences about stock conditions and fishing effort were made using data from economic surveys, state landings data, regional stock descriptions, and a few scientific articles that were produced in the last few years using Park data. It is probably more important at this juncture to use existing, and incoming, data from the Park's long-term marine monitoring program for new analyses, than it is to consider new sampling programs. The recent doubling of kelp forest monitoring sites (strategically located to compare conditions inside and outside fishing reserves) increases the importance of dedicating resources to data analysis and manuscript preparation.

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<sup>21</sup> see Huckins, JN, Petty, JD, Lebo, JA, Orazio, CE, Clark, RC, Gibson, VL. (January 3, 2002). SPMD Technology Tutorial (3rd Edition). U.S. Geologic Survey (USGS). Retrieved on June 15, 2006 from [http://wwwaux.cerc.cr.usgs.gov/SPMD/SPMD-Tech\\_Tutorial.htm](http://wwwaux.cerc.cr.usgs.gov/SPMD/SPMD-Tech_Tutorial.htm)

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APPENDIX A . Marine Plants and Macroalgae of Channel Islands National Park.

Common Name	Scientific Name	Habitat (as applies to Channel Islands)	Geographic range	Why of note? <sup>a</sup>
<b>FLOWERING PLANTS (Anthophyta)</b>				
Scouder Surfgrass	Phyllospadix scoulei	Rocky shorelines, heavy surf and waves	Entire California coast	Habitat forming <b>RI-Monit</b> <b>SB-Monit (in wrack)</b>
Torrey Surfgrass	Phyllospadix torreyi	Protected sandy intertidal and subtidal	Entire California coast	Habitat forming <b>RI-Monit</b> <b>SB-Monit (in wrack)</b>
Eelgrass	Zostera spp.	Prefer protected bays and lagoons, muddy or sandy, intertidal to 40 ft (in clear water up to 100 ft)	Alaska to Mexico	Habitat forming
<b>BROWN ALGAE (Phaeophyta)</b>				
Giant Kelp	Macrocystis pyrifera	5-20m depth on hard substrate, in water <20oC and light > 1% incident	Central California to Baja California. Well over half of the linear extent (miles of coast) of Southern California kelp beds occur around the Channel Islands.	Provides critical habitat. Commercially important (not currently harvested in CINP). Sensitive to El Nino related shifts in water temperature. <b>KF-Monit</b> <b>RI-Monit</b> <b>SB-Monit (in wrack)</b>
Feather Boa Kelp	Egregia menziesii, Egregia laevigata	Middle intertidal to 20 m	Alaska to Punta Eugenio, Baja California	Habitat forming <b>RI-Monit</b> <b>SB-Monit (in wrack)</b>
Elk Kelp	Pelagophycus porra	Subtidal on gravel	Point Conception to Isla San Benito, Baja California	Habitat forming
Oar Weed	Laminaria farlowii	Subtidal to 50 m	British Columbia to Bahia del Rosario, Baja California	Habitat forming <b>KF-Monit</b>
Brown Algae	Agarum fimbriatum	Subtidal to 115 m Rocks, wood, other algae	Alaska to Channel Islands	Habitat forming
Brown Algae	Colpomenia peregrina	Intertidal		<b>RI-Monit</b>
Brown Algae	Colpomenia sinuosa	Intertidal		<b>RI-Monit</b>
Brown Algae	Cylindrocarpus rugosus	Intertidal		<b>RI-Monit</b>
Brown Algae	Dictyota flabellata	Intertidal		<b>RI-Monit</b>
Brown Algae	Dictyota phychdictyon	Intertidal		<b>RI-Monit</b>
Brown Algae	Eisenia arborea	Low intertidal and subtidal to 10 m, forms dense subtidal groves	Vancouver Island to Isla Magdalena, Baja California	Habitat forming <b>RI-Monit</b>
Brown Algae	Endarachne binghamiae	Intertidal		<b>RI-Monit</b>
Brown Algae	Halidrys dioica	Intertidal		<b>RI-Monit</b>
Brown Algae	Hesperophycus californicus	Intertidal		<b>RI-Monit</b>

Common Name	Scientific Name	Habitat (as applies to Channel Islands)	Geographic range	Why of note? <sup>a</sup>
Brown Algae	<i>Pseudolithoderma nigra</i>	Intertidal		RI-Monit
California Sea Palm	<i>Pterygophora californica</i>	Forms extensive beds 7-20 m, occasionally low intertidal	Vancouver Island to Bahia del Rosario, Baja California	Habitat forming KF-Monit
Southern Sea Palm	<i>Etsentia arborea</i>	kelp forest		KF-Monit
Brown Algae	<i>Ralfsia</i> sp.	Intertidal		RI-Monit
Brown Algae	<i>Sargassum muticum</i>	Intertidal		RI-Monit
Brown Algae	<i>Scytosiphon dotyi</i>	Intertidal		RI-Monit
Brown Algae	<i>Scytosiphon lomentaria</i>	Intertidal		RI-Monit
Brown Algae	<i>Soranothera ulvoidea</i>	Intertidal		RI-Monit
Acid weed	<i>Desmarestia</i> sp.	kelp forest		KF-Monit
Bladder chain kelp	<i>Cytosetra</i> sp.	kelp forest		KF-Monit
Articulated and encrusting coralline algae	Corallinaceae	kelp forest		KF-Monit
Brown Algae	<i>Endarachne binghamiae</i>	intertidal		RI-Monit
Brown Algae	<i>Halidrys dioica</i>	intertidal		RI-Monit
Brown Algae	<i>Hesperophycus californicus</i>	intertidal		RI-Monit
Brown Algae	<i>Silvetia compressa</i>	intertidal		RI-Monit
Brown Algae	<i>Punctaria occidentalis</i>	eelgrass epiphyte		
<b>RED ALGAE (Rhodophyta)</b>				
Red Algae	<i>Acrosorium uncinatum</i>	Intertidal		RI-Monit
Red Algae	<i>Amphiroa zonata</i>	Intertidal		RI-Monit
Red Algae	<i>Bossiella</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Calliarthron tuberculosum</i>	Intertidal		RI-Monit
Red Algae	<i>Callithamnion pikeanum</i>	Intertidal		RI-Monit
Red Algae	<i>Callophyllis</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Carpopeltis bushiae</i>	Intertidal		RI-Monit
Red Algae	<i>Ceramium</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Chondracanthus canaliculatus</i>	Intertidal		RI-Monit
Red Algae	<i>Chondracanthus corymbiferus</i>	Intertidal		RI-Monit
Red Algae	<i>Chondracanthus harveyanus</i>	Intertidal		RI-Monit
Red Algae	<i>Chondracanthus spinosus</i>	Intertidal		RI-Monit
Red Algae	<i>Chondria californica</i>	Intertidal		RI-Monit
Red Algae	<i>Corrallina officinalis</i>	Intertidal		RI-Monit
Red Algae	<i>Corrallina vancouveriensis</i>	Intertidal		RI-Monit
Red Algae	<i>Cryptopleura crispa</i>	Intertidal		RI-Monit
Red Algae	<i>Cryptopleura violacea</i>	Intertidal		RI-Monit
Red Algae	<i>Cumagloia andersonii</i>	Intertidal		RI-Monit

Common Name	Scientific Name	Habitat (as applies to Channel Islands)	Geographic range	Why of note? <sup>a</sup>
Red Algae	<i>Endocladia muricata</i>	Intertidal		RI-Monit
Red Algae	<i>Erythrocytis saccata</i>	Intertidal		RI-Monit
Red Algae	<i>Gastroclonium coulteri</i>	Intertidal		RI-Monit
Agar Weed	<i>Gelidium</i> sp.	Intertidal and Kelp		RI-Monit KF-Monit
Agar Weed	<i>Gelidium purpurascens</i>	Intertidal		RI-Monit
Agar Weed	<i>Gelidium robustum</i>	Intertidal		RI-Monit
Tongue weed	<i>Gigartina</i> sp	kelp forest		KF-Monit
Red Algae	<i>Gracilaria sjoestedtii</i>	Intertidal		RI-Monit
Red Algae	<i>Gracilaria verrucosa</i>	Intertidal		RI-Monit
Red Algae	<i>Grateloupia</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Haliptylon gracile</i>	Intertidal		RI-Monit
Red Algae	<i>Laurencia pacifica</i>	Intertidal		RI-Monit
Red Algae	<i>Laurencia spectabilis</i>	Intertidal		RI-Monit
Red Algae	<i>Laurencia snyderi</i>	Intertidal		RI-Monit
Red Algae	<i>Laurencia subopposita</i>	Intertidal		RI-Monit
Red Algae	<i>Liagora californica</i>	Intertidal		RI-Monit
Red Algae	<i>Lithothamnion</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Lithothrix aspergillum</i>	Intertidal		RI-Monit
Red Algae	<i>Mastocarpus papillatus</i>	Intertidal		RI-Monit
Red Algae	<i>Mazzaella affinis</i>	Intertidal		RI-Monit
Red Algae	<i>Mazzaella leptorhynchos</i>	Intertidal		RI-Monit
Red Algae	<i>Melobesia marginata</i>	Intertidal		RI-Monit
Red Algae	<i>Melobesia mediocris</i>	Intertidal		RI-Monit
Red Algae	<i>Microcladia coulteri</i>	Intertidal		RI-Monit
Red Algae	<i>Nemalion helminthoides</i>	Intertidal		RI-Monit
Red Algae	<i>Neorhodomella larix</i>	Intertidal		RI-Monit
Red Algae	<i>Nienburgia andersoniana</i>	Intertidal		RI-Monit
Red Algae	<i>Plocamium cartilagineum</i>	Intertidal		RI-Monit
Red Algae	<i>Polysiphonia</i>	Intertidal		RI-Monit
Red Algae	<i>Porphyra perforata</i>	Intertidal		RI-Monit
Red Algae	<i>Prionitis lanceolata</i>	Intertidal		RI-Monit
Red Algae	<i>Pterocladia</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Pterosiphonia</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Rhodymenia</i> sp.	Intertidal		RI-Monit
Red Algae	<i>Sarcodiotheca</i> sp.	Intertidal		RI-Monit

Common Name	Scientific Name	Habitat (as applies to Channel Islands)	Geographic range	Why of note? <sup>a</sup>
Red Algae	Smithora naiadum	Intertidal		RI-Monit
<b>GREEN ALGAE (Chlorophyta)</b>				
Green Algae	Bryopsis	Intertidal		RI-Monit
Green Algae	Chaetomorpha linum	Intertidal		RI-Monit
Green Algae	Cladophora columbiana	Intertidal		RI-Monit
Green Algae	Cladophora graminea	Intertidal		RI-Monit
Green Algae	Codium fragile	Intertidal		RI-Monit
Green Algae	Enteromorpha intestinalis	Intertidal		RI-Monit
Green Algae	Ulva californica	Intertidal		RI-Monit
Green Algae	Ulva taeniata	Intertidal		RI-Monit

<sup>a</sup> RI-Monit: abundance recorded in monitoring sites of the Rocky Intertidal Monitoring program at the Park.

KF-Monit: abundance recorded in monitoring sites of the Kelp Forest Monitoring program at the Park.

SB-Monit: abundance recorded in monitoring sites of the Sand Beach/Coastal Lagoon Monitoring program at the Park.

Monitoring reports available on-line at <http://www.nature.nps.gov/im/units/chis/HTMLpages/AnnIReports/MarineReports.htm>

APPENDIX B . Marine macroinvertebrates of Channel Islands National Park. Some sandy beach species are included. Microinvertebrates (e.g., zooplankton) are not included.

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
<b>Cnidaria (Coelenterata)</b>					
Aggregating Anemone	<i>Anthopleura elegantissima</i>	On rocks,in tidepools and crevices or pilings in middle intertidal of semiprotected rocky shores		Indicator or sensitive species <b>RI-Monit</b>	
	<i>Plumuraria sp.</i>	intertidal		<b>RI-Monit</b>	
	<i>Corymorpha sp.</i>	intertidal		<b>RI-Monit</b>	
Anemone	<i>Anthopleura solis</i>	Intertidal		<b>RI-Monit</b>	
Giant green anemone	<i>Anthopleura xanthogrammica</i>	Intertidal		<b>RI-Monit</b>	
Strawberry anemone	<i>Corynactis californica</i>	kelp forest		<b>KF-Monit</b>	
White-spotted rose anemone	<i>Urticina lofotensis</i>	kelp forest		<b>KF-Monit</b>	
Anemone	<i>Epiactis prolifera</i>	Intertidal		<b>RI-Monit</b>	
California Hydrocoral	<i>Allopora/Stylaster californica</i>	Under ledges and boulders shaded from sunlight in low intertidal, wave swept, rocky	Alaska to San Diego	Indicator or sensitive species <b>KF-Monit</b>	
La Jolla cup coral	<i>Astrangia lajollaensis</i>	Kelp forest		<b>KF-Monit</b>	
Orange cup coral	<i>Balanophyllia elegans</i>	Kelp forest		<b>KF-Monit</b>	
Hydroid	<i>Abietinaria spp.</i>	Under ledges and boulders shaded from sunlight in low intertidal, wave swept, rocky shores	Alaska to San Diego	Indicator or sensitive species	
Ostrich-Plume Hydroid	<i>Aglaophenia latirostris</i>	on rocks and larger red and brown algae in low intertidal to 35m in subtidal, semiprotected rocky shores	Southern Alaska to Santa Barbara	Indicator or sensitive species,	
Ostrich-Plume Hydroid	<i>Aglaophenia struthionides</i>	low intertidal, subtidal to 160m, usually < 16m, rocky reefs and pinnacles, wave swept	Southern Alaska to San Diego	Indicator or sensitive species,	
Hydroid	<i>Clytia bakeri</i>	on shells of snails ( <i>Nucifera fossatus</i> , <i>Olivella biplicata</i> ) and bivalves ( <i>Tivela stultorum</i> , <i>Donax gouldii</i> ), low intertidal, shallow subtidal, sandy beaches	San Fransisco to Baja California	Indicator or sensitive species,	

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Hyroid	<i>Garveia annulata</i>	Common seasonally shaded areas in low intertidal and subtidal to 120m on open or semiprotected rocky shores, usually on sponges or braned coralline algae <i>Bossiella</i> , <i>Calliarthon</i>	Sitka, Alaska to Channel Islands	Indicator or sensitive species,	
Hyroid	<i>Obelia</i> spp.	Common on rocks, pilings, seaweeds, shells, in low intertidal and subtidal to 50 m.	Pacific coast and worldwide	Indicator or sensitive species,	
Hyroid	<i>Sarsia</i> spp.	Common on rocks and pilings, low intertidal, protected coasts. Also in bays on eelgrass <i>Zostera</i> .	British Columbia to Chile, and North Atlantic	Indicator or sensitive species	
Hyroid	<i>Sertularella turgida</i>	Under rocks and ledges, low intertidal and subtidal to 160 m, exposed shores.	British Columbia to San Diego	Indicator or sensitive species	
Hyroid	<i>Sertularia frucata</i>	On bases of blades of surfgrass ( <i>Phylolospadix</i> spp.) and red algae, low intertidal and subtidal to 50 m, exposed rocky shores.	British Columbia to San Diego	Indicator or sensitive species	
Hyroid	<i>Tubularia crocea</i>	On pilings and floats, harbors and bays, intertidal and subtidal to 40 m		Indicator or sensitive species	
Red Gorgonian	<i>Lophogorgia chilensis</i>	On rock, esp. offshore pinnacles, subtidal 16-66 m		Indicator or sensitive species <b>KF-Monit</b>	
California Golden Gorgonian	<i>Muricea californica</i>	On rocks, esp. offshore pinnacles		Indicator or sensitive species <b>KF-Monit</b>	
Brown Gorgonian	<i>Muricea fructicosa</i>	On rocks, pipes, wrecks, subtidal 16-33 m.		Indicator or sensitive species <b>KF-Monit</b>	
<b>Miscellaneous Taxa</b>					
southern staghorn bryozoan	<i>Diaporecia californica</i>	Kelp forest		<b>KF-Monit</b>	

<b>Common Name</b>	<b>Scientific Name</b>	<b>Habitat in Channel Islands</b>	<b>Geo-graphic range</b>	<b>Other details *</b>	<b>Harvest Details; Commercial or Sport Take Regulations</b>
sponge	Leucetta losangelensis (Porifera)	Intertidal		<b>RI-Monit</b>	
sponge	Leucilla nuttingi (Porifera)	Intertidal		<b>RI-Monit</b>	
gray moon sponge	Spheciospongia confederata	Intertidal		<b>RI-Monit</b>	
orange puffball sponge	Tethya aurantia	Kelp forest		<b>KF-Monit</b>	
Colonial Sand Tube Worm, sand caste worm	Phragmatopoma californica (Polychaeta)	on rock where sufficient sand washes by for the worms to build and maintain tubes, intertidal and subtidal to 80 m		Indicator or sensitive species <b>KF-Monit</b> <b>RI-Monit</b>	
Ornate tube worm	Diopatra ornata	Kelp forest		<b>KF-Monit</b>	
Blood Worm	Euzonus mucronata (Polychaeta)	Sandy beach		<b>SB-Monit</b>	
Polychaete Worm	Nephtys californicus (Polychaeta)	Sandy Beach		<b>SB-Monit</b>	
Flatworm	Leptoplana sp. (Platyhelminthes)	Intertidal		<b>RI-Monit</b>	
Peanut worm	(Sipuncula)	Intertidal		<b>RI-Monit</b>	
Ribbon worm	Tubulanus sexlineatus (Nemertea)	Intertidal		<b>RI-Monit</b>	
Reef building worm	Dodecaceria fewkesi (Polychaeta)	Intertidal		<b>RI-Monit</b>	
Sand castle worm	Phragmatopoma californica (Polychaeta)	Intertidal		<b>RI-Monit</b>	
Fragile tube worm	Salmacina tribranchiata (Polychaeta)	Intertidal		<b>RI-Monit</b>	
Christmas tree worm	Spirobranchus spinosus (Polychaeta)	Intertidal		<b>RI-Monit</b>	
Flatworm	Phylloplana viridis (Platyhelminthes)	Epiphyte on eelgrass			
<b>Arthropoda</b>					
Dark backed isopod	Cirolana harfordi	Intertidal		<b>RI-Monit</b>	
Isopod	Excirrolana chiltoni	Sand Beach		<b>SB-Monit</b>	
Isopod	Alloniscus percovexus	Sand Beach		<b>SB-Monit</b>	
Gammarid amphipods	(Gammaridea)	Intertidal		<b>RI-Monit</b> <b>SB-Monit</b>	
Beach hoppers	Megalorchestia spp.	Sand Beach		<b>SB-Monit</b>	
Rove Beetles	Thinopinus pictus (Staphylinidae)	Sand Beach		<b>SB-Monit</b>	
Rock louse	Ligia occidentalis	Intertidal		<b>RI-Monit</b>	
Smooth sided barnacle	Balanus glandula	Intertidal		<b>RI-Monit</b>	
Shotgun barnacle	Chthamalus dalli	Intertidal		<b>RI-Monit</b>	
Pacific gooseneck barnacle	Pollicipes polymerus	Intertidal		<b>RI-Monit</b>	
Red thatched barnacle	Tetraclita rubescens	Intertidal		<b>RI-Monit</b>	

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Giant Acorn Barnacle	Balanus nubilus	Rocks or pilings in strong currents or waves, intertidal and subtidal to 90m		Indicator or sensitive species	
California Spiny Lobster	Panulirus interruptus (Crustacea)	Under rocks and in crevices during day, in open at night in low intertidal and subtidal to 60m.	San Luis Obispo Co., CA to Bahia Rosala, Baja California	Commerical importance  <b>KF-Monit</b>	CCR Title 14/Div. 1/Subdiv. 1/Ch.4/Sept. 29.90 CCR Title 14/Div.1/Subdiv. 1/Ch. 6/Sept. 122 CF&G Sect. 7256, 8250-8259, 9000-9024 (traps) <b>Commercial take:</b> The southern California Lobster Fishery is now a limited-entry fishery, and is considering adopting an individual transferrable quota system (ITQ). Lobsters be over 3.25in long. May only be taken during Oct-Mar. Traps can only be raised or placed from dusk to dawn, each trap must be have a buoy with commercial license number displayed, must not be within 750 ft of public pier, etc. and not set within 250 ft of navigation channels. <b>Sport:</b> May only be taken with sport fishing license and using hoop net or by hand. Limit 7, min. size 3.25in. Same season as for Commerical take.
Red Rock Shrimp	Lysmata californica (Crustacea)	Among rocks and alage in low intertidal, subtidal to 60m.	Santa Barbara, CA to Bahia Sebastian Vizcaino, Baja California.	Commercial Importance	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sept.29.80 CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/Sept.120 CF&G Sect. 8590-8595, 8830-8843, 9000-9024 (traps)  <b>Commercial take:</b> Depth, equipment (re. trawls and traps), season and incidental catch restrictions apply. Trawling only allowed >3 nautical miles from land. Traps may not be used S. of Pt Conception inside 50 fathom depth. <b>Sport take:</b> May only be taken by hand, or by shrimp and prawn traps with openings ≤0.5in (south of Pt. Conception).

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Spot Prawn	Pandalus platyceros (Crustacea)	Rocky intertidal to over 259 fm in depth.	NE Pacific Ocean, southern Alaska to S. California, and Sea of Japan.	Commercial Importance	As of April, 2003, spot prawn may not be taken by trawl nets, except as incidental catch up to 50 lbs. for ridgeback shrimp trawlers. Otherwise, same as for Red Rock Shrimp. Fishing spot prawn using traps is regulated and new rules are pending as of 9/2005.
Ridgeback Prawn	Sicyonia ingentis (Crustacea)		Monterey, CA to Cedros Island, Baja California. <u>Fishery is centered in SB Channel and off Santa Monica Bay</u>	Commercial Importance	same as for Red Rock Shrimp except that special trawling provisions for ridgeback shrimp contained in CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/Sect.120.3
Hairy Hermit Crab	Pagurus hirsutiusculus	Intertidal		<b>RI-Monit</b>	
Crab	Pagurus granosimanus	Intertidal		<b>RI-Monit</b>	
Blue-clawed Hermit Crab	Pagurus samuelis	Intertidal		<b>RI-Monit</b>	
Porcelain Crab	Petrolisthes sp.	Intertidal		<b>RI-Monit</b>	
Purple lined Shore Crab	Pachygrapsus crassipes	Intertidal		<b>RI-Monit</b>	
Lumpy Crab	Paraxanthias taylori	Intertidal		<b>RI-Monit</b>	
Northern Kelp Crab	Pugettia producta	Intertidal		<b>RI-Monit</b>	
Kelp Crab	Pugettia richii	Intertidal		<b>RI-Monit</b>	
Red Crab	Cancer productus (Crustacea)	Middle intertidal and subtidal to 79m, common in gravel and boulder beaches. Protected coasts and bays.	Kodiak, Alaska to San Diego	Commerical importance	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect.29.85 CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/Sect. 123 CF&G Sect. 8254, 9001 <b>Commercial take:</b> Permit required for commercial take between high tide mark and 1000 ft below low tide mark. Are allowed as by catch in permitted lobster traps. <b>Sport:</b> Open season all year, limit=35, must be ≥4 in.

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Rock Crab	<i>Cancer antennarius</i> (Crustacea)	low rocky intertidal and subtidal to 40m around bases of kelp and in gravel.	Coos Bay, Oregon to Baja California	Limited sport fishery exists <b>RI-Monit</b>	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect.29.85 CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/Sect. 125 (rock crab) CF&G Sect. 8254, 9001 <b>Commercial take:</b> Commerical permit needed for rock crab. Every trap or string of traps must be marked with buoys bearing the commercial fishing license identification number issued to operator (FGC§9006). Traps made of wire mesh, not less than 1 <sup>7</sup> / <sub>8</sub> inches by 3 <sup>7</sup> / <sub>8</sub> inches inside measurement, with the 3 <sup>7</sup> / <sub>8</sub> inches measurement parallel to the floor of the trap shall have at least one rigid circular opening of not less than 3 <sup>1</sup> / <sub>4</sub> inches inside diameter in an outside wall of the rearmost chamber of the trap. All other traps must have two such openings in an outside wall of the rearmost chamber of the trap Traps must be emptied at least every 96 hours (weather permitting), and must not be abandoned. Every trap must have at least one destruct device which meets specifications approved by the Department (FGC§9004). <b>Sport:</b> Same as for Red Crab.
Sheep Crab	<i>Loxorhynchus grandis</i> (Crustacea)	low intertidal and (usually) subtidal to 124 m.	Cordell Bank, CA to Punta San Bartolome, Baja California	Commercial importance	Same as for Red Crab.
Common Sand Crab	<i>Emerita analoga</i>	Sand Beach		<b>SB-Monit</b>	
Spiny Sand Crab	<i>Blepharipoda occidentalis</i>	Sand Beach		<b>SB-Monit</b>	
<b>Echinodermata</b>					
Giant Starfish	<i>Pisaster giganteus</i> (Echinodermata)	very low intertidal and subtidal to 88m, protected coast, occas. subtidal sand		keystone predator of bivalves, snails, chitons, barnacles <b>RI-Monit</b> <b>KF-Monit</b>	
Ochre Starfish	<i>Pisaster ochraceus</i> (Echinodermata)	middle and low intertidal and subtidal to 88 m on wave swept rocky shores, rare in C. and S. California		keystone predator of bivalves, snails, chitons, barnacles <b>RI-Monit</b>	
Six armed starfish	<i>Leptasterias</i> sp.	intertidal		<b>RI-Monit</b>	

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Bat star	Asterina miniata	intertidal, kelp forest		<b>RI-Monit</b> <b>KF-Monit</b>	
Spiny brittle star	Ophiothrix spiculata	intertidal		<b>RI-Monit</b>	
Starfish	Henricia sp.	intertidal		<b>RI-Monit</b>	
	Lissothiria sp.	intertidal		<b>RI-Monit</b>	
Sunflower star	Pycnopodia helianthoides	kelp forest		<b>KF-Monit</b>	
California Sea Cucumber	Parastichopus californicus (Echinodermata)	on rocky shores w. strong wave action & pilings in open bays, usually subtidal to 90 m in California		commercial importance	CF&G Sect. 8405-8405.4 <b>Commercial harvest:</b> Permits required. Most of sea cucumber harvest occurs off the Northern Channel Islands in water 6-20 fm. Harvest is primarily by trawlers. A holder of a commercial sea cucumber permit is not required to possess a Tidal Invertebrate Permit (CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/ Sect. 123).
Warty Sea Cucumber	Parastichopus parvamensis (Echinodermata)	sandy/mud surfaces between rocks in low intertidal in bays - and rocks, sand, or mud in well-protected rocky shores, subtidal to 27 m		commercial importance <b>KF-Monit</b>	CF&G Sect. 8405-8405.4 <b>Commercial harvest:</b> Permits required. Most of sea cucumber harvest occurs off the Northern Channel Islands in water 6-20 fm. Harvest is almost exclusively by divers. A holder of a commercial sea cucumber permit is not required to possess a Tidal Invertebrate Permit (CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/ Sect. 123).
sea cucumber	Pachythyone rubra	kelp forest		<b>KF-Monit</b>	
Red Sea Urchin	Strongylo-centrotus franciscanus (Echinodermata)	uncommon in very low intertidal on open, rocky shore; more abundant subtidally to 90m		commercial importance, habitat forming species (consumes red and brown algae, particularly Giant Kelp) <b>RI-Monit</b> <b>KF-Monit</b>	CF&G Sect. 9054-9055 CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/ Sect. 120.7. Red sea urchins harvested by divers equipped with hooka gear. Majority of SoCal landings come from the northern Channel Islands. <b>Commercial harvest:</b> Permits required. Intermittent closures (certain days and weeks). Catch limits for small urchins apply.  A sea urchin diver or sea urchin crewmember operating under the provisions of this section is not required to possess a Tidal Invertebrate Permit (CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/ Sect. 123)

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Purple Sea Urchin	Strongylo-centrotus purpuratus (Echinodermata)	Common in lower intertidal on rocky shores in moderate to strong waves and subtidal to 160m		indicator or sensitive species, habitat forming species (consumes red and brown algae, particularly Giant Kelp)  <b>RI-Monit</b> <b>KF-Monit</b>	
White sea urchin	Lytechinus anamesus	kelp forest		<b>KF-Monit</b>	
Coronado sea urchin	Centrostephanus coronatus	kelp forest		<b>KF-Monit</b>	
<b>MOLLUSCA</b>					
Pink Abalone	Haliotis corrugata	subtidal from 6-60 m on exposed rock, commonly in giant kelp		Historic commercial importance, rapid decline experienced <b>KF-Monit</b>	CCR Title 14/ Div. 1/ Subdiv. 1/ Ch.4/ Sect.29.15. <b>No commercial or sport take allowed.</b>
Black Abalone	Haliotis cracherodii	under rocks and in crevices in high intertidal down to 6 m		Candidate species, rapid decimated by disease <b>RI-Monit</b>	As for Pink Abalone
Green Abalone	Haliotis fulgens	low intertidal and subtidal to 10 m. In crevices where surfgrass and algae is dense, esp. at 2-3 m in deep crevices in strong waves.		commercial importance, rapid decline experienced <b>KF-Monit</b>	As for Pink Abalone
Red Abalone	Haliotis rufescens	intertidal in rocky shores with strong waves, more abundant subtidal 6-17m, possible down to >180m		World's largest abalone, Commercial importance, rapid decline <b>KF-Monit</b>	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect.29.15. <b>No commercial take allowed.</b> <b>Sport take:</b> (None in SB Channel) Red abalone may only be taken north of line drawn due west magnetic through center of mouth of San Francisco Bay, daily bag limit is 3, annual bag limit 24.

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
White Abalone	Haliotis sorenseni	subtidal from 25-66m, in open, exposed areas		Historic commercial importance Candidate endangered species (listed 1/2000), <b>most are found at Channel Islands</b> <b>KF-Monit</b>	As for pink abalone
Owl limpet	Lottia gigantea	high and mid intertidal on cliff faces and rocks in high surf		Maintains algal patches by physically excluding other grazers, indicator or sensitive species <b>RI-Monit</b>	
White cap limpet	Acmaea mitra	intertidal		<b>RI-Monit</b>	
Nuttall's hornmouth limpet	Ceratostoma nuttali	intertidal		<b>RI-Monit</b>	
file limpet	Collisella digitalis	intertidal		<b>RI-Monit</b>	
shield limpet	Collisella limatula	intertidal		<b>RI-Monit</b>	
rough limpet	Collisella pelta	intertidal		<b>RI-Monit</b>	
limpet	Collisella scabra	intertidal		<b>RI-Monit</b>	
keyhole limpet	Collisella strigatella	intertidal		<b>RI-Monit</b>	
giant keyhole limpet	Fissurella volcano	intertidal		<b>RI-Monit</b>	
seaweed limpet	Megathura crenulata	intertidal, kelp forest		<b>RI-Monit</b> <b>KF-Monit</b>	
limpet	Notoacmaea insessa	intertidal		<b>RI-Monit</b>	
emarginate dog wrinkle	Notoacmaea paleacea	intertidal		<b>RI-Monit</b>	
circled dwarf triton	Nucella emarginata	intertidal		<b>RI-Monit</b>	
cup and saucer limpet	Ocenebra circumtexta	intertidal		<b>RI-Monit</b>	
snail	Trimusculus reticulatus	intertidal		<b>RI-Monit</b>	
limpet	Acanthina punctulata	intertidal		<b>RI-Monit</b>	
ridged dwarf turban snail	Tectura depicta	epifauna unique to Zostera (eelgrass)			
Joseph's coat amphissa	Homalopoma luridum	intertidal		<b>RI-Monit</b>	
Slipper snails	Amphissa versicolor	intertidal		<b>RI-Monit</b>	
Tinted wentle trap	Crepidula sp.	intertidal		<b>RI-Monit</b>	
Kobelt's spindle	Epitonium tinctum	intertidal		<b>RI-Monit</b>	
Painted spindle	Fusinus kobelti	intertidal		<b>RI-Monit</b>	
Kelp snail	Fusinus luteopictus	intertidal		<b>RI-Monit</b>	
periwinkle	Norrisia norrisi	intertidal		<b>RI-Monit</b>	
periwinkle	Littorina keenae	intertidal		<b>RI-Monit</b>	
purple olive snail	Littorina scutulata	intertidal		<b>RI-Monit</b> <b>SB-Monit</b>	
tube snail	Olivella biplicata	intertidal		<b>RI-Monit</b>	
	Petalocochus montereyensis	intertidal		<b>RI-Monit</b>	

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
scaled-tube snail	<i>Serpulorbis squamigerus</i>	intertidal, kelp forest		<b>RI-Monit</b> <b>KF-Monit</b>	
black turban snail	<i>Tegulla funebris</i>	intertidal		<b>RI-Monit</b>	
limpet-like snail	<i>Siphonaria brannani</i>	intertidal		<b>RI-Monit</b>	
speckled turban snail	<i>Tegula gallina</i>	intertidal		<b>RI-Monit</b>	
Wavy Turban/top Snail	<i>Lithopoma undosa</i>	low intertidal on rocks, more common (esp. larger ind.s) subtidally in kelp beds	Californian Province: occurs south of Point Conception	Indicator or sensitive species <b>KF-Monit</b>	
Red Turban/top snail	<i>Lithopoma gibberosum</i>	kelp forest		<b>KF-Monit</b>	
Kellett's Whelk	<i>Kelletia kelletii</i> (Mollusca)	rare in low intertidal under rock ledges, common subtidally to 70 m o rock and gravel	Point Conception to Isla Asuncion, Baja California	Indicator or sensitive species <b>KF-Monit</b>	
chestnut cowry	<i>Cypraea spadicea</i>	kelp forest		<b>KF-Monit</b>	
California sea hare	<i>Aplysia californica</i>	intertidal, kelp forest		<b>RI-Monit</b> <b>KF-Monit</b>	
sea hare	<i>Phyllaplysia taylori</i>	epifauna unique to <i>Zostera</i> (eelgrass)			
sea slug	<i>Anisodoris nobilis</i>	intertidal		<b>RI-Monit</b>	
sea slug	<i>Aldisia sanguinea</i>	intertidal		<b>RI-Monit</b>	
sea slug	<i>Dialula sandiegensis</i>	intertidal		<b>RI-Monit</b>	
sea slug	<i>Hermisenda crasicornis</i>	intertidal		<b>RI-Monit</b>	
sea slug	<i>Phidiana pugnax</i>	intertidal		<b>RI-Monit</b>	
chitons	<i>Lepidochitona</i> sp.	intertidal		<b>RI-Monit</b>	
mossy chiton	<i>Mopalia muscosa</i>	intertidal		<b>RI-Monit</b>	
chiton	<i>Nuttalina californica</i>	intertidal		<b>RI-Monit</b>	
reversed chama	<i>Pseudochama exogyra</i>	intertidal		<b>RI-Monit</b>	
octopus	<i>Diplodontia orbellus</i>	intertidal		<b>RI-Monit</b>	
California Mussel	<i>Mytilus californianus</i>	Abundant on rocks in upper-middle intertidal, subtidal to 24 m	Aleutian Islands, Alaska to S. Baja California	Commercial importance, provides habitat for other species <b>RI-Monit</b>	CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/ Sect. 123 CF&G Sect. 8344, 5669-5675 (bivalve toxic areas), 5700-5702 <b>Commercial take:</b> Tidal Permits required for commercial take between high tide mark and 1000ft below the low tide mark. In the 1990s, Ecomar used oil platforms in the channel for mussel aquaculture. <b>Sport take:</b> limit of 10 lbs (in shell) for California mussels + bay mussel in combination.

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Bay mussel	Mytilus edulis	intertidal		<b>RI-Monit</b>	CCR Title 14/ Div. 1/Subdiv. 1/Ch.6/Sect. 123 CF&G Sect. 8344, 5669-5675 (bivalve toxic areas), 5700-5702 <b>Commercial take:</b> Tidal Permits required for commercial take between high tide mark and 1000ft below the low tide mark. Ecomar used oil platforms in the channel for mussel aquaculture. <b>Sport take:</b> limit of 10 lbs (in shell) for California mussels + bay mussel in combination.
Rock Scallop	Hinnites giganteus (multirugosus) or Crassedoma giganteus	Common in rock crevices in low intertidal and subtidal to 50m.	Queen Charlotte Islands, British Columbia, to Punta Abreojos, Baja California	Commercial importance <b>KF-Monit</b>	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect. 29.60 CF&G Sect. 8345, 5669-5675, 5700-5702 <b>Commercial:</b> It is unlawful for any person to sell or purchase any rock scallops (Hinnites multirugosus) or scallops (Pecten circularis), except scallops cultivated pursuant to Division 12 (commencing with Section 15000) which may be sold or purchased subject to regulations of the commission. <b>Sport take:</b> Limit is 10. Can only be taken by hand using dive knives or abalone irons in compliance with Sect. 29.15(e).
Pismo Clam	Tivela stultorum (Mollusca)	Low intertidal and subtidal to 25m on sandy in strong surf	Half Moon Bay, CA to Bahia Magdalena, Baja California	Commercial importance, exhibited rapid decline <b>SB-MONIT</b>	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect. 29.40 CF&G Sect. 7290, 7332, 8346, 10711 <b>Commercial take:</b> None may be sold or purchased that were taken in CA. <b>Sport take:</b> None shall be possessed out of the shell except when being prepared for immediate consumption. No clam tools may be possessed between dusk and dawn. May be taken in Santa Cruz and Monterey Co.s, during only some months. May be taken in other counties year round. Limit 10, minimum size 4.5-5 in. (depending on area). No take in clam reserves.

Common Name	Scientific Name	Habitat in Channel Islands	Geo-graphic range	Other details *	Harvest Details; Commercial or Sport Take Regulations
Geoduck Clam	Panopea generosa (Mollusca)	In burrows in sand much in low intertidal and subtidal in protected bays	Forrester Island, Alaska to Scammon Lagoon, Baja California	Commercial importance	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect. 29.30 CF&G Sect. 7332, 8340 No clam tools may be possessed between dusk and dawn. Limit: Three. The first three geoduck clams dug must be retained as the bag limit regardless of size or broken condition.
Market Squid	Loligo opalescens (Mollusca)	Pelagic except when schooling and spawning on muddy sand in shallow inshore areas	S. British Columbia to Isla Guadalupe (Mexico) and Bahia Asuncion, Baja California	Commerical Imporance	CCR Title 14/ Div. 1/Subdiv. 1/Ch.4/Sect. 29.70 CF&G 8420-8429.7 <b>Commercial take:</b> Vessel permits required, must use dip, purse seine or lampara nets. No permit needed if used for live bait. From the US-Mexico border north squid may be taken for commercial purposes between noon on Sunday and Noon on Friday each week. This does not apply to vessels pursuing squid for live-bait purposes only. Not more that 2 tons may be taken per day without a valid Market Squid Vessel Permit. Each vessel fishing for squid or attracting squid shall shield the entire filament of each bulb used to attract squid. The illumination shall be oriented directly downward or be completely under the surface of the watter. Vessels fishing for squid or lighting for squid will utilize a total of no more than 30,000 watts to attract squid at any time.  <b>Sport take:</b> No limit. May only be taken with hand-held dip nets.

\*KF-Monit: species included in the Park's Kelp Forest Monitoring Program

RI-Monit: species included in the Park's Rocky Intertidal Monitoring Program

APPENDIX C . Fish species that are targets of commercial or sport fishing in Channel Islands National Park, along with information about regulatory actions and fishing regulations. Table is not an exhaustive list of fishing regulations. NOTE: seasons for commercial and recreational catch are subject to change from year to year.

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
<p><b>pertaining to ALL FISH</b></p> <p>Pursuant to U.S. Supreme Court decision 436 U.S. 32 (1978), commercial and recreational fishing is allowed in Channel Islands National Park waters in accordance with State regulations, except in the State Marine Reserves.</p> <p>Owing to the MRPA, <b>gill nets (set- and drift gill nets) and trammel nets shall not be used</b> to take any species in waters between a line extending due west true from Point Arguello in Santa Barbara County south to the U.S.-Mexico border that are less than 70 fathoms in depth or within one mile, whichever is less, around the islands of San Miguel, Santa Rosa, Santa Cruz, Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente.</p> <p><b>Trawling for any species is PROHIBITED in state waters</b> except that targeting California Halibut in a strip of coast between 1-3 mile offshore between Pt. Magu and Pt. Arguello <i>called THE CALIFORNIA HALIBUT TRAWLING ZONE</i></p>				
<p><b>NEARSHORE FISH</b></p>				
Rockfish, Generally	Sebastes spp.	A	CA-NFMPlan CA-RCG CCCA	<p><u>Commercial catch of all rockfish is regulated owing to status as Federally managed groundfish, and inclusion in the state's Nearshore Fisheries Management Plan</u> . No rockfish may be taken by gill nets or trammel nets within 1 nautical mile or 70 fathoms (whichever is less) of the Channel Islands (owing to the MRPA). <b>COMMERCIAL CATCH</b> of nearshore (shallow and deeper) rockfish requires a Limited Entry Nearshore Finfish permit. Take by finfish trap requires a Nearshore Live Fish Trap Endorsement. Seasons, area and depth restrictions apply.</p> <p><b>RECREATIONAL CATCH</b> is regulated by <b>Rules for the RCG Complex</b> (includes all species of Rockfish, Cabezon and Greenlings in combination), which <u>in 2006</u> state that catch by <u>boat-based anglers</u> open Mar.1-Dec. 31 in waters 0-60 fm, except during Sep. and Oct. when restricted to waters 0-30 fm). <u>Shore-based anglers and divers</u> open year round. The aggregate daily bag and possession limit is 10 fish per person within the RCG Complex (includes all species of Rockfish, Cabezon and Greenlings in combination) with smaller sub-limits on bocaccio, cabezon, and greenlings, which become included in the 10-fish RCG Complex aggregate limit. Recreational catch of <b>Yelloweye rockfish, canary rockfish and cowcod are PROHIBITED</b> (bag limit: zero).</p>
<p><b>Shallow Nearshore Rockfish</b></p> <p><b>Commercial catch of these species is affected by general rockfish rules above. In addition, a Limited Entry Nearshore Fishery Permit is required for these species.</b> Seasonal closures apply. As of 2006, only 57 permits are available in the South coast Region, with 39 finfish trap endorsements. Without a <b>Nearshore Finfish Trap Endorsement</b>, fishing can only be by line. It is unlawful to use more than 150 hooks on a vessel, or to use more than 15 hooks per line, to take nearshore fish stocks for commercial purposes in ocean waters within one mile of shore within Fish and Game District 19. Specific depths are closed during specific periods in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island). <b>Recreational catch</b> subject to RCG Complex rules, described under "Rockfish".</p>				
Black and yellow rockfish	Sebastes chrysomelas	A, C, D	CA-NFMPlan NFPermit GMP CA-RCG CCCA GMP	Taken primarily by recreational anglers from boat or shore, or by divers, minor component of commercial and recreational catch, caught primarily north of Pt Conception.

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
China rockfish	Sebastes nebulosus	A, C, D	CA-NFMPlan NFPermit GMP CA-RCG CCCA	Rare in SoCal, taken primarily by recreational anglers from boat or shore, or by divers, minor component of commercial and recreational catch, caught primarily north of Pt Conception.
Gopher rockfish	Sebastes carnatus	A, B, D	CA-NFMPlan NFPermit GMP CA-RCG CCCA	Reasonably important in CPFVs landing in Morro Bay area, caught primarily north of Pt Conception.
Grass rockfish	Sebastes rastrelliger	A, B, D	CA-NFMPlan NFPermit GMP CA-RCG CCCA	Taken primarily by recreational anglers from boat or shore, or by divers, minor component of commercial and recreational catch, caught primarily north of Pt Conception
Kelp rockfish	Sebastes atrovirens	A, B, D	CA-NFMPlan NFPermit GMP CA-RCG CCCA	Taken primarily by recreational anglers from boat or shore, or by divers, minor component of commercial and recreational catch, caught primarily north of Pt Conception
<b>Deeper Nearshore Rockfish</b>				
Commercial catch of these species is affected by general rockfish rules above. In addition, a Deeper Nearshore Species Fishery Permit is required for these species. Catch by Traps requires a Nearshore Fishery Trap Endorsement. Specific depths are closed during specific periods in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island). Recreational catch of these species is subject to <b>RCG Complex</b> rules.				
Black rockfish	Sebastes melanops	A, B, C, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Rare in S. California, minor commercial sp., in NoCal, more important in NoCal to recreational divers and from CPFVs, increasing in live fish market
Blue rockfish	Sebastes mystinus	A, B, C, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Caught in N. Channel Islands and northward (hook&line, limited entry for finfish traps), important to divers, one of most important sp. for recreational anglers on skiffs and CPFVs
Brown rockfish	Sebastes auriculatus	A, B, C, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Important sport fish from boat or shore, 3rd most common rockfish landed in commercial nearshore fishery, caught for dead and live fish markets with hook&line
Calico rockfish	Sebastes dalli	A, B, C, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Taken by CPFVs and party boats, minor portion of commercial catch. subject to illegal "high grading" discard in both recreational and commercial rockfish fisheries, appear as by catch in prawn trawls
Copper rockfish	Sebastes caurinus	A, B, C, D	CA-RCG DNSFPermit GMP CCCA	Caught in live fish fishery, sport fish from skiff and CPFVs, prime target for sport divers
Olive rockfish	Sebastes serranoides	A, B, C, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Minor part of commercial take by hook&line and small number end up in live fish fishery, common in N. Channel Islands
Quillback rockfish	Sebastes maliger	A, B, C, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Rare in S. California, Channel Islands are at southern end of range

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Treefish	Sebastes serriceps	B, D	CA-NFMPlan DNSFPermit GMP CA-RCG CCCA	Taken primarily by recreational anglers from boat or shore, or by divers, minor component of commercial and recreational catch
Whitebelly rockfish	Sebastes vexilaris		GMP CCCA CA-RCG	
<b>Nearshore Groundfish</b>				
California Halibut	Paralichthys californicus	A, F, G	trawling in state waters restricted to the "California Halibut Trawling Grounds", this sp. not on the list of federally regulated groundfish	Important commerical and recreational sp., commercial catch w. hook&line, set nets (in EEZ), and bottom trawls <b>Note: trawling for any spp. is PROHIBITED in State water</b> except that targeting California Halibut in a strip of coast between 1-3 mile offshore between Pt. Magu and Pt. Arguello <i>called THE CALIFORNIA HALIBUT TRAWLING ZONE</i> ; <b>gill and trammel nets PROHIBITED within CINP boundaries owing to the creation in 1990 of the Marine Resources Protection Zone.</b>  <b>Recreational catch</b> is by hook&line, spear, or hand - sport size limit applies
Starry Flounder	Platichthys stellatus	A, F	GMP CCCA	As a <b>federally regulated groundfish</b> , commercial limits and quotas apply and the recreational catch, equipment rules, and seasons match those for the RCG complex (see Rockfish, generally, above). Uncommon south of Pt. Conception, commercial and recreational catch declined dramatically in 1990s, commercial catch by trawl, gill and trammel nets; recreational catch by pier, boat and shore. Cowcod Conservation Areas rules apply.
Sanddab, Pacific	Citharichthys sordidus	A, F	GMP CCCA	As a <b>federally regulated groundfish</b> , commercial limits and quotas apply and the recreational catch equipment rules and seasons match those for the RCG complex (see Rockfish, generally, above). Prized for edibility, recreational anglers from boats. commercial catch by otter trawls, hook&line. Cowcod Conservation Areas rules apply.
Sanddab, Speckled	Citharichthys stigmaeus	A		prized for edibility, recreational anglers from boats
Sanddab, Longfin	Citharichthys xanhostigma	A, F		prized for edibility, recreational anglers from boats commercial otter trawls, hook&line
Sanddab, Gulf	Citharichthys fragilis	A		prized for edibility, recreational anglers from boats
<b>Nearshore Croakers</b>				
California Corbina	Menticirrhus undulatus	A, F		<b>Commercial catch illegal.</b> No sport catch allowed via nets. Popular w. sport anglers owing to fighting behavior.
Spotfin Croaker	Roncador stearnsii	A, F		<b>Commercial catch illegal.</b> No sport catch allowed via nets. Anglers from shore and piers. Found south of Pt. Conception
Queenfish	Seriphus politus	F		Sport finfish regulations apply.
White Seabass	Atractoscion nobilis	A, F	CA-WSFMP	Seasons, size limits, bag limits and gear restrictions apply. Catch concentrated south of Pt. Conception and at Channel Islands, set gillnet catch PROHIBITED in 1994, drift gillnet primary method used currently plus some commercial hook&line. Popular with anglers using live bait, spearfishing by free divers. The recreational fishery for white seabass is open year round. The daily bag and possession limit is three fish except that only one fish may be taken in waters south of Point Conception between March 15 and June 15. The minimum size limit is 28 inches total length or 20 1/2 inches alternate length.
White Croaker	Genyonemus lineatus	A, F		Commercial catch allowed-occurs mostly by gillnet, sold in fresh fish market . Most sport catch in SoCal by anglers from piers, and boats. Consumption prohibited for those caught on Palos Verdes shelf, owing to DDT contamination.

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Black Croaker	Cheilotrema saturnum			
Yellowfin Croaker	Umbrina roncador	A, F		<b>Commercial catch illegal.</b> No sport catch allowed via nets. Anglers from shore and piers. Found south of Santa Barbara
<b>Surfperches (family Embiotocidae)</b>				
Barred surfperch	Amphistichus argenteus	A, F		Popular recreational fishes - easy to catch angling from beaches, jetties, and boats. Commerical landings have declined since early 1980s. The recreational fishery for surfperch (family Embiotocidae) remains open all year. The daily bag and possession limit is 5 fish in combination of all species except shiner surfperch (Cymatogaster aggregata) , which have a separate bag limit of 20 fish.
Black perch	Embiotoca jacksoni	G		
Calico surfperch	Amphistichus koelzi	A		
Dwarf perch	Micrometrus minimus	G		
Island seaperch	Cymatogaster aggregata gracilis	G		
Kelp perch	Brachyistius frenatus	G		
Pile perch	Rhachochilus vacca	A		
Pink seaperch	Zalembius rosaceus	G		
Shiner perch	Cymatogaster aggregata	F, G		
Sharpnose seaperch	Phanerodon atripes	G		
Striped seaperch	Embiotoca lateralis	A		
Silver surfperch	Hyperprosopon ellipticum	F, G		
Spotfin	Hyperprosopon anale	G		
White seaperch	Phanerodon furcatus	G		
Walleye surfperch	Hyperprosopon argenteum	A, F		
Rainbow seaperch	Hypsurus carvi	G		
Redtail	Amphistichus rhodoterus	A, F		
Reef perch	Micrometus aurora	G		
Rubberlip	Rhacochilus toxotes	A, F		
<b>Other Nearshore Fish</b>				
Cabezon	Scorpaenichthys marmoratus	A	CA-NFMPlan NFPermit GMP CA-RCG CCCA	Federally regulated groundfish. Also, a limited entry <b>Nearshore Fishery Permit</b> required for commercial catch of Cabezon. Cowcod conservation area rules apply. Prized by sport divers, less important for anglers on CPFVs, commercially caught for live fish industry (ca. 90%) with limited entry traps and hook&line. <b>Recreational</b> catch regulated by the RCG Complex Rules (see "Rockfish", above) , except that only one Cabezon at least 15" is allowed per day.
California Scorpionfish	Scorpaena guttata		CA-NFMPlan NFPermit GMP CCCA	Federally regulated groundfish. Also, a limited entry <b>Nearshore Fishery Permit</b> required for commercial catch of California Scorpionfish. Cowcod conservation area rules apply. Ca. 80% of commerical catch is for live fish industry by finfish traps and hook&line, moderate take from sport boats. <b>Recreational</b> catch regulated by the RCG Complex Rules (see "Rockfish", above) , except that Daily bag limit =5 for this species, with size limit of 10"

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
California Sheephead	Semicossyphus pulcher		CA-NFMPlan NFPermit CCCA	Federally regulated groundfish. Also, a limited entry <b>Nearshore Fishery Permit</b> required for commercial catch of California Sheephead. <b>Commercial take PROHIBITED &lt; 13 inches.</b> Recent renewed commercial interest, some finfish traps used, taken by sport divers and angler, and increasingly caught for live fish commercial industry. <b>Recreational</b> catch regulated by the RCG Complex Rules (see "Rockfish", above) , except that Daily bag limit =5 for this species, with size limit of 12".
Greenling, Kelp	Hexagrammos decagrammus	A	CA-NFMPlan NFPermit GMP CA-RCG CCCA	Federally regulated groundfish. Also, a limited entry <b>Nearshore Fishery Permit</b> required for commercial catch of Hexagrammos. <u>Cowcod conservation area rules apply.</u> Rare in S. California, some finfish traps used for live fish market, they occur as by catch in lingcod fishery, speared by divers. <b>Recreational</b> catch regulated by the RCG Complex Rules (see "Rockfish", above) , except that only one kelp or rock greenling is allowed per day, with size limit of 12".
Greenling, Rock	Hexagrammos lagocephalus		CA-NFMPlan NFPermit CA-RCG CCCA	Federally regulated groundfish. Also, a limited entry <b>Nearshore Fishery Permit</b> required for commercial catch of Hexagrammos. <u>Cowcod conservation area rules apply.</u> Some finfish traps used. <b>Recreational</b> catch regulated by the RCG Complex Rules (see "Rockfish", above) , except that only one kelp or rock greenling is allowed per day, with size limit of 12".
Greenling, Painted	Oxylebius pictus		CCCA	Cowcod Conservation Area rules apply
Greenling, Whitespotted	Hexagrammos stelleri		CCCA CA-RCG	Cowcod conservation area rules apply. RCG Complex rules for recreational catch apply
Monkeyface Prickleback	Cebidichthys violaceus	A	CA-NFMPlan	<u>Commercial catch regulated owing to status as Federally managed groundfish, and inclusion in Nearshore Fisheries Management Plan</u> Uncommon south of Pt. Conception, minor component of recreational and commercial catch, speared by divers, and taken by "poke poles" by shore anglers. No depth restrictions for recreational catch.
Southern spearnose poacher	Agonopsis sterletus			<b>Commercial take PROHIBITED (all poachers).</b>
Lingcod	Ophiodon elongatus	A	GMP CCCA	Federally managed groundfish . Federal quotas and size limits apply, important commercial sp., caught by trawls and hook&line, lingcod recently entered live fish market. Illegal to catch using drift- ore set-gill nets in waters surrounding the Channel islands that are < 70 fm deep, or within 1 nm of shore. <b>Recreational</b> boat-based anglers allowed Apr-Sept, shore-based anglers and divers allowed Apr-Nov. Apr-June - only allowed in water 30-60 fm , July-Sept only in water <40fm. Cowcod Conservation Area rules apply
Giant Seabass	Stereolepis gigas	A, F, G		<b>Commercial catch PROHIBITED.</b> In permanent decline for several decades. Only 1 fish in incidental catch per trip allowed for commercial fishermen
Kelp Bass	Paralabrax clathratus	A, F		<b>Commercial catch PROHIBITED.</b> Popular nearshore sportfish using hook&line from peirs, shore, boats. Channel Islands are one of more productive kelp bass fishing areas.
Barred Sand Bass	Paralabrax nebulifer	A, F		<b>Commercial catch PROHIBITED.</b> Sport size and bag limits apply, CPFV catch increasing, sport catch by hook&line. No depth restrictions for recreational catch.
Spotted Sand Bass	Paralabrax maculato-fasciatus	A, F		<b>Commercial catch PROHIBITED.</b> Rare north of Santa Monica Bay, popular with nearshore sport anglers, exclusive tournaments exist for the species. No depth restrictions for recreational catch.
Yellowtail	Seriola lalandi	A		sport and commercial catches confined to south of Pt. Conception, catch usually nearshore near kelp, hook&line, catch by gillnet legal only outside 3 miles. No depth limits for recreational catch.
Opaleye	Girella nigricans	A		not part of designated fishery, appears as incidental catch, small number entering live fish market. Recreational Catch regulated

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Garibaldi	Hypsypops rubicundus			Commercial and sport take PROHIBITED.
Wolf eel, northern wolfish	Anarrhichthys ocellatus			Commercial take PROHIBITED.
California lizardfish	Synodus lucioceps			general finfish regulations (bag limits, etc.) apply
Pacific butterflyfish	Peprilus simillimus			general finfish regulations (bag limits, etc.) apply
Ocean whitefish	Caulolatilus princeps	G		Recreational equipment rules and seasons match those for the RCG Complex (see Rockfish, generally, above). Recreational bag limit = 10, with no size limit.
Spotted ratfish	Hydrolagus collicii		GMP	As a federally regulated groundfish, commercial limits and quotas apply, and the recreational catch equipment rules and seasons match those for the RCG Complex (see Rockfish, generally, above)
Salema	Xenistius californiensis			general finfish regulations (bag limits, etc.) apply
Half Moon	Medialuna californiensis	A		Not part of a designated fishery, appears as incidental catch, small number entering live fish market. General finfish regulations apply
<b>Skates and Rays</b>				
Shovelnose guitarfish	Rhinobatos productus	A, F		target of small sport fishery
Piked dogfish	Squalus acanthias	F	GMP	As a federally regulated groundfish, commercial limits and quotas apply, and the recreational catch, equipment rules and seasons match those for the RCG Complex (see Rockfish, generally, above)
Bat ray	Myliobatis californica	A, F		target of small sport fishery
California Skate	Raja inornata	A	GMP CCCA	As a federally regulated groundfish, commercial limits and quotas apply, and the recreational catch, equipment rules and seasons match those for the RCG Complex (see Rockfish, generally, above). Specific depths are closed for this species during specific months in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island).
Round stingray	Urolophus halleri	A, F		mostly caught south of Pt. Conception
<b>Silversides</b> - principal commercial effort is in bays using gillnets, lampara nets and round haul nets				
Jacksmelt	Atherinopsis californicus	A		no commercial limits, not desired by anglers
Topsmelt	Atherinops affinis	A		no commercial limits, most ubiquitous and abundant sp. in surfgrass - important to least terns
Grunion	Leuresthes tenuis	A		not commercially targeted, provides recreational fishery (hands only) on beaches during grunion runs. The recreational fishery for California grunion is open from June -March.
<b>Gobies</b>				
Bluebanded goby	Lythrypnus dalli	A		minor aquarium trade
Zebra goby	Lythrypnus zebra	A		minor aquarium trade
<b>Nearshore Sharks.</b> Drift gill net fishery for shark and swordfish subject to permit, season, and area restrictions. Sharkfins may not be landed without a corresponding carcass. State ban on gillnets applies only within 1 nm from offshore islands.				
Pacific Angel Shark	Squatina californica			large commercial fishery developed off Santa Barbara Co. and around Santa Cruz and Santa Rosa Islands in 1980s, using drift gillnets. Gillnet ban in most state waters in 1991 contributed to dramatic decline in catch.

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Leopard Shark	Triakis semifasciata	F	GMP CCCA	Commercial catch < 36 inches PROHIBITED. Commercial catch by set net, hook&line and trawl and is now mostly incidental. Sport catch by angling and spearfishing. Sport size and bag limits apply in sport fishery, size limit applies to commercial fishery. As a federally regulated groundfish, commercial limits and quotas apply and the recreational catch depth restrictions and seasons match those for the RCG complex (see Rockfish, generally, above) - except in Newport, San Diego and Mission Bays - in which boat based anglers are allowed year round at all depths. Specific depths are closed for this species during specific months in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island).
Soupin Shark	Galeorhinus galeus		GMP CCCA	Prized by recreational anglers, commercial catch (historically sought for shark liver oil) has declined since 1980s (although listed here, this sp. is also <b>Highly migratory</b> ). As a federally regulated groundfish, commercial limits and quotas apply and the recreational catch depth restrictions and seasons match those for the RCG complex (see Rockfish, generally, above). Specific depths are closed for this species during specific months in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island).
<b>DEEPER WATER FISH</b>				
<b>DTS Complex (thornyheads, Dover sole, sablefish)</b>				DTS complex is the most important element in the Californian groundfish fishery. As federally regulated groundfish, <b>commercial limits and quotas</b> for these species apply, recreational size limits and bag limits apply, and recreational; depth restrictions and seasons match those for the RCG Complex (see Rockfish, generally, above). Specific depths are closed for these species during specific periods in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island).
Longspine thornyhead	Sebastolobus altivelis	A	GMP CCCA	caught mostly north of Pt. Conception, taken with bottom trawl and longline on sand or fine sediment, first regulated in 1990, owing to lack of swimbladder they enter the live fish market.
Shortspine thornyhead	Sebastolobus alascanus	A	GMP CCCA	
Dover sole	Microstomus pacificus	A	GMP CCCA	caught mostly north of Pt. Conception.
Sablefish	Anoplopoma fimbria		GMP CCCA	trawls and gill nets for mixed spp. catch, longline and traps for sp.-specific catch.
Pacific hake (whiting)	Merluccius productus		GMP CCCA	Is the largest groundfish resource managed by the PFMC's Groundfish Management Plan. Commercial catch in California is in NoCal, but coastal stock spawns between central California and Baja California, thus spawning fish aggregate in the Southern California Bight. Factory trawlers take part of the catch.
Petrale sole	Eopsetta jordani	F	GMP CCCA	usually incidental catch by sport anglers on CPFVs in 100-300 feet.
<b>SHELF ROCKFISH.</b> Commercial catch of these species is affected by general rockfish rules above. As federally regulated groundfish, <b>commercial limits and quotas</b> for these species apply. Commercial catch is mostly by trawl, set gillnet (little used now), hook&line. Specific depths are closed during specific periods in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island). For Recreational fishing, the <b>RCG Complex</b> rules for seasons, equipment, aggregate bag limits and size limits apply (as described under "Rockfish, generally" above).				
Bocaccio ("red snapper")	Sebastes paucispinis		GMP CA-RCG CCCA	Was dominant rockfish in early longline and bottom trawl fisheries, important species in recreational and commercial catches until declined precipitously and declared "overfished" by PFMC. <b>Recreational</b> bag limit for bocaccio is 1.
Cowcod	Sebastes levis		GMP CA-RCG CCCA	Remaining productive grounds are well offshore, declared "overfished" by PFMC in 2000. <b>RECREATIONAL CATCH PROHIBITED IN AREA 19</b> (which includes all Channel Islands).

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Chilipepper	Sebastes goodei		GMP CA-RCG CCCA	Recently ranked first in commercial rockfish landing in NoCal, not so much in SoCal, PFMC sets total allowable catch.
Canary rockfish	Sebastes pinniger	A	GMP CA-RCG CCCA	N of Bodega bay, trawl catch historically dominant, recent dramatic decline, still taken by trawl, commercial and sport hook&line. <b>RECREATIONAL CATCH PROHIBITED IN AREA 19</b> (which includes all Channel Islands)
Shortbelly rockfish	Sebastes jordani	A	GMP CA-RCG CCCA	No commercial fishery has ever developed, most abundant rockfish off California and large numbers are off Channel Islands, adults form large schools near bottom. Is currently fished very little. Owing to its small size, targeted bottom trawling for this sp. would incur much bycatch.
Halfbanded Rockfish	Sebastes semicinctus		GMP CA-RCG CCCA	
Rosy Rockfish	Sebastes rosaceus		GMP CA-RCG CCCA	
Greenspotted rockfish	Sebastes chlorostictus		GMP CCCA CA-RCG	
Starry rockfish	Sebastes constellatus		GMP CCCA	
Squarespot rockfish	Sebastes hopkinsi		GMP CCCA CA-RCG	
Stripetail Rockfish	Sebastes saxicola		GMP CA-RCG CCCA	
Vermillion Rockfish	Sebastes miniatus	A C	GMP CA-RCG CCCA	moderately important in commercial and sport fishery, comprised 8% of rockfish catch from 1983-1988 landed south of Pt. Conception.
Yelloweye Rockfish	Sebastes ruberrimus		GMP CA-RCG CCCA	As a Federally managed groundfish, commercial catch is limited. <b>NO RECREATIONAL CATCH ALLOWED IN AREA 19</b> (which includes all Channel Islands)
Yellowtail Rockfish	Sebastes flavidus		GMP CA-RCG CCCA	Rare south of Pt. Conception. Where found, commercially important.
Greenblotched rockfish	Sebastes rosenblatti		GMP CA-RCG CCCA	
Widow rockfish	Sebastes entomelas		GMP CCCA	
Pink rockfish	Sebastes eos		GMP CCCA	
Rosethorn rockfish	Sebastes helvomaclatus		GMP CA-RCG CCCA	
Speckled rockfish	Sebastes ovalis		GMP CA-RCG CCCA	
Flag rockfish	Sebastes rubrivinctus		GMP CA-RCG CCCA	
<b>Slope Rockfish</b> Commercial catch of these species is affected by general rockfish rules (see "Rockfish, generally" above). As federally regulated groundfish, <b>commercial</b> limits and quotas for these species apply. Commercial catch is mostly by trawl, set gillnet (little used now), hook&line. Particular depths are closed during particular periods in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island). For Recreational Fishing the <b>RCG Complex</b> rules for seasons, equipment, aggregate bag limits and size limits apply (as described under "Rockfish, generally" above).				
Blackgill Rockfish	Sebastes melanostomus	A	GMP CA-RCG CCCA	Most taken in central and southern California currently w. horizontal set lines. Landings decreased dramatically from 1983, much of commercial catch goes to Asia.

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Bank Rockfish	Sebastes rufus		GMP CA-RCG CCCA	
Splitnose rockfish	Sebastes diploproa		GMP CA-RCG CCCA	
Redbanded rockfish	Sebastes babcocki		GMP CA-RCG CCCA	
<b>Deeper Flatfish, generally</b>				
Those marked GMP are federally regulated groundfish, the recreational catch equipment rules and seasons match those for the RCG complex (see Rockfish, generally, above). Also, specific depths are closed for the species marked CCCA during specific months in the Cowcod Conservation Areas (one of which surrounds Santa Barbara Island).				
Pacific Halibut	Hippoglossus stenolepis	A, F	GMP CCCA	extensively monitored by the International Pacific Halibut Commission (IPHC), uncommon in California waters, caught by trawl and set longlines.)
Rex sole	Errex zachirus, Glyptocephalus zachurus	A	GMP CCCA	supports a moderate commercial fishery, landings declined in 1990s along with other groundfish.
English sole	Pleuronectes vetulus	A	GMP CCCA	was leading commercial flat fish until Dover sole fishery developed, little taken south of Pt. Conception.
Rock Sole	Pleuronectes bilineatus	C	GMP CCCA	These deeper flatfish occur mostly as incidental catch in otter trawls.
Butter Sole	Pleuronectes isolepis		GMP CCCA	
Fantail Sole	Xystreurus liolepis			
Sand Sole	Psettichthys malanostictus	C	GMP CCCA	
Slender Sole	Lyopsetta exilis			
Lefteyed flounders	Bothidae			
Bigmouth Sole	Hippoglossina stomata			
California tonguefish	Symphurus atricauda			
Curlfin turbot	Pleuronichthys decurrens	C	GMP CCCA	
Hornyhead turbot	Pleuronichthys verticalis	C		
Spotted turbot	Pleuronichthys ritteri	C		
Diamond turbot	Hypsopsetta guttulata			
C-O sole	Pleuronichthys coenosus	C		
Arrowtooth flounder	Atheresthees stomias		GMP CCCA	
<b>Skates and Rays</b>				
Big skate	Raja binoculata		GMP CCCA	Generally not sought commercially - appear as incidental catch in bottom trawlers. Skate wings marketed only (for Asia), most commercial catch north of Monterey, landings are increasing owing to increased effort for other species. Big skate and longnose skate are federally regulated groundfish, for them the recreational catch equipment rules and seasons match those for the RCG complex (see Rockfish, generally, above), and rules for the Cowcod Conservations Areas also apply to them.
Longnose Skate	Raja rhina		GMP CCCA	
Sandpaper skate	Bathyraja interrupta			
Starry skate	Raja stellulata			
<b>OTHER DEEPER FISH: Benthopelagic/Bathypelagic/Bathydemersal</b>				
Blacktip poacher	Xeneretmus latifrons			COMMERCIAL TAKE PROHIBITED
Pygmy poacher	Odontopyxis trispinosa			COMMERCIAL TAKE PROHIBITED

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regula-tory Actions**	Details about commercial or recreational catch.
Bluespotted poacher	Xeneretmus triacanthus			COMMERCIAL TAKE PROHIBITED
Yellowtail jack	Seriola dorsalis			No depth restrictions for recreational fishing.
Spiny dogfish	Squalus acanthias	F	GMP	Federally managed groundfish. Recreational catch limits, equipment rules and seasons match those for the RCG complex (see Rockfish, generally, above)
<b>EPIPELAGIC AND COASTAL PELAGIC SPECIES</b>				
Pacific Bonito	Sarda chiliensis	A, F		Bonito is one of top 15 recreational spp. by hook&line and trolling with lures. commercial catch mostly by purse seine (seasonally targeted by "wetfish" seiners that usually harvest mackerel and sardines) but also taken by troll, gillnets, pole&line. Nearly all wetfish seiners are based in San Pedro and fish in San Pedro and Santa Barbara Channels, market demand low, commercial landings down in 1990s
California Barracuda, Pacific Barracuda	Sphyræna argentea	A		Barracuda commercially caught by gillnet and hook&line. Size limits apply. Sport anglers use live bait, or lures, sometimes w. chumming. No depth restrictions apply to recreational fishing.
Pacific Sardine	Sardinops sagax	A	CPSMP	There is a limited-entry purse seine fleet for <i>coastal pelagic fisheries</i> that operates in Southern California bight, including the Channel Islands. This fishery targets Pacific sardine, Northern Anchovy, Pacific mackerel and jack mackerel and market squid using purse and drum seine and lampara nets. Anchovy catch for reduction (fish meal, oil) is limited by specific permits in state waters. Pacific Mackerel taken by sport fishermen, owing to abundance rather than desire. Sardines are used for human food and pet food.
Northern Anchovy, Californian anchoveta	Engraulis mordax	A	CPSMP Special permits required in state waters if caught for reduction	
Pacific mackerel	Scomber japonicus	A, F	CPSMP	
Jack Mackerel	Trachurus symmetricus	A	CPSMP	
King Salmon (Chinook)	Onchorhynchus tshawytscha	A	SMP	Federally managed areas, seasons, quotas, gear, size and landing limits
Steelhead (Rainbow trout)	Onchorhynchus mykiss	A	SMP	The steelhead fishery in southern California (south of San Luis Obispo) has been closed due to severe declines and extirpation of many of the runs and a listing of others under the federal Endangered Species Act (ESA). No retention of steelhead trout allowed by recreational fishermen.
Ocean sunfish	Mola mola			Commercial take PROHIBITED.
Great white shark	Carcharodon carcharias			Commercial take PROHIBITED. Incidental catch allowed in specific net fisheries.
Basking shark	Cetorhinus maximus			Commercial take PROHIBITED.
<b>HIGHLY MIGRATORY PELAGIC FISHES</b>				
Drift gill nets are prohibited in State Waters. Drift gill net fishery for shark and swordfish in Federal waters is subject to permit, season, and area restrictions. Sharkfins may not be landed without a corresponding carcass.				
Albacore tuna	Thunnus alalunga	A, F	HMSMP	Enthusiastic sport fishing from CPFVs around the Channel islands. Commercially targeted by troll fishery (mostly by foreigners in international waters).
Broadbill swordfish	Xiiphias gladius	A	HMSMP	S. California landings are important to both commercial and recreational fisheries
Pacific Northern Bluefin Tuna	Thunnus orientalis	A, F	HMSMP	S. California landings are important to both commercial and recreational fisheries
Skipjack Tuna	Katsuwonus pelamis	A, F	HMSMP	S. California landings are important to both commercial and recreational fisheries.
Yellowfin Tuna	Thunnus albacares	A, F	HMSMP	S. California landings are important to both commercial and recreational fisheries
Striped Marlin	Tetrapturus audax	A	HMSMP	<b>Commercial Catch Prohibited.</b> The California Legislature curtailed the sale and import of striped marlin in 1937 thus preserving the southern California fishery entirely for recreational anglers. Currently, most striped marlin fishing is from privately owned boats based in local southern California marinas. On high seas, taken as incidental catch in tuna longline fisheries.

Common Name	Scientific Name	On-line Infor. sources*	Pertinent Regulatory Actions**	Details about commercial or recreational catch.
Shortfin Mako Shark	<i>Isurus oxyrinchus</i>	A, F	HMSMP	Currently, mako sharks are taken by drift gillnets (not allowed in State waters) and hook-and-line. Most mako sharks, however, are bycatch taken in the drift gillnet fishery for thresher sharks and swordfish. The shortfin mako shark is also taken by the high seas shark and swordfish drift longline fishery, which developed between 1991 and 1994. This fishery operates outside the 200-nautical-mile Exclusive Economic Zone in international waters.
Common Thresher Shark	<i>Alopius vulpinus</i>	A, F	HMSMP	the leading commercial shark landed in California, however, commercial catch by drift gillnet can occur only in Federal waters
Blue Shark	<i>Prionace glauca</i>	A, F	HMSMP	Not a target of California commercial or recreational fisheries owing to inedibility (flesh becomes ammonified after death). Occur as bycatch in drift gillnet fisheries.
Opah	<i>Lampris guttatus</i>	A		94% taken commercially as bycatch in the drift gillnet fishery (Federal waters only). Majority landed in California since 1990 were landed from San Luis Obispo County south. Many sport caught opah are taken from the northern Channel Islands south to just below the Mexico border.
Louvar	<i>Luvarus imperialis</i>	A		seasonal transients associated with warm water currents late in the year. Considered a desirable, but incidental catch species primarily in the shark and swordfish drift gillnet fishery. Majority of catches occur off the Southern California Bight, most in the area of Point Loma, San Clemente Island, and Cortez Bank.
Dolphinfish (Mahi-Mahi, Dorado)	<i>Coryphaena hippurus</i>	A	HMSMP	Occurs in the California recreational catch primarily during warm water years. Most catches occur in the Southern California Bight, especially south of Los Angeles. In commercial fisheries, an estimated average of 1,084 dolphin have been landed and 324 released per year by the high seas longline fishery.

**\*SOURCES OF ON-LINE INFORMATION ABOUT SPECIES**

- A: California Dept. Fish & Game, Status of Living Marine Resources (<http://www.dfg.ca.gov/mrd/status/index.html>)  
 B: Nearshore Fishery Management Plan (NFMP). Appendix D. Description of Stocks. [http://www.dfg.ca.gov/mrd/nfmp/pdfs/appendix\\_d.pdf](http://www.dfg.ca.gov/mrd/nfmp/pdfs/appendix_d.pdf)  
 C: Chapter 4, Environmental Settings. Final Environmental Document. Marine Protected Areas in NOAA's Channel Islands National Sanctuary ([http://www.dfg.ca.gov/mrd/ci\\_ceqa/index.html](http://www.dfg.ca.gov/mrd/ci_ceqa/index.html)).  
 D: Nearshore Finfish Profiles. Detailed pdf downloads for selected nearshore finfish species (<http://www.dfg.ca.gov/mrd/rockfish/index.html>)  
 E: Status of the California Sheephead Stock for 2004 (1st stock assessment completed under the Marine Life Management Act -NFMP) (<http://www.dfg.ca.gov/mrd/sheephead2004/index.html>)  
 F: California Dept. Fish & Game, California Marine Sportfish, <http://www.dfg.ca.gov/mrd/msfindx0.html>  
 G: Annual Status of the Fisheries Report Through 2003, California Dept. Fish & Game (<http://www.dfg.ca.gov/mrd/status/index.html>)

**\*\*EXPLANATIONS OF CODES FOR PERTINENT REGULATORY ACTIONS**

**MZPA** = Marine Zone Protection Act of 1990 (led to certain gear restrictions in state waters)

**MRPZ** = Marine Resources Protection Zone (within 3 miles of mainland and 1 mile, or 70 fathoms depth, of Channel Islands)

**CA-WSFMP** = Cal. Fish & Game **White Seabass Fishery Management Plan** (<http://www.dfg.ca.gov/mrd/wsfmp/index.html>), not yet law.

**CA-NFMP** = 19 species are regulated by the Cal. Fish & Game **Nearshore Fishery Management Plan**:

- (1) black rockfish (*Sebastes melanops*), (2) black-and-yellow rockfish (*S. chrysomelas*), (3) blue rockfish (*S. mystinus*), (4) brown rockfish (*S. auriculatus*), (5) cabezon (*Scorpaenichthys marmoratus*), (6) calico rockfish (*Sebastes dallii*), (7) California scorpionfish (sculpin) (*Scorpaena guttata*), (8) California sheephead (*Semicossyphus pulcher*), (9) China rockfish (*Sebastes nebulosus*), (10) copper rockfish (*Sebastes caurinus*), (11) gopher rockfish (*Sebastes carnatus*), (12) grass rockfish (*Sebastes rastrelliger*), (13) greenlings of the genus *Hexagrammos* (2 spp), (14) kelp rockfish (*Sebastes atrovirens*), (15) monkeyface eel (*Cebidichthys violaceus*), (16) olive rockfish (*Sebastes serranoides*), (17) quillback rockfish (*Sebastes maliger*), and (18) treefish (*Sebastes serripes*) (<http://www.dfg.ca.gov/mrd/nfmp/index.html>).

**NFPermit** = Cal. Fish & Game issued Commercial Nearshore Fishery Permit (NFPermit) required for the commercial take of the following species of nearshore fish stocks: black-and-yellow rockfish, gopher rockfish, kelp rockfish, California scorpionfish, greenlings of the genus *Hexagrammos*, China rockfish, grass rockfish, California sheephead, and cabezon. Size and gear limits apply to these species. Within one mile of shore - no commercial catch allowed except by rod and reel or hand lines - and hook numbers, rod numbers, and line strength are regulated.

**DNSFPermit** = Cal. Fish & Game issued Commercial Deeper Nearshore Species Fishery Permit (DNSFP) required for these species in state water

**GMP** = species federally regulated by the Pacific Fishery Management Council's **Groundfish Management Plan** (fishing regs. for state waters must be consistent with federal law)

**SMP** = species federally regulated by the Pacific Fishery Management Council's Salmon Management Plan (fishing regs. for state waters must be consistent with federal law)  
**HMSMP** = species federally regulated by the Pacific Fishery Management Council's Highly Migratory Management Plan (fishing regs. for state waters must be consistent with federal law)  
**CPSMP** - species federally regulated by the Pacific Fishery Management Council's Coastal Pelagic Species Fishery Management Plan (fishing regs. for state waters must be consistent with federal law)  
**CA-RCG** = Recreational Catch regulated in state waters by Cal. Fish & Game Rockfish Cabezon Greenling Complex regulations  
**CCCA** = Ocean depth restricts allowable fishing locations for these species within the California Cowcod Conservation Areas

APPENDIX D . Seabirds associated with the Channel Islands National Park. Adapted from Ugoretz (2002)

Common Names of Bird Families and Species	Scientific Names	Breeds in the Park?	Monitored at the Park? <sup>a</sup>	Conservation Status <sup>b</sup>	Occurrence in Channel Islands <sup>c</sup>
<u>Loons (offshore)</u>	Family: Gaviidae				
Red throated Loon	<i>Gavia stellata</i>				Common visitor in winter; rare, but regular in summer
Pacific Loon	<i>Gavia pacifica</i>				Uncommon visitor in winter; abundant in spring; rare to locally uncommon in summer; common in fall
Common Loon	<i>Gavia immer</i>				Winter visitor; rare in spring; rare but regular in summer
Yellow-billed Loon	<i>Gavia adamsii</i>				Casual winter visitor
<u>Grebes (offshore)</u>	Family: Podicipedidae				
Pied-billed Grebe	<i>Podilymbus podiceps</i>				Winter visitor; fairly common summer resident
Horned Grebe	<i>Podiceps auritus</i>				Winter visitor; very rare in summer
Red-necked Grebe	<i>Podiceps grisegena</i>				Winter visitor; very rare fall transient
Eared Grebe	<i>Podiceps nigricollis</i>				Winter visitor; very rare in summer
Western Grebe	<i>Aechmophorus occidentalis</i>	BREEDS			Winter visitor; several spring breeding records; uncommon to locally common in summer
Clark's Grebe	<i>Aechmophorus clarkii</i>	BREEDS			Winter visitor; several spring breeding records; very uncommon to locally common in summer
<u>Albatrosses (offshore)</u>	Family: Diomedidae				
Black-footed Albatross	<i>Phoebastria nigripes</i>			IUCN-VU	Uncommon to rare visitor in fall/winter; uncommon in spring/summer
Laysan Albatross	<i>Diomedea immutabilis</i>				Rare but regular visitor in winter/summer/fall
<u>Fulmars (offshore)</u>	Family: Procellariidae				
Northern Fulmar	<i>Fulmarus glacialis</i>				Winter/spring/fall visitor; very rare in summer
<u>Petrels (offshore)</u>	Family: Procellariidae				
Mottled Petrel	<i>Pterodroma inexpectata</i>			IUCN-LR/nt	Casual winter visitor offshore
Murphy's Petrel	<i>Pterodroma ultima</i>			IUCN-LR/nt	Very rare visitor well offshore
Cook's Petrel	<i>Pterodroma cookii</i>			IUCN-CR	Casual winter visitor; very rare visitor well offshore in spring/summer
Stejneger's Petrel	<i>Pterodroma longirostris</i>				Casual winter visitor
<u>Shearwaters (offshore)</u>	Family: Procellariidae				
Pink-footed Shearwater	<i>Puffinus creatopus</i>			IUCN-VU	Very rare in winter; common visitor in spring/summer
Flesh-footed Shearwater	<i>Puffinus carneipes</i>				Casual visitor offshore
Buller's Shearwater	<i>Puffinus bulleri</i>			IUCN-VU	Very rare fall visitor well offshore

Common Names of Bird Families and Species	Scientific Names	Breeds in the Park?	Monitored at the Park? <sup>a</sup>	Conservation Status <sup>b</sup>	Occurrence in Channel Islands <sup>c</sup>
Sooty Shearwater	<i>Puffinus griseus</i>				Common to abundant visitor in spring/summer/fall; very rare but regular in winter
Short-tailed Shearwater	<i>Puffinus tenuirostris</i>				Very rare winter visitor
Black-vented Shearwater	<i>Puffinus opisthomelas</i>			IUCN-VU	Rare winter visitor; casual in spring/summer; common to uncommon in fall
<u>Storm-Petrels (offshore)</u>	<i>Family: Hydrobatidae</i>				
Wilson's Storm-Petrel	<i>Oceanites oceanicus</i>				Casual visitor
Fork-tailed Storm-Petrel	<i>Oceanodroma furcata</i>			CA-SC	Casual visitor in winter/spring
Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>	BREEDS	MONIT		Uncommon to common in winter/spring/fall; uncommon in summer, breeds on islands
Ashy Storm-Petrel	<i>Oceanodroma homochroa</i>	BREEDS	MONIT	CA-SC, FED-BCC, IUCN-LR/nt	Casual visitor in winter; common resident in spring/summer/fall. Breeds on San Miguel and Santa Cruz Islands
Wedge-rumped Storm-Petrel	<i>Oceanodroma tethys</i>				Casual winter visitor
Black Storm-Petrel	<i>Oceanodroma melania</i>	BREEDS	MONIT	CA-SC	Fairly common to common summer visitor, breeds on islands
Least Storm-Petrel	<i>Oceanodroma microsoma</i>				Irregularly uncommon to fairly common summer/fall visitor
<u>Tropicbirds (offshore)</u>	<i>Family: Phaethontidae</i>				
Red-billed Tropicbird	<i>Phaethon aethereus</i>				Very rare summer/fall visitor
Red-tailed Tropicbird	<i>Phaethon rubricauda</i>				Casual visitor
<u>Pelicans (onshore and offshore)</u>	<i>Family: Pelecanidae</i>				
American White Pelican	<i>Pelecanus erythrorhynchos</i>				Rare to very rare winter visitor
California Brown Pelican	<i>Pelecanus occidentalis californicus</i>	BREEDS		CA-E, FED-E	Common year-round. Breeds on Anacapa, Santa Cruz, Santa Barbara islands
<u>Cormorants (onshore and offshore)</u>	<i>Family: Phalacrocoracidae</i>				
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	BREEDS	MONIT		Winter visitor, uncommon and local in summer, breeds on islands
Brandt's Cormorant	<i>Phalacrocorax penicillatus</i>	BREEDS	MONIT		Common to very common winter visitor. Breeds on Channel Islands
Pelagic Cormorant	<i>Phalacrocorax pelagicus</i>	BREEDS	MONIT		Fairly common to common winter visitor; fairly common summer resident, breeds on islands.
<u>Frigatebirds (offshore)</u>	<i>Family: Fregatidae</i>				
Magnificent Frigatebird	<i>Fregata magnificens</i>				Rare summer visitor

Common Names of Bird Families and Species	Scientific Names	Breeds in the Park?	Monitored at the Park? <sup>a</sup>	Conservation Status <sup>b</sup>	Occurrence in Channel Islands <sup>c</sup>
<u>Geese (onshore and offshore)</u>	<i>Family: Anatidae</i>				
Brant's Goose	<i>Branta bernicla</i>				Rare winter and fall visitor; common to abundant transient just offshore in spring; very rare in summer
<u>Scoters (offshore)</u>	<i>Family: Anatidae</i>				
Surf Scoter	<i>Melanitta perspicillata</i>				Common winter visitor; rare to uncommon in summer
White-winged Scoter	<i>Melanitta fusca</i>				Transient winter visitor
<u>Plovers (onshore)</u>	<i>Family: Charadriidae</i>				
Black-bellied Plover	<i>Pluvialis squatarola</i>				Common winter visitor; uncommon to fairly common but local in summer
American Golden Plover	<i>Pluvialis dominica</i>				Casual spring transient; rare in fall
Pacific Golden Plover	<i>Pluvialis fulva</i>				Very rare in winter; very rare transient in spring; rare in fall
Western Snowy Plover	<i>Charadrius alexandrinus</i>	BREEDS		FED-T	Fairly common, but local winter visitor; spring resident; uncommon to fairly common but local in summer, breeds on islands.
Semipalmated Plover	<i>Charadrius semipalmatus</i>				Uncommon and local winter visitor; fairly common transient in spring/fall; a few individuals in summer
Killdeer	<i>Charadrius vociferus</i>	BREEDS			Common permanent resident year round, breeds on islands
<u>Oystercatchers (onshore)</u>	<i>Family: Haematopodidae</i>				
Black Oystercatcher	<i>Haematopus bachmani</i>	BREEDS			Uncommon permanent resident year round, breeds on islands
<u>Stilts (onshore)</u>	<i>Family: Recurvirostridae</i>				
Black-necked Stilt	<i>Himantopus mexicanus</i>				Uncommon to rare in winter; uncommon resident in summer
<u>Avocets (onshore)</u>	<i>Family: Recurvirostridae</i>				
American Avocet	<i>Recurvirostra americana</i>				Fairly common transient
<u>Yellowlegs (onshore)</u>	<i>Family: Scolopacidae</i>				
Greater Yellowlegs	<i>Tringa melanoleuca</i>				Fairly common to locally common winter visitor; rare in summer
Lesser Yellowlegs	<i>Tringa flavipes</i>				Very rare to rare in winter; uncommon to fairly common fall transient
<u>Sandpipers (onshore)</u>	<i>Family: Scolopacidae</i>				
Solitary Sandpiper	<i>Tringa solitaria</i>				Very rare to casual in spring; rare but regular fall transient
Willet	<i>Catoptrophorus semipalmatus</i>				Winter visitor; fairly common in spring/summer
Wandering Tattler	<i>Heteroscelus incanus</i>				Winter visitor; casual in spring/summer

Common Names of Bird Families and Species	Scientific Names	Breeds in the Park?	Monitored at the Park? <sup>a</sup>	Conservation Status <sup>b</sup>	Occurrence in Channel Islands <sup>c</sup>
Spotted Sandpiper	<i>Actitis macularia</i>				Winter visitor; rare summer resident
Little Curlew	<i>Numenius minutus</i>				Casual vagrant
Whimbrel	<i>Numenius phaeopus</i>				Fairly common to locally common winter visitor
Long-billed Curlew	<i>Numenius americanus</i>				Winter visitor; uncommon in spring/summer
Marbled Godwit	<i>Limosa fedoa</i>				Winter visitor; uncommon to rare in spring/summer
Ruddy Turnstone	<i>Arenaria interpres</i>				Winter visitor; very rare in summer
Black Turnstone	<i>Arenaria melanocephala</i>				Winter visitor; very rare in summer
Surfbird	<i>Aphriza virgata</i>				Casual in winter; fairly common transient in spring; very rare in fall
Red Knot	<i>Calidris canutus</i>				Casual winter and summer transient
Sanderling	<i>Calidris alba</i>				Winter visitor; uncommon and local in summer
Semipalmated Sandpiper	<i>Calidris pusill</i>				Casual spring transient
Western Sandpiper	<i>Calidris mauri</i>				Common to uncommon but local in winter; very rare in summer
Least Sandpiper	<i>Calidris minutilla</i>				Winter visitor; casual in summer
Baird's Sandpiper	<i>Calidris bairdii</i>				Casual in spring; very uncommon fall transient
Pectoral Sandpiper	<i>Calidris melanotos</i>				Casual in spring; locally uncommon fall transient
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>				Very rare fall transient
Dunlin	<i>Calidris alpina</i>				Winter visitor; uncommon spring transient; fairly common to locally common fall transient
Stilt Sandpiper	<i>Calidris himantipus</i>				Casual in spring; very rare fall transient
Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>				Casual fall vagrant
Ruff	<i>Philomachus pugnax</i>				Winter visitor; very rare fall transient
Short-billed Dowitcher	<i>Limnodromus griseus</i>				Very rare winter/spring transient
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>				Winter visitor; casual in summer
Common Snipe	<i>Gallinago gallinago</i>				Winter visitor
<u>Phalaropes (onshore)</u>	Family: <i>Scolopacidae</i>				
Wilson's Phalarope	<i>Phalaropus tricolor</i>				Uncommon to fairly common spring transient; fairly common to common fall transient
Red-necked Phalarope	<i>Phalaropus lobatu</i>				Common to locally abundant spring transient; rare in summer; common fall transient
Red Phalarope	<i>Phalaropus fulicaria</i>				Absent to fairly common winter visitor; rare to abundant in spring; very rare in summer; uncommon to common in fall
<u>Jaegers (offshore)</u>	Family: <i>Laridae</i>				
Pomarine Jaeger	<i>Stercorarius pomarinus</i>				Uncommon in winter, casual in summer

Common Names of Bird Families and Species	Scientific Names	Breeds in the Park?	Monitored at the Park? <sup>a</sup>	Conservation Status <sup>b</sup>	Occurrence in Channel Islands <sup>c</sup>
Parasitic Jaeger	<i>Stercorarius parasiticus</i>				Rare but regular winter visitor, casual in summer
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>				Uncommon to rare fall transient
<u>Skuas (offshore)</u>	<i>Family: Laridae</i>				
South Polar Skua	<i>Catharacta maccormicki</i>				Rare spring/fall visitor well offshore; casual in summer
<u>Gulls (onshore and offshore)</u>	<i>Family: Laridae</i>				
Laughing Gull	<i>Larus atricilla</i>				Casual vagrant
Franklin's Gull	<i>Larus pipixcan</i>				Casual in winter/summer; very rare transient in spring/fall
Little Gull	<i>Larus minutus</i>				Casual vagrant
Common Black-headed Gull	<i>Larus ridibundus</i>				Casual vagrant in fall/winter
Bonaparte's Gull	<i>Larus philadelphia</i>				Winter visitor; rare in summer
Heermann's Gull	<i>Larus heermanni</i>			IUCN-LR/nt	Common winter visitor; uncommon spring visitor
Mew Gull	<i>Larus canus</i>				Locally common winter visitor; casual in summer
Ring-billed Gull	<i>Larus delawarensis</i>				Common winter visitor; fairly common in summer
California Gull	<i>Larus californicus</i>			CA-SC	Common winter visitor; fairly common to locally common in summer
Herring Gull	<i>Larus argentatus</i>				Very uncommon to locally fairly common in winter; casual in summer
Thayer's Gull	<i>Larus thayeri</i>				Rare to locally winter visitor
Western Gull	<i>Larus occidentalis</i>	BREEDS	MONIT		Common resident year round. Breeds along along North Coast and Channel Islands
Glaucous-winged Gull	<i>Larus glaucescens</i>				Uncommon to fairly common winter visitor; rare but somewhat regular in spring/summer
Glaucous Gull	<i>Larus hyperboreus</i>				Very rare winter visitor
Black-legged Kittiwake	<i>Rissa tridactyla</i>				Irregular winter visitor; offshore transient in spring
Sabine's Gull	<i>Xema sabini</i>				Uncommon spring/fall transient; casual in summer
<u>Terns (onshore and offshore)</u>	<i>Family: Laridae</i>				
Gull-billed Tern	<i>Sterna nilotica</i>			CA-SC FED-BCC	Casual visitor
Caspian Tern	<i>Sterna caspia</i>			CA-SM FED-BCC	Very rare to rare in winter; fairly common summer visitor
Royal Tern	<i>Sterna maxima</i>			CA-SC	Fairly common winter visitor; uncommon in spring; casual in summer; fairly common transient in fall

Common Names of Bird Families and Species	Scientific Names	Breeds in the Park?	Monitored at the Park? <sup>a</sup>	Conservation Status <sup>b</sup>	Occurrence in Channel Islands <sup>c</sup>
Elegant Tern	<i>Sterna elegans</i>			CA-SC FED-BCC IUCN-LR/nt	Casual in winter; rare in spring; common in summer/fall
Common Tern	<i>Sterna hirundo</i>				One winter record; rare summer visitor
Arctic Tern	<i>Sterna paradisaea</i>			FED-BCC	Rare in spring; uncommon fall transient well offshore
Forster's Tern	<i>Sterna forsteri</i>				Common winter visitor; common transient and uncommon to fairly common summer visitor
California Least Tern	<i>Sterna antillarum brownii</i>			CA-E, FED-E	Fairly common but local resident in summer
Black Tern	<i>Chlidonias niger</i>				Rare and declining
<u>Skimmers (onshore and offshore)</u>	Family: <i>Laridae</i>				
Black Skimmer				CA-SC FED-BCC	Very rare visitor, increasing
<u>Alcids (onshore and offshore)</u>	Family: <i>Alcidae</i>				
Common Murre	<i>Rhynchops niger</i>				Uncommon to common winter transient and offshore visitor; rare in spring/summer
Pigeon Guillemot	<i>Cephus columba</i>	BREEDS	<b>MONIT</b>		Casual in winter/spring/fall; common summer resident. Breeds on North Coast and Channel Islands
Marbled Murrelet	<i>Brachyramphus marmoratus</i>			CA-E, FED-T, FED-BCC, IUCN-VU	Very rare visitor in winter/summer/fall; casual in spring
Xantus's Murrelet	<i>Synthliboramphus hypoleucus</i>	BREEDS	<b>MONIT</b>	CA-C, CA- CS, FED- BCC, IUCN- VU	Very rare in winter/fall; common resident offshore in spring/summer. Breeds on Channel Islands
Craveri's Murrelet	<i>Synthliboramphus craveri</i>				Very rare summer/fall visitor offshore
Ancient Murrelet	<i>Synthlibormaphus antiquus</i>				Rare and irregular winter visitor; casual in spring/summer
Cassin's Auklet	<i>Ptychoramphus aleuticus</i>	BREEDS		CA-SC, FED- BCC	Widespread in winter; locally common in summer. Breeds on Channel Islands
Parakeet Auklet	<i>Cyclorhynchus psittacula</i>				Casual vagrant well offshore
Rhinoceros Auklet	<i>Cerorhinca monocerata</i>	BREEDS		CA-SC	Fairly common to common transient and visitor. Breeds at Point Arguello
Tufted Puffin	<i>Fratercula cirrhata</i>	BREEDS		CA-SC	Very rare visitor well offshore in winter/spring/fall, breeding records from the islands.
Horned Puffin	<i>Fratercula corniculata</i>				Casual spring visitor well offshore

<sup>a</sup>Breeding activity monitored by CINP. Monitoring protocols (locations, species) have varied from 1985-present. Since 1997, monitoring efforts are concentrated on Santa Barbara Island. On-line reports are available at <http://www.nature.nps.gov/im/units/chis/HTMLpages/AnnlReports/MarineReports.htm>

<sup>b</sup>Conservation status obtained from *The California Current Marine Bird Conservation Plan* (2005) Ed. KL Milles, WJ Sydeman & PJ Hodum, Point Reyes Bird Observatory Conservation Science, accessed on-line 10/2005 (<http://www.prbo.org/cms/index.php?mid=66&module=browse>).

Explanation of state (CA) and Federal (FED) conservation codes: BCC = Bird of Conservation Concern; C = State Candidate; SC = Special Concern; SM = State Monitor; T = Threatened; E = Endangered

IUCN Rank Codes: CR = Critically Endangered; VU = Vulnerable; LR/nt = Lower Risk/Near Threatened

Sources cited by PRBO for CA and FED status:

- State and Federally Listed Endangered and Threatened Animals of California, Dept. of Fish and Game, Habitat Conservation Division, July 2003
- Draft (2003) California Bird Species of Special Concern List, [www.prbo.org/BSSC/index.htm](http://www.prbo.org/BSSC/index.htm)
- Birds of Conservation Concern 2002. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, VA.
- 2002 IUCN Red List of Threatened Species, <http://www.redlist.org>

<sup>c</sup>Notes on occurrence following *The Birds of Santa Barbara County, California* by Paul E. Lehman (1994) Vertebrate Museum, University of California, Santa Barbara:

- *Common to Abundant*: 15 or more individuals per day in the proper habitat
- *Uncommon to Fairly Common*: 1-15 individuals per day in the proper habitat
- *Rare or Infrequent*: 1-15 individuals per season in the proper habitat
- *Very Rare or Very Infrequent*: average of fewer than 1 record per season
- *Casual*: 2-10 records total for Santa Barbara County
- *Accidental*: 1 record for Santa Barbara County

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APPENDIX E . List of dischargers with NPDES wastewater permits in selected hydrologic units of Region 3 and Region 4. List includes all dischargers along the mainland coast from Pt. Conception to the mouth of the Los Angeles River. As of 9/2005, some of permits on this list were expired, however the permittees remained enrolled in the program, owing to administrative extension (see text). List does *not* include state issued NPDES *stormwater permits* (municipal, industrial and construction), see Table 9 for a summary of stormwater permits. Ratings (R) are explained at the end of the table. Waste type codes are explained at the end of the table.

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	WASTE TYPE	RECEIVING WATER
<b>CENTRAL COAST REGIONAL WATER QUALITY MANAGEMENT DISTRICT - STATE REGION 3</b>					
<b>South Coast - Hydrologic Unit 15</b>					
Arguello Company	Gaviota Oil Heating Facility				Pacific Ocean
Chevron USA	Gaviota Terminal		CA0049018		Pacific Ocean
Cultured Abalone Inc.	Cultured Abalone Aquaculture Facility		CA0049433		Pacific Ocean
Goleta Sanitary District	GSD Wastewater Treatment Facility (WWTP)		CA0048160	DOMEST	Pacific Ocean
City of Santa Barbara	El Estero WWTP		CA0048143	DOMEST	Pacific Ocean
Montecito Sanitary District	MSD WWTP		CA0047899	DOMEST	Pacific Ocean
Carpinteria Sanitary District	CSD WWTP		CA004364	DOMEST	Pacific Ocean
Summerland Sanitary District	SSD WWTP		CA0048054	DOMEST	Pacific Ocean
Ambassador Laundry			CA0049654		
<b>Northern Channel Islands - Hydrologic Unit 16 (SAN MIGUEL, SANTA ROSA, and SANTA CRUZ ISLANDS)</b>					
<b>None</b>					

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
<b>LOS ANGELES REGIONAL WATER QUALITY MANAGEMENT DISTRICT - STATE REGION 4</b>						
<b>Channel Islands Watershed Management Area Wastewater Permits - NPDES</b>						
<b>MAJOR</b>						
Avalon, City of	Avalon WWTF	AVALON	CA0054372	1	DDOMEST	Pacific Ocean
<b>MINOR</b>						
Southern California Edison Co.	Pebbly Beach Desalination Plt	AVALON	CA0061191	2	DFILBRI	Pacific Ocean
US Navy Naval Air Weapons Stat	San Nicholas Island Desalinati	SAN NICHOLAS ISLAND	CA0061794	3	DFILBRI	SAN NICHOLAS ISLAND
US Navy Region Southwest	NALF, San Clemente Island WWTP	SAN CLEMENTE ISLAND	CA0110175	1	DDOMEST	SAN CLEMENTE ISLAND
University Of Southern Calif.	Wrigley Institute For Environ.	TWO HARBORS	CA0056651	3	DMISCEL	SANTA CATALINA ISLAND
<b>GENERAL</b>						
Southern California Edison Co.	Pebbly Beach Hydrotest Proj	AVALON	CAG674001	3	DCNWTRS	SANTA CATALINA ISLAND
<b>Miscellaneous Ventura Coastal Watershed Management Area Wastewater Permits - NPDES</b>						
<b>MAJORS</b>						
Oly Mandalay Bay GENERAL Partn	Oly Mandalay Bay Sea Bridge	OXNARD	CA0064505	3	DDOMEST	EDISON CANAL
Oxnard Wastewater Division	Oxnard WWTP	OXNARD	CA0054097	1	DDOMIND	VENTURA COASTAL STREAMS
Reliant Energy Mandalay, LLC	Mandalay Generating Station	OXNARD	CA0001180	1	DPROCES	VENTURA COASTAL STREAMS
Reliant Energy Mandalay, LLC	Ormond Beach Generating Station	OXNARD	CA0001198	1	DNONCON	VENTURA COASTAL STREAMS
<b>MINOR</b>						
Channel Island Marine Resource	Channel Island Marine Resource	VENTURA	CA0064131	3	DMISCEL	PORT HUENEME HARBOR
Culligan Industrial Water Trea	Puretec Harris Ind. Water	VENTURA	CA0059935	3	DPROCES	VENTURA COASTAL STREAMS
Edison Pipeline & Terminal Co.	Port Hueneme Fuel Oil Supply	PORT HUENEME	CA0057932	3	DSTORMS	PORT HUENEME HARBOR
Harris Water Conditioning	Culligan Water	VENTURA	CA0060267	3	DMISCEL	ARUNDELL BARRANCA
Pneumo Abex Aerospace, Inc.	Pneumo Abex Aerospace Corp.	OXNARD	CA0063894	3	DMISCEL	VENTURA COASTAL STREAMS
Rayne Water Systems of Ventura	Soft Water Sales & Svc,Ventura	VENTURA	CA0002658	3	DFILBRI	ARUNDELL BARRANCA
Stellar Biotechnologies	Stellar Biotechnologies	PORT HUENEME	CA0063070	3	DMISCEL	PORT HUENEME HARBOR

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Tosco Corp.	Gasoline Service Stations	OXNARD	CA0064360	3	DCNWTRS	VENTURA COUNTY STORM DRAINS
Ventura Port District	Ventura Marina	VENTURA)	CA0057738	3	DWSHWTR	VENTURA MARINA
<b>GENERAL</b>						
Caltrans	DOT District 7	OXNARD	CAG994004		IDOMEST	VENTURA COASTAL STREAMS
Edison Pipeline & Terminal Co.	EPTC Pipeline (Ventura River)	PORT HUENEME NAVAL CONSTRUCTION BATTALION CENTER	CAG674001	3	DMISCEL	VENTURA COASTAL STREAMS
Oxnard, City Of	Blending Stn 3 & Well PumpFac	OXNARD	CAG994005		NCNWTRS	VENTURA COASTAL STREAMS
Padre Associates, Inc.	Redwood Trunk Sewer Project	OXNARD	CAG994004		DCNWTRS	CHANNEL ISLANDS HARBOR
Shell Oil Products US	Shell-Rose Service Station	OXNARD	CAG834001	2	DCNWTRS	VENTURA COASTAL STREAMS
Ventura Co Dept of Airport	Former Condor Luft Site	OXNARD	CAG834001	2	DCNWTRS	CHANNEL ISLANDS HARBOR
Ventura Co Watershed Prot Dist	Arundell Barranca	VENTURA	CAG994004		HCNWTRS	ARUNDELL BARRANCA
Ventura Co Watershed Prot Dist	Hueneme Drain Pump Station	PORT HUENEME	CAG994004			ORMOND BEACH
Ventura Co Watershed Prot Dist	Hueneme Drain/Road Cuevert	PORT HUENEME	CAG994004			PORT HUENEME HARBOR
World Oil Marketing Co.	World Oil Station #54	VENTURA	CAG834001	2	HCNWTRS	ARUNDELL BARRANCA
<b>Ventura River Watershed Wastewater Permits - NPDES</b>						
<b>MAJOR</b>						
Ojai Valley San Dist	Ojai Valley WWTP	VENTURA	CA0053961	1	DDOMIND	VENTURA RIVER
<b>GENERAL</b>						
Casitas Municipal Water Dist.	Aquatic Pesticide Gen. Permit	OAK VIEW	CAG990003	3		LAKE CASITAS
City of Ventura, DPW	Aquatic Pesticide Gen. Permit	VENTURA	CAG990003	3	HMISCEL	VENTURA RIVER
Edison Pipeline & Terminal Co.	EPTC Pipeline (Ventura River)	PORT HUENEME NAVAL CONSTRUCTION BATTALION CENTER	CAG674001	3	DMISCEL	VENTURA RIVER
Equilon California Pipeline Co	Equilon- Ventura Terminal	VENTURA	CAG674001	3	NMISCEL	VENTURA RIVER
San Buenaventura, City of	Foster Park Well Field	VENTURA	CAG994001	3	IMISCEL	VENTURA RIVER
Southern California Water Co.	Ojai System	OJAI	CAG674001	3	DMISCEL	VENTURA RIVER

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Santa Clara River Watershed Wastewater Permits - NPDES						
<b>MAJORS</b>						
LA Co Sanitation Districts	Valencia WWRP	VALENCIA	CA0054216	1	DDOMIND	SANTA CLARA RIVER
LA Co Sanitation Districts	Saugus WWRP	SAUGUS	CA0054313	1	DDOMIND	SANTA CLARA RIVER
San Buenaventura, City of	Ventura WWRP	VENTURA	CA0053651	1	DDOMIND	SANTA CLARA RIVER
Santa Paula, City of/OMI	Santa Paula WWRP	SANTA PAULA	CA0054224	1	DDOMIND	SANTA CLARA RIVER
<b>MINOR</b>						
Castaic Lake Water Agency	Earl Schmidt Filtration Plant	CASTAIC	CA0059030	3	DMISCEL	CASTAIC LAKE
Dept of Water Resources	William E. Warne Power Plant	PYRAMID LAKE	CA0059188	3	DPROCES	PYRAMID LAKE
Fillmore, City of	Fillmore WWTP	FILLMORE	CA0059021	2	DDOMIND	SANTA CLARA RIVER
HR Textron Inc.	Valencia Facility	SANTA CLARITA	CA0003271	3	DMISCEL	SANTA CLARA RIVER
Keysor-Century Corp	Pvc-Pva Copolymer Mfg, Saugus	SAUGUS	CA0057126	2	DSTORMS	SOUTH FORK SANTA CLARA RIVER
LA Co Dept of Parks&Recreation	Val Verde Co. Park Swim Pool	SAUGUS	CA0062561	3	DMISCEL	SANTA CLARA RIVER
Los Angeles City of DWP	Castaic Power Plant	CASTAIC	CA0055824	2	DPROCES	ELDERBERRY FOREBAY
Los Angeles City of DWP	Tunnel No. 104	SANTA CLARITA	CA0058432	3	DCNWTRS	NEWHALL CREEK
Metropolitan Water Dist. Of SC	Foothill Feeder Power Plant	CASTAIC	CA0059641	3	DNONCON	CASTAIC LAKE
Santa Clarita, City of	Drainage Ben. Assess Area 6&18	SANTA CLARITA	CA0061638	3	DMISCEL	SANTA CLARA RIVER
Six Flags Magic Mountain	Amusement Park, Valencia	VALENCIA	CA0003352	2	DMISCEL	SANTA CLARA RIVER
<b>GENERAL</b>						
Augeas Corporation	Former Just Gas	OXNARD	CAG834001	2	HCNWTRS	SANTA CLARA RIVER
Caltrans	Santa Clarita River Bridge Exp	VENTURA	CAG994004		DCNWTRS	SANTA CLARA RIVER
Castaic Lake Water Agency	Three Prod. Well Aquifer Test	SANTA CLARITA	CAG914001	2	DCNWTRS	SOUTH FORK SANTA CLARA RIVER
CH2M Hill	SCLLC Porta Bella Dev. Project	SANTA CLARITA	CAG914001	2	DCNWTRS	SANTA CLARA RIVER

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
DOKKEN ENGINEERING	Bouquet Canyon Bridge Widening	SANTA CLARITA	CAG994004		DMISCEL	SANTA CLARA RIVER
LA Co Sanitation Districts	Valencia WWRP	VALENCIA	CAG994004		DMISCEL	SANTA CLARA RIVER
McDonald's Restaurant	Mcdonald's Restaurant	GORMAN	CAG994001	3	DMISCEL	PYRAMID LAKE
Newhall County Water District	Well Nos. 7 & 10	SANTA CLARITA	CAG994005		NMISCEL	NEWHALL CREEK
Newhall Land and Farming Co.	Hart/Pony Baseball & Auto Mall	VALENCIA	CAG994004			SANTA CLARA RIVER
Ogden Constructors	Santa Paula Improvement,Reach2	SANTA PAULA	CAG994001	3	IMISCEL	SANTA CLARA RIVER
Santa Clarita Community Colleg	College Of The Canyons	SANTA CLARITA	CAG994003	3	DMISCEL	SANTA CLARA RIVER
Santa Paula, City of/OMI	Well #11	SANTA PAULA	CAG994005		NMISCEL	SANTA CLARA RIVER
Southern California Gas Co.	Fair Oaks Ranch-Phase II	SANTA CLARITA	CAG674001	3		SANTA CLARA RIVER
The Painted Turtle Camp	The Painted Turtle Camp	LAKE HUGHES	CAG994001	3	DMISCEL	LAKE ELIZABETH
Valencia Water Company	Valencia Water Co. Well #206	CASTAIC	CAG994005		NMISCEL	SANTA CLARA RIVER
Calleguas Creek Watershed Wastewater Permits - NPDES						
<b>MAJORS</b>						
Camarillo Sanitary District	Camarillo Water Reclam. Plant	CAMARILLO	CA0053597	1	DDOMIND	CONEJO CREEK
Camrosa Water District	Camrosa WWRP	CAMARILLO	CA0059501	3	DDOMEST	CALLEGUAS CREEK
Simi Valley, City Of	Simi Valley WWRP	SIMI VALLEY	CA0055221	1	DDOMIND	ARROYO SIMI
Thousand Oaks City of DPW	Hill Canyon WWTP	CAMARILLO	CA0056294	1	DDOMIND	ARROYO CONEJO
Ventura Co Water Works Dist. 1	Moorpark WWTP	MOORPARK	CA0063274	2	DDOMIND	ARROYO LAS POSAS
<b>MINOR</b>						
Cemex Construction Materials	Moorpark Facility	MOORPARK	CA0059315	3	DMISCEL	ARROYO SIMI
Emery Forwarding	Pti Technologics	NEWBURY PARK	CA0064050	2	HCNWTRS	ARROYO CONEJO
ExxonMobil Refining Supply Co.	RAS#7-8712	TORRANCE	CA0063304	1	DMISCEL	CALLEGUAS CREEK
Skyworks Solutions, Inc.	Skyworks Solutions, Inc.	NEWBURY PARK	CA0060348	3	HCNWTRS	ARROYO CONEJO
Teleflex Inc.	The Talley Site, Newbury Park	NEWBURY PARK	CA0059609	2	HCNWTRS	ARROYO CONEJO

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Tosco Corp.	Tosco Gasoline Service Station		CA0064343	3	DCNWTRS	CALLEGUES CREEK
<b>GENERAL</b>						
Calleguas Municipal Water Dist	Las Posas Feeder Unit 3 Proj.	MOORPARK	CAG994004		DCNWTRS	ARROYO SIMI
Calleguas Municipal Water Dist	RSMP- Brine Line Phase 1	VENTURA	CAG994004		NMISCEL	REVOLON SLOUGH
Calleguas Municipal Water Dist	Grimes Canyon Wellfield #2	MOORPARK	CAG994005		DMISCEL	ARROYO LAS POSAS
Calleguas Municipal Water Dist	Well Field No.1	MOORPARK	CAG994005		IMISCEL	ARROYO LAS POSAS
Camarillo, City of	Aquatic Pesticide Gen. Permit	CAMARILLO	CAG990003	3	HMISCEL	VENTURA RIVER
ConocoPhillips Company	Former 76 Station #5228	CAMARILLO	CAG914001	2	HCNWTRS	REVOLON SLOUGH
ExxonMobil Oil Corporation	Former ExxonMobil SS#7-2827	CAMARILLO	CAG834001	2	DMISCEL	VENTURA COASTAL STREAMS
Pleasant Valley Rec & Park Dis	Freedom Park	CAMARILLO	CAG834001	2	DCNWTRS	CALLEGUAS CREEK
Southern California Gas Co.	Oxnard Gas Line Reloc. Proj	OXNARD	CAG674001	3	NWSHWTR	REVOLON SLOUGH
Unocal Corp.	Former Unocal Station #4687	THOUSAND OAKS	CAG834001	2	DCNWTRS	ARROYO CONEJO
Ventura Co Fire Dept.	Ventura County Fire Station#30	THOUSAND OAKS	CAG834001	2	HCNWTRS	ARROYO CONEJO
Ventura Co Flood Control Dist.	Santa Clara Unit IIB	VENTURA	CAG994004		NMISCEL	REVOLON SLOUGH
Ventura County Transportation	Santa Clara Ave. Improve. SC-2	VENTURA	CAG994004			REVOLON SLOUGH
<b>Santa Monica Bay Watershed Management Area Wastewater Permits - NPDES</b>						
Ballona Creek						
<b>MINOR</b>						
4201 Wilshire, LLC	Harbor Associates	LOS ANGELES	CA0054861	3	DMISCEL	BALLONA CREEK
Adams Plaza	Adams Plaza	LOS ANGELES	CA0058297	3	DNONCON	BALLONA CREEK
Beverly Hot Springs	Beverly Hot Springs	LOS ANGELES	CA0062189	3	DMISCEL	BALLONA CREEK
ExxonMobil Oil Corporation	Mobil SS#18-LDM	LOS ANGELES	CA0064262	3	DCNWTRS	BALLONA CREEK
ExxonMobil Oil Corporation	Service Station #18-FX-5	CULVER CITY	CA0064301	2	DCNWTRS	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Korean World Tower	Los Angeles Apartment Bldg	LOS ANGELES	CA0053091	3	DNONCON	BALLONA CREEK
L.A. Hospitality, Inc.	Holiday Inns	LOS ANGELES	CA0053490	3	DMISCEL	BALLONA CREEK
Pine Realty, Inc.	Gateway West Bldg, LA	LOS ANGELES	CA0053287	3	DMISCEL	BALLONA CREEK
Pivotal Century Plaza Hotel	Century Plaza Hotel & Tower	LOS ANGELES	CA0055638	3	DMISCEL	SEPULVEDA CHANNEL
Plains Expl. & Prod. Co.	Inglewood Oil Fd,Baldwin Hills	LOS ANGELES	CA0057827	2	DSTORMS	CENTINELA CREEK CHANNEL
Platinum Equity	North Crescent Realty V, LLC	BEVERLY HILLS	CA0055786	3	DNONCON	BALLONA CREEK
RMR Properties	Rmr Properties	LOS ANGELES	CA0054615	3	DMISCEL	BALLONA CREEK
Salvation Army, The	Red Shield Yth & Community Ctr	LOS ANGELES	CA0055409	3	DMISCEL	BALLONA CREEK
Santa Monica, City Of	Santa Monica Water Trt. Plant	LOS ANGELES	CA0054101	2	DFILBRI	BALLONA CREEK
Shell Oil Products US	Shell Station #204-1944-0100	CULVER CITY	CA0064289	2	DCNWTRS	BALLONA CREEK
University Of Southern Calif.	University Park Swimming Pool	LOS ANGELES	CA0054453	3	DMISCEL	BALLONA CREEK
<b>GENERAL</b>						
331 North Maple LLC	Office Building	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
5055 Wilshire Limited Partner	5055 Wilshire Limited	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
AL-SAL OIL CO, INC.	Station No. 4	LOS ANGELES	CAG834001	2		BENEDICT CANYON
Amir Development Co.	Wilshire/Carson Office Build	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
Arco Petroleum Products Co.	Arco Station #1057	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK
Arden Realty L. P.	New Wilshire Building	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Arden Realty L. P.	Wilshire-San Vicente Plaza	BEVERLY HILLS	CAG994004		DCNWTRS	BALLONA CREEK
Arden Realty L. P.	Comstock Building	LOS ANGELES	CAG994004		DCNWTRS	BALLONA CREEK
ARYA Investments, LLC	Wilshire West Executive Center	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Atlantic Richfield Company	Arco Station #0194	CULVER CITY	CAG834001	2	HCNWTRS	BALLONA CREEK
Atria West	Office Building West	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Atria West	Office Building East.	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
B. N. Y. California Inc.	B. N. Y. California Inc.	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
Bernard Cohen	Former Pierce Service Station	LOS ANGELES	CAG834001	2	DMISCEL	BALLONA CREEK
Beverly Connection, LLC	Shopping Mall	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Beverly Hills, City of	Fire Station No. 3	BEVERLY HILLS	CAG834001	2	DCNWTRS	BALLONA CREEK
Beverly Hills, City of	Beverly RO Treatment Plant	BEVERLY HILLS	CAG994002	3	NMISCEL	BALLONA CREEK
Beverly Hills, City of	Site "A" South Parking Struct	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
Beverly Hills, City of	City Well of Beverly Hills	BEVERLY HILLS	CAG994005		DMISCEL	BALLONA CREEK
Braille Institute Of America	Braille Institute of America	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Brentwood Property, LLC	The Gardens @ Darlington	BRENTWOOD	CAG994001	3		BALLONA CREEK
Calclean Inc.	Culver Motor Clinic	CULVER CITY	CAG834001	2	NCNWTRS	BALLONA CREEK
Calclean Inc.	Former Bug City/Studio Express	LOS ANGELES	CAG834001	2	NCNWTRS	BALLONA CREEK
California Fed. Enterprises	The Wilshire	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Casden Park La Brea "A", LLC	Park La Brea, Parcel A	LOS ANGELES	CAG994002	3	DCNWTRS	BALLONA CREEK
Casden Park La Brea "B", LLC	Park La Brea Parcel "B"	LOS ANGELES	CAG994002	3	HCNWTRS	BALLONA CREEK
Casden Properties, LLC	Casden Properties	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
Casden Properties, LLC	Park La Brea, Parcel C	LOS ANGELES	CAG994002	3	DCNWTRS	BALLONA CREEK
CBS, Inc. Television City	Cbs, Inc.	LOS ANGELES	CAG994002	3	DMISCEL	BALLONA CREEK
Cedars-Sinai Medical Center	Cedars-Sinai Medical Center	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Cedars-Sinai Medical Center	Cedars Sinai-North Care Twr	LOS ANGELES	CAG994004		DMISCEL	SEPULVEDA CHANNEL
Center For Early Education	Center For Early Education	LOS ANGELES	CAG914001	2	HCNWTRS	BALLONA CREEK
Center West	Center West	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Century Sports Club & Day Spa	Century Sports Club & Day Spa	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Children's Hospital Los Angele	Children's Hospital	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Chong H. Lim	Maplewood Apts.	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Clarity Partners, LP	Clarity Partners, LP	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
Cochran Island Apartments LLC	Cochran Ave. Apt	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
ConocoPhillips Company	76 Station #0981	LOS ANGELES	CAG834001	2	DCNWTRS	BALLONA CREEK
ConocoPhillips Company	Unocal SS #1715	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK
Copperfield Investment & Devel	Wilshire-Highland Bldg.	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
CWD Cloverdale li Associates	328 Cloverdale Apts	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Doheny Estates HOA Inc.	Doheny Estates	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
Douglas Emmett & Company	Century Park Plaza	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Douglas, Emmett & Co.	Wilshire Landmark II Building	LOS ANGELES	CAG994004		DCNWTRS	BALLONA CREEK
EQUILON ENTERPRISES LLC	Shell Station-Western L.A.	LOS ANGELES	CAG834001	2	DCNWTRS	BALLONA CREEK
Equity Office Properties	The Tower	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
ExxonMobil Oil Corporation	Former Exxon Station 7-7221	LOS ANGELES	CAG834001	2	DCNWTRS	BALLONA CREEK
Francis Property Management	585 North Rossmore, Ltd.	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
G & L Realty Corp.	Office Building Parking Garage	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
George & Erika Kabor Family Tr	La Cienega Center	BEVERLY HILLS	CAG994002	3	DMISCEL	BALLONA CREEK
Goldrich & Kest Management Co.	Museum Terrace Apartment	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Harrison/Roberts Environmental	Yoshioka Property	LOS ANGELES	CAG994004		IMISCEL	BALLONA CREEK
Harry's Auto Body Inc.	Subterranean Parking Structure	LOS ANGELES	CAG994002	3	NCNWTRS	BALLONA CREEK
Holt Regency HOA	1200 Holt Ave. Condo	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Honeywell Inc.	Sepulveda Site	LOS ANGELES	CAG914001	2	DCNWTRS	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
HPG Management	Burnside Apartment	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
HPG Management	Detroit Apartment, 618 S	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
HPG Management	Detroit Apartment, 360 S	LOS ANGELES	CAG994002	3	DMISCEL	BALLONA CREEK
HPG Management	Hancock Park Place Apts	LOS ANGELES	CAG994002	3	DMISCEL	BALLONA CREEK
InterActive Corp.	Ticketmaster Building	WEST (BR. P.O.NAME FOR WEST HOLLYWOOD)	CAG994001	3	DMISCEL	BALLONA CREEK
Jizhak Family Trust	Huntley Drive Apartment	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
John O'Keefe	Santa Monica Gateway	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Kennedy-Wilson Properties	Kennedy-Wilson Properties	BEVERLY HILLS	CAG994001	3	NMISCEL	BALLONA CREEK
L. Flynt, Ltd.	Great Western Savings Center	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
LA Co Dept of Public Works	West Coast Barrier Proj, 3&4	MANHATTAN BEACH	CAG994001	3	DMISCEL	BALLONA CREEK
LA Co Dept of Public Works	Hollyhills Drain Unit 8	HOLLYWOOD	CAG994004		NCNSOIL	BALLONA CREEK
LA Co Dept of Public Works	West Coast Barrier Proj, 2	MANHATTAN BEACH	CAG994005		DMISCEL	BALLONA CREEK
LA Co Dept of Public Works	West Coast Barrier Proj, 1	EL SEGUNDO	CAG994005		DMISCEL	BALLONA CREEK
LA Co Dept of Public Works	West Coast Barrier Proj, 9	EL SEGUNDO	CAG994005		DMISCEL	BALLONA CREEK
LA Co Dept of Public Works	West Coast Barrier Proj, 5	HERMOSA BEACH	CAG994005		DMISCEL	BALLONA CREEK
LA Co Museum of Nature Science	George C Page Museum	LOS ANGELES	CAG994002	3	IMISCEL	BALLONA CREEK
LA Unified School District	Tank Leak Site- Elem. School	LOS ANGELES	CAG914001	2	HCNWTRS	BALLONA CREEK
LB Property Management	Office Building	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Le Montrose Hotel	Le Montrose Hotel	WEST HOLLYWOOD	CAG994002	3	DMISCEL	BALLONA CREEK
Los Angeles City of DWP	Stone Hollywood Trunk Line - 4	LOS ANGELES	CAG674001	3	DMISCEL	BALLONA CREEK
Los Angeles City of DWP	Palm Service Center	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK
Los Angeles City of DWP	Stone Hollywood Trunk Line - 4	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Los Angeles Convention Center	Los Angeles Convention Center	LOS ANGELES	CAG994003	3	DMISCEL	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Los Angeles Maison	Hotel Sofitel Los Angeles	LOS ANGELES	CAG994004		HCNWTRS	BALLONA CREEK
M & H Realty Partners	Villa Marina Market PI	MARINA DEL REY	CAG994002	3		BALLONA CREEK
Maple Associates, Ltd	407 North Maple Drive	BEVERLY HILLS	CAG994004		IMISCEL	BALLONA CREEK
Marina del Rey Ventura LLC	Apartment Bldg	MARINA DEL REY	CAG994004			BALLONA CREEK
Marina Pacific Association	Marina Harbor Apartments	MARINA DEL REY	CAG994004		DCNWTRS	LOS ANGELES HARBOR
Marina Two Holding Partnership	Esprit, Marina Parcel 12	MARINA DEL REY	CAG994004		DMISCEL	LOS ANGELES HARBOR
Marsh Holtzman	Wilshire Place	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Masselin Manor	Masselin Manor Apartment	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Mercury Casualty Company	Home Office Building	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Metropolitan Water Dist. Of SC	Venice Power Plant	LOS ANGELES	CAG994003	3	DMISCEL	BALLONA CREEK
Mole-Richardson Company	Mole-Richardson Company	HOLLYWOOD	CAG994004		DMISCEL	BALLONA CREEK
MPI, Ltd.	Mpi, Ltd.	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
NPS Management Corp.	West Hollywood Facility	WEST (BR. P.O.NAME FOR WEST HOLLYWOOD)	CAG994002	3	DMISCEL	BALLONA CREEK
OHR Haemet Institute	Office-1030 Robertson Blvd. La	LOS ANGELES	CAG914001	2	HCNWTRS	BALLONA CREEK
One Hundred Towers LLC	Century Plaza Towers, Offices	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Paramount Pictures Inc.	Marathon Office Building	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Park La Brea	Park La Brea	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Park Place Terrace Apartments	Park Place Terrace Apartments	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Philmont Management	Equitable City Center	LOS ANGELES	CAG994004		HMISCEL	BALLONA CREEK
Playa Capital Co., LLC	Playa Vista Site	LOS ANGELES	CAG914001	2	DCNWTRS	BALLONA CREEK
Playa Capital Co., LLC	Playa Phase I Commercial	LOS ANGELES	CAG994004		DCNWTRS	BALLONA CREEK
PMG, Inc.	Tiffany Court Apartments	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
RealTech, Inc.	Maple Plaza	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
Reno Apartments	Reno Apartments	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Rodeo Owner Corp.	Two Rodeo Associates	BEVERLY HILLS	CAG994004		DMISCEL	BALLONA CREEK
Rossmore House Partners, LP	Rossmore Apartments	LOS ANGELES	CAG994004			BALLONA CREEK
RP 120, LLC	RP 120, LLC	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Santa Monica, City Of	Charnock Mun. Water Wellfield	LOS ANGELES	CAG994004		HCNWTRS	BALLONA CREEK
Shell Oil Products US	Shell Oil Gasoline S	WEST HOLLYWOOD	CAG834001	2	HCNWTRS	BALLONA CREEK
Sikh Study Circle, Inc.	Sikh Study Circle, Inc.	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
SK Management Co. LLC	The Monet	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
SK Management Co. LLC	Metro Apartments	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Southern California Water Co.	Sentney Filtration Plant	CULVER CITY	CAG994002	3	DMISCEL	BALLONA CREEK
St. Vincent Medical Center	Institute Plaza	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Temple Beth Am	Temple Beth Am	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
The Korean Times Los Angeles	Fremont Plaza	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Third Fairfax, LLC	K-Mart	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
TMW Real Estate Management	Beverly Mercedes Place	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
Topa Management Corp.	Gateway East Office Bldg, La	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
U.S. Geological Survey	Ballona Creek - Hydrologic	LOS ANGELES	CAG994005		NCNWTRS	BALLONA CREEK
Unocal Corp.	Former Unocal Station #4823	LOS ANGELES	CAG834001	2		BALLONA CREEK
Unocal Corp.	Service Station #3016	CULVER CITY	CAG914001	2	HCNWTRS	BALLONA CREEK
Urban Retail Property	Century City Shopping Center	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Villa Marina East Board of Dir	Villa Marina East V	MARINA DEL REY	CAG994001	3	DMISCEL	BALLONA CREEK
Wells Fargo Bank	Data Processing Center	LOS ANGELES	CAG994003	3	DNONCON	BALLONA CREEK
Wilroad Associates c/o Hines	Wilshire Rodeo Plaza	BEVERLY HILLS	CAG994001	3	DMISCEL	BALLONA CREEK
Wilshire Borgata Owner Assoc.	Wishire Borgata Condominiums	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Wilshire Landmark LLC	High-Rise Condominium	LOS ANGELES	CAG994001	3	NMISCEL	BALLONA CREEK TO ESTUARY
Wilshire Owners Association	Wilshire Owners Association	LOS ANGELES	CAG994001	3	DMISCEL	BALLONA CREEK
Wilshire West Partners	Wilshire Renaissance Apts.	LOS ANGELES	CAG994002	3	DMISCEL	BALLONA CREEK
World Oil Marketing Co.	World Oil Station No. 17	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK
World Oil Marketing Co.	Former World Oil Station #20	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK
World Oil Marketing Co.	World Oil Marketing 27	LOS ANGELES	CAG834001	2	HCNWTRS	BALLONA CREEK
World Oil Marketing Co.	World Oil Station #62(Cleanup)	BEVERLY HILLS	CAG914001	2		BALLONA CREEK
WRC Properties, Inc.	Office Building, LA	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
Writers Guild of A. West Inc.	Fairfax Plaza	LOS ANGELES	CAG994004		DMISCEL	BALLONA CREEK
<b>Malibu Creek</b>						
<b>MAJOR</b>						
Las Virgenes MWD	Tapia WRF	CALABASAS	CA0056014	1	DDOMIND	MALIBU CREEK
<b>GENERAL</b>						
HVR Associates LP	Hidden Valley Ranchos	THOUSAND OAKS	CAG994001	3	IMISCEL	POTRERO VALLEY CREEK
Las Virgenes MWD	Tapia WRF Groundwater Disch	CALABASAS	CAG994001	3	DMISCEL	MALIBU CREEK
Malibu, City of	Big Rock Mesa Drainage Facilit	MALIBU	CAG994004		DMISCEL	MALIBU CREEK
State Farm Mutual Auto Ins Co	Insurance Office, Westlake Vil	WESTLAKE VILLAGE	CAG994003	3	DMISCEL	SANTA MONICA BAY
URS Corporation	Eaton Corporation	WESTLAKE VILLAGE	CAG994004		HMISCEL	TRIUNFO CREEK
Vintage Communities LLC	Hidden Park Bridge Dewatering	CORNELL	CAG994001	3	IMISCEL	TRIUNFO CREEK
Westlake Lake Mgnt Association	Aquatic Pesticide Gen Permit	WESTLAKE VILLAGE	CAG990003	3		POTRERO JOHN CREEK
<b>Greater Santa Monica Bay</b>						
<b>MAJORS</b>						
AES Redondo Beach, LLC	Redondo Generating Station	REDONDO BEACH	CA0001201	1	DPROCES	SANTA MONICA BAY
Chevron U.S.A. Inc.	El Segundo Refinery	EL SEGUNDO	CA0000337	1	HSTORMS	SANTA MONICA BAY

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
El Segundo Power, L.L.C.	El Segundo Generating Station	EL SEGUNDO	CA0001147	1	DPROCES	SANTA MONICA BAY
LA Co Sanitation Districts	JWPCP, Carson	CARSON	CA0053813	1	DDOMIND	PACIFIC OCEAN
LA City Bureau of Sanitation	Hyperion WWTP	PLAYA DEL REY	CA0109991	1	DDOMIND	SANTA MONICA BAY
Los Angeles City of DWP	Scattergood Generating Station	PLAYA DEL REY	CA0000370	1	DCONTAC	SANTA MONICA BAY
<b>MINOR</b>						
ExxonMobil Refining Supply Co.	RAS#7-8712	TORRANCE	CA0063304	1	DMISCEL	SANTA MONICA BAY
LA Co Dept of Public Works	Malibu Mesa WWRP	MALIBU	CA0059099	1	DDOMEST	SANTA MONICA BAY
Redondo Beach, City of	Seaside Lagoon	REDONDO BEACH	CA0064297	3	DMISCEL	SANTA MONICA BAY
West Basin Municipal Water Dis	West Basin WWRP	EL SEGUNDO	CA0063401	3	DDOMEST	SANTA MONICA BAY
West Basin Municipal Water Dis	Carson Regional WRP	CARSON	CA0064246	3	DMISCEL	SANTA MONICA BAY
<b>GENERAL</b>						
1800 Rosecrans Partners, LLC	Former Fairchild Controls	MANHATTAN BEACH	CAG994004		DMISCEL	SANTA MONICA BAY
26800 PCH and Associates, LLP	Gulls Way	MALIBU	CAG994001	3	DMISCEL	SANTA MONICA BAY
AI & Hugh Maguire	Angel Service Station	VENICE	CAG834001	2	HCNWTRS	VENICE BEACH
BOC Gases	BOC Gases - El Segundo	EL SEGUNDO	CAG994003	3	NNONCON	STORM DRAINS
LA Co Dept of Public Works	Hollyhills Drain Unit 7	LOS ANGELES	CAG994002	3	DCNWTRS	BALLONA CREEK
LA Co Dept of Public Works	Proj # 5241-Low Flow Diversion	LOS ANGELES	CAG994004		DCNWTRS	PACIFIC OCEAN
LA Co Dept of Public Works	Proj. # 501-Low Flow Diversion	LOS ANGELES	CAG994004		DCNWTRS	PACIFIC OCEAN
LA Co Dept of Public Works	West Coast Barrier Proj, 7	REDONDO BEACH	CAG994005		DMISCEL	SANTA MONICA BAY
LA Co Dept of Public Works	West Coast Barrier Proj, 6	REDONDO BEACH	CAG994005		DMISCEL	SANTA MONICA BAY
LA Co Dept of Public Works	West Coast Barrier Proj, 8	REDONDO BEACH	CAG994005		DMISCEL	SANTA MONICA BAY
Laxfuel Corp.	Laxfuel Corp.	LOS ANGELES	CAG914001	2	HCNWTRS	SANTA MONICA BAY

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
SSR Western Multifamily LLC	Alliance Property Management	SANTA MONICA	CAG994003	3	NMISCEL	SANTA MONICA BAY
Unocal Corp.	Unocal Ss #5894	RANCHO PALOS VERDES	CAG834001	2	HCNWTRS	SANTA MONICA BAY
WB Ltd	12100 Wilshire Blvd	LOS ANGELES	CAG994001	3	DMISCEL	SANTA MONICA BAY
West Basin Municipal Water Dis	West Basin Water Recycling	EL SEGUNDO	CAG674001	3	DMISCEL	SANTA MONICA BAY
Western LA County Council	Camp Joseph Boy Scout Camp	PACIFIC PALISADES	CAG994001	3	NMISCEL	RUSTIC CANYON CREEK
<b>Dominguez Channel – LA/LB Harbors Watershed Management Area Wastewater Permits - NPDES</b>						
<b>MAJORS</b>						
BP West Coast Products LLC	Carson Refinery	CARSON	CA0000680	2	DCNWTRS	DOMINGUEZ CHANNEL
ConocoPhillips Company	LA Refinery, Carson Plant	CARSON	CA0063185	2	DSTORMS	DOMINGUEZ CHANNEL
Mobil Oil Corp.	Torrance Refinery	TORRANCE	CA0055387	1	HSTORMS	DOMINGUEZ CHANNEL
Shell Oil Products US	Carson Terminal	CARSON	CA0000809	2	DSTORMS	DOMINGUEZ CHANNEL
Shell Oil Products US	L.A. Refining Co. (Wilmington)	WILMINGTON	CA0003778	1	HCONTAC	DOMINGUEZ CHANNEL
<b>MINOR</b>						
Air Products & Chemicals, Inc.	Hydrogen Plant & Related Fac.	WILMINGTON	CA0063363	2	DSTORMS	DOMINGUEZ CHANNEL
BP West Coast Products LLC	Carson Crude Oil Terminal	CARSON	CA0060232	3	DSTORMS	DOMINGUEZ CHANNEL ESTUARY
California Sulphur Co.	Sulfur Pelletizing, Wilmington	WILMINGTON	CA0059064	2	DSTORMS	DOMINGUEZ CHANNEL
Churchill Downs California Co.	Hollywood Park	INGLEWOOD	CA0064211	3	DMISCEL	DOMINGUEZ CHANNEL
ConocoPhillips Company	ConocoPhillips LA Lub. Plant	LOS ANGELES	CA0059846	2	DSTORMS	DOMINGUEZ CHANNEL
Dayton Superior specialty Chem	Edoco	CARSON	CA0002941	3	DSTORMS	DOMINGUEZ CHANNEL
Elixir Industries	Elixir Industries	GARDENA	CA0062537	3	HCNWTRS	DOMINGUEZ CHANNEL
ExxonMobil Refining Supply Co.	RAS#7-8712	TORRANCE	CA0063304	1	DMISCEL	DOMINGUEZ CHANNEL
Fairchild Holding Corp.	Voi-Shan Redondo Bch	REDONDO BEACH	CA0060631	3	HCNWTRS	DOMINGUEZ CHANNEL
Gardena, City of	Primm Memorial Swimming Pool	GARDENA	CA0056413	3	DFILBRI	DOMINGUEZ CHANNEL

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Greene's Ready Mixed Concrete	Greene's Ready Mixed Concrete	TORRANCE	CA0002992	3	DSTORMS	DOMINGUEZ CHANNEL
Honeywell Inc.	Torrance Facility	TORRANCE	CA0058688	3	DNONCON	DOMINGUEZ CHANNEL
Honeywell Inc.	Honeywell Inc.	GARDENA	CA0062162	3	HCNWTRS	DOMINGUEZ CHANNEL
Kinder Morgan (Former GATX)	Carson Terminal	CARSON	CA0056863	2	DSTORMS	DOMINGUEZ CHANNEL
Los Angeles City of DWP	Olympic Tank Farm Skim Pond	WILMINGTON	CA0057568	3	DSTORMS	DOMINGUEZ CHANNEL
Permalite Inc.	Permalite Inc.	CARSON	CA0059871	2	DSTORMS	DOMINGUEZ CHANNEL
Plaskolite West, Inc.	Plaskolite West Inc.	COMPTON	CA0060798	3	DCONTAC	DOMINGUEZ CHANNEL
Praxair, Inc.	Praxair, Wilmington	WILMINGTON	CA0001848	2	DCONTAC	DOMINGUEZ CHANNEL
Redman Equipment & Mfg Co	Redman Equipment & Mfg.Co	TORRANCE	CA0058726	3	DSTORMS	DOMINGUEZ CHANNEL
Shell Oil Products US	Carson Sulfur Recovery Plant	CARSON	CA0002020	2	DSTORMS	DOMINGUEZ CHANNEL
Equilon Enterprises, LLC	Former Texaco Service Station	TORRANCE	CAG834001	2	DCNWTRS	DOMINGUEZ CHANNEL
Inglewood, City of	City of Inglewood Water System	INGLEWOOD	CAG994001	3		DOMINGUEZ CHANNEL
Inglewood, City of	Well No. 6	INGLEWOOD	CAG994005		NMISCEL	DOMINGUEZ CHANNEL
Kinder Morgan (Former GATX)	Gatx, Carson	CARSON	CAG674001	3	DMISCEL	DOMINGUEZ CHANNEL
LA Co Dept of Parks&Recreation	Lennox County Park	LOS ANGELES	CAG994003	3	DMISCEL	DOMINGUEZ CHANNEL
LA Co Dept of Public Works	Dominguez Gap Barrier Project	WILMINGTON	CAG994001	3	DMISCEL	DOMINGUEZ CHANNEL
LA Co Dept of Public Works	Dominguez Gap Proj. Part 2B	CARSON	CAG994002	3	HMISCEL	DOMINGUEZ CHANNEL
LA Co Dept of Public Works	Dominger Drain & Pump Station	CARSON	CAG994004		NMISCEL	DOMINGUEZ CHANNEL
Pacific Terminals LLC	Systems Wide Pipelines		CAG674001	3	IMISCEL	DOMINGUEZ CHANNEL
Port of Long Beach	Pier T Terminal Development	LONG BEACH	CAG994004		IMISCEL	DOMINGUEZ CHANNEL
Radisson Los Angeles Airport	Radisson Los Angeles Airport	LOS ANGELES	CAG994003	3	IMISCEL	DOMINGUEZ CHANNEL
Southern California Water Co.	Truro Fe & Mn Filtration Plant	INGLEWOOD	CAG994003	3	NFILBRI	DOMINGUEZ CHANNEL
Southern California Water Co.	Goldmedal Plant	HAWTHORNE	CAG994003	3	DMISCEL	DOMINGUEZ CHANNEL

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Southern California Water Co.	Doty Wells #1 & #2	HAWTHORNE	CAG994005		DMISCEL	DOMINGUEZ CHANNEL
Southern California Water Co.	Dalton Well	GARDENA	CAG994005		NMISCEL	DOMINGUEZ CHANNEL
Southern California Water Co.	Chicago & Compton Doty Wells	LAWNDALE	CAG994005		DMISCEL	DOMINGUEZ CHANNEL
Southern California Water Co.	Southern No. 6	GARDENA	CAG994005		HCNWTRS	DOMINGUEZ CHANNEL
Southern California Water Co.	Yukon No. 5	INGLEWOOD	CAG994005		HCNWTRS	DOMINGUEZ CHANNEL
Southern California Water Co.	129th Street Water Well #2	GARDENA	CAG994005		NMISCEL	DOMINGUEZ CHANNEL
Southern California Water Co.	Drinking Well-Ballona Plant	GARDENA	CAG994005			DOMINGUEZ CHANNEL
Tesoro Petroleum	Target Store-290	GARDENA	CAG914001	2	IMISCEL	DOMINGUEZ CHANNEL
U.S. Geological Survey	Dominguez Channel - Hydrologic	LOS ANGELES	CAG994005		NCNWTRS	DOMINGUEZ CHANNEL
UNOCAL	Unocal Service Station #7196	HAWTHORNE	CAG834001	2	HCNWTRS	DOMINGUEZ CHANNEL
Unocal/Arco	Unocal/Arco Hawthorne	HAWTHORNE	CAG834001	2	HCNWTRS	DOMINGUEZ CHANNEL
Water Replenishment Dist of SC	West Coast Basin Desalter	TORRANCE	CA0064238	3	DFILBRI	LOS ANGELES RIVER
Yeager Skanska	Anaheim Pump Station De-wateri	WILMINGTON	CAG994004			DOMINGUEZ CHANNEL
<i>Harbor discharges</i>						
<b>MAJORS</b>						
LA City Bureau of Sanitation	Terminal Island WWTP	SAN PEDRO	CA0053856	1	DDOMEST	LOS ANGELES/LONG BEACH OUTER HARBOR
Long Beach Generation LLC	Long Beach Generating Station	LONG BEACH	CA0001171	1	DNONCON	LONG BEACH HARBOR
Los Angeles City of DWP	Harbor Generating Station	WILMINGTON	CA0000361	1	DNONCON	LOS ANGELES HARBOR
United States Borax & Chem Cor	Wilmington Plant	WILMINGTON	CA0000787	2	HNONCON	LOS ANGELES INNER HARBOR
<b>MINOR</b>						
Al Larson Boat Shop	Al Larson Boat Shop	TERMINAL ISLAND	CA0061051	3	DSTORMS	LOS ANGELES INNER HARBOR
BP West Coast Products LLC	Long Beach Marine Terminal 2	LONG BEACH	CA0000442	2	DSTORMS	LONG BEACH INNER HARBOR
BP West Coast Products LLC	Long Beach Marine Terminal 3	LONG BEACH	CA0000451	3	DSTORMS	LONG BEACH HARBOR

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
BP West Coast Products LLC	Marine Terminal 1,Berth 121,LB	LONG BEACH	CA0059285	3	DSTORMS	LONG BEACH HARBOR
BP Wilmington Calciner	BP Wilmington Plant	WILMINGTON	CA0059153	2	DSTORMS	CERRITOS CHANNEL
ExxonMobil Oil Corporation	Southwestern Terminal-Area I	TERMINAL ISLAND	CA0003689	3	DPROCES	LOS ANGELES HARBOR
Harbor Cogeneration Company	Harbor Cogeneration Company	WILMINGTON	CA0060003	2	DFILBRI	CERRITOS CHANNEL
Kinder Morgan (Former GATX)	San Pedro Marine Terminal	SAN PEDRO	CA0001911	2	DMISCEL	LOS ANGELES HARBOR
Kinder Morgan (Former GATX)	Los Angeles Harbor Terminal	SAN PEDRO	CA0055816	2	DSTORMS	LOS ANGELES HARBOR
Long Beach, City of	Southeast Resource Recovery	LONG BEACH	CA0059544	3	DSTORMS	CERRITOS CHANNEL
Los Angeles City of DWP	Harbor Steam Plant,N Skim Tank	WILMINGTON	CA0056383	3	DMISCEL	LOS ANGELES INNER HARBOR
Los Angeles City of DWP	Harbor G.S. - Marine Tank Farm	WILMINGTON	CA0057037	3	DSTORMS	LOS ANGELES INNER HARBOR
Metropolitan Stevedore Co.	Metropolitan Stevedore Co.	LONG BEACH	CA0057746	2	DSTORMS	LONG BEACH HARBOR
Morton Salt/Rohm and Haas	Morton Salt - Long Beach	LONG BEACH	CA0061476	3	DSTORMS	LONG BEACH HARBOR
Petro Diamond Terminal Company	Marine Terminal, Berth 83, LB	LONG BEACH	CA0059358	3	DSTORMS	LONG BEACH HARBOR
Port of Los Angeles	New Dock St Pump Station	TERMINAL ISLAND	CA0064157	3	DMISCEL	CERRITOS CHANNEL
Shell Oil Products US	Mormon Island Marine Terminal	WILMINGTON	CA0003557	3	DSTORMS	LOS ANGELES INNER HARBOR
Shore Terminal LLC	Wilmington Marine Terminal	WILMINGTON	CA0055263	2	DSTORMS	LOS ANGELES HARBOR
Southern Ca. Marine Institute	Southern Ca. Marine Institute	TERMINAL ISLAND	CA0058556	3	DMISCEL	LOS ANGELES HARBOR
Southwest Marine, Inc.	Southwest Marine, Inc.	TERMINAL ISLAND	CA0000868	3	DNONCON	LOS ANGELES HARBOR
Tidelands Oil Production Co.	Wilmington and Terminal Island	WILMINGTON	CA0001813	2	DSTORMS	CERRITOS CHANNEL
Ultramar Inc.	Marine Term, Berth 164	WILMINGTON	CA0055719	3	DSTORMS	LOS ANGELES INNER HARBOR
US Navy Defense Logistics Agen	Defense Fuel Supply Pier 12 Lb	LONG BEACH	CA0060496	3	DSTORMS	LONG BEACH INNER HARBOR
Vopak Terminal Long Beach Inc	Vopak Terminal Long Beach Inc.	SAN PEDRO	CA0064165	2	DWSHWTR	LONG BEACH INNER HARBOR

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Westway Terminal Company	Westway Terminal-Berths 70-71	SAN PEDRO	CA0002186	2	DSTORMS	LOS ANGELES HARBOR
<b>GENERAL</b>						
Arco Terminal Services Corp.	Marine Terminal #3	LONG BEACH	CAG674001	3	NMISCEL	LONG BEACH HARBOR
California Water Service Co.	Dominguez 23201, 23202 & 27501	TORRANCE	CAG994005		NMISCEL	HARBOR LAKE
Charles King Company	L. A. Harbor Siphon Crossing	LOS ANGELES	CAG994002	3	DMISCEL	LOS ANGELES HARBOR
ConocoPhillips Company	76 Station #3768	LONG BEACH	CAG834001	2	DCNWTRS	LOS ANGELES HARBOR
Defense Energy Support	Berth 100 Backland Dev. Proj	LOS ANGELES	CAG994004			LOS ANGELES HARBOR
Defense Fuel Support Point	DFSP San Pedro-Pump House Area	SAN PEDRO	CAG834001	2	DCNWTRS	LOS ANGELES INNER HARBOR
ExxonMobil Oil Corporation	LA Channel Crossing Pipeline	WILMINGTON	CAG674001	3	NMISCEL	LOS ANGELES/LONG BEACH HARBOR MARINAS
Kinder Morgan (Former GATX)	Berth 118-119	SAN PEDRO	CAG674001	3	DMISCEL	LOS ANGELES HARBOR
LA Co Dept of Public Works	Dominguez Gap Barrier Project	WILMINGTON	CAG994001	3	DMISCEL	LOS ANGELES INNER HARBOR
Lomita, City of	City Water System Well No. 5	ROLLING HILLS ESTATES	CAG994005		NMISCEL	HARBOR LAKE
Los Angeles City of DWP	Los Angeles Harbor WRP	SAN PEDRO	CAG674001	3	IMISCEL	LOS ANGELES HARBOR
Los Angeles City of DWP	Los Angeles Harbor WRP	SAN PEDRO	CAG994002	3	DMISCEL	LOS ANGELES HARBOR
Pacific Terminals LLC	Systems Wide Pipelines		CAG674001	3	IMISCEL	LONG BEACH HARBOR
Pacific Terminals LLC	Systems Wide Pipelines		CAG674001	3	IMISCEL	LOS ANGELES HARBOR
Pacific Terminals LLC	Systems Wide Pipelines		CAG994002	3	DMISCEL	LONG BEACH HARBOR
Pacific Terminals LLC	Systems Wide Pipelines		CAG994002	3	DMISCEL	LOS ANGELES HARBOR
Port of Long Beach	Piers G/J Terminal Project		CAG994004		DCNWTRS	LONG BEACH HARBOR
Port of Long Beach	Pier S Dewatering	LONG BEACH	CAG994004		HCNWTRS	LONG BEACH INNER HARBOR
Shell Oil Products US	Equilon Marine Terminal-Pier B	LONG BEACH	CAG674001	3	NMISCEL	LONG BEACH INNER HARBOR
Shell Oil Products US	Shell Mormon Island Marine Ter	WILMINGTON	CAG674001	3	NMISCEL	LOS ANGELES HARBOR
Shell Oil Products US	Shell Signal Hill Terminal	LONG BEACH	CAG674001	3	NMISCEL	LOS ANGELES/LONG BEACH OUTER HARBOR

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Thums Long Beach Company	Power Plant @Port of LongBeach	LONG BEACH	CAG994004		DCNWTRS	LONG BEACH HARBOR
<b>Los Angeles River Watershed Wastewater Permits - NPDES</b>						
<b>MAJORS</b>						
Burbank, City of Public Works	Burbank WWRP	BURBANK	CA0055531	1	DDOMIND	BURBANK WESTERN CHANNEL
LA City Bureau of Sanitation	L.A.-Glendale WWRP	LOS ANGELES	CA0053953	1	DDOMIND	LOS ANGELES RIVER
LA City Bureau of Sanitation	Tillman WWRP	VAN NUYS	CA0056227	1	DDOMIND	LOS ANGELES RIVER
LA Co Sanitation Districts	Whittier Narrows WWRP	EL MONTE	CA0053716	1	DDOMIND	RIO HONDO
Las Virgenes MWD	Tapia WRF	CALABASAS	CA0064271	1	DDOMEST	LOS ANGELES RIVER
Pacific Terminals LLC	Dominguez Hills Tank Farm	COMPTON	CA0052949	3	DMISCEL	COMPTON CREEK
The Boeing Company	Rocketdyne Div. - Santa Susana	SIMI HILLS	CA0001309	1	DSTORMS	LOS ANGELES RIVER
<b>MINOR</b>						
3M Company	3M Pharmaceuticals	NORTHRIDGE (NORTH LOS ANGELES)	CA0063312	2	HCNWTRS	LOS ANGELES RIVER
Bank Of America	Nt & Sa L.A. Data Center	LOS ANGELES	CA0057690	2	DMISCEL	LOS ANGELES RIVER
BP West Coast Products LLC	East Hynes Facility	LONG BEACH	CA0059561	3	DSTORMS	LOS ANGELES RIVER
Chevron U.S.A. Inc.	Van Nuys Terminal	VAN NUYS	CA0059293	3	DSTORMS	LOS ANGELES RIVER
Coltec Industries Inc.	Former Menasco Aerosystem Faci	BURBANK	CA0064319	3	DCNWTRS	BURBANK WESTERN WASH
Dial Corp, The	Southwest Grease Business	COMMERCE	CA0062022	3	DSTORMS	LOS ANGELES RIVER
Eastman Chemical Co	Eastman Chemical Co	LYNWOOD	CA0063908	2	DCNWTRS	LOS ANGELES RIVER
Edington Oil Co.	Long Beach Refinery - Rainfall	LONG BEACH	CA0057363	2	DSTORMS	LOS ANGELES RIVER
ExxonMobil Refining Supply Co.	RAS#7-8712	TORRANCE	CA0063304	1	DMISCEL	LOS ANGELES RIVER
Kaiser Aluminum Extruded Prod.	Kaiser Aluminum Extruded Prod.	COMMERCE	CA0000892	3	DPROCES	LOS ANGELES RIVER
LA Co Metro Trans Authority	Segments 1,2A,2B,3 Operations	LOS ANGELES	CA0064092	1	HCNWTRS	LOS ANGELES RIVER
Lincoln Avenue Water Co.	South Coulter Water Treatment	ALTADENA	CA0064068	3	DMISCEL	ARROYO SECO S. OF DEVIL'S GATE (UPPER)

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Los Angeles City of DWP	GENERAL Office Building	LOS ANGELES	CA0056855	3	DMISCEL	LOS ANGELES RIVER
Los Angeles City of DWP	Tunnel # 105	NEWHALL	CA0064149	3	DMISCEL	LOS ANGELES RIVER
Los Angeles City of Rec&Parks	Los Angeles Zoo Griffith Park	LOS ANGELES	CA0056545	2	DDOMEST	LOS ANGELES RIVER
Los Angeles Turf Club	Santa Anita Park	ARCADIA	CA0064203	3	DMISCEL	ARCADIA WASH (LOWER, HY UNIT 405.33)
Lubricating Specialties Co.	Pico Rivera, Oil Blending	PICO RIVERA	CA0059013	3	DSTORMS	RIO HONDO
MCA / Universal City Studios	Universal City Studios	UNIVERSAL CITY (MOVIE STUDIO)	CA0002739	3	DFILBRI	LOS ANGELES RIVER
Metropolitan Water Dist. Of SC	Rio Hondo Power Plant	SOUTH GATE	CA0059633	3	DNONCON	LOS ANGELES RIVER
Owens-Brockway Glass Container	Glass Container Div, Vernon	VERNON	CA0056464	2	DNONCON	LOS ANGELES RIVER
Pabco Paper Products	Paperboard & Carton Mfg,Vernon	VERNON	CA0057274	3	DSTORMS	LOS ANGELES RIVER
Saint-Gobain Containers,LLC	Saint-Gobain Containers,LLC	EL MONTE	CA0000884	3	DPROCES	RIO HONDO
Sta - Lube/CRC Industries Inc.	Sta - Lube/CRC Industries Inc.	RANCHO DOMINGUEZ	CA0064025	2	DPROCES	COMPTON CREEK
<b>GENERAL</b>						
21300 Victory Blvd. Ltd. Co.	Warner Corporate Center	WOODLAND HILLS	CAG994004		DMISCEL	LOS ANGELES RIVER
550 S. Hope Street Associates	550 S. Hope St. Building	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Arco Service Station	Arco Service Staion (Glen Smit	LONG BEACH	CAG834001	2		LOS ANGELES RIVER TO ESTUARY
Arco Terminal Services Corp.	East Hynes Terminal	LONG BEACH	CAG674001	3	NMISCEL	LOS ANGELES RIVER
Atlantic Richfield Company	West Hynes Pump Station	LONG BEACH	CAG674001	3	DMISCEL	LOS ANGELES RIVER
Atlantic Richfield Company	Arco Station No. 6035	EL MONTE	CAG834001	2	DCNWTRS	LOS ANGELES RIVER
Atlantic Richfield Company	Former Arco Service Stn. #1860	LOS ANGELES	CAG994004		DCNWTRS	LOS ANGELES RIVER
Atlantic Richfield Company	Former Arco Service Stn. #1860	LOS ANGELES	CAG994004		DCNWTRS	LOS ANGELES RIVER
Bell Gardens, City of, DPW	Domestic Water Well	BELL GARDENS	CAG994005		DMISCEL	RIO HONDO

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Burbank, City of Public Servic	Burbank Public Service Dept	BURBANK	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Burbank, City of Public Servic	Reservoir Forebay	BURBANK	CAG994002	3	DMISCEL	LOS ANGELES RIVER
Calclean Inc.	Davis-LeGrand Company	LONG BEACH	CAG834001	2	DMISCEL	LOS ANGELES RIVER
California Water Service Co.	Well 29401	LONG BEACH	CAG994001	3	DMISCEL	LOS ANGELES RIVER
California Water Service Co.	Well 29701	LONG BEACH	CAG994001	3	DMISCEL	LOS ANGELES RIVER
California Water Service Co.	Wells 27201 & 29001	LONG BEACH	CAG994001	3	NMISCEL	COMPTON CREEK
California Water Service Co.	Wells 21501 & 21502	LONG BEACH	CAG994005		DMISCEL	LOS ANGELES RIVER
California Water Service Co.	Dominguez 27201, 29001 & 29701	RANCHO DOMINGUEZ	CAG994005		NMISCEL	COMPTON CREEK
California Water Service Co.	Rio Hondo Water Supply Wells	COMMERCE	CAG994005		NMISCEL	RIO HONDO
California Water Service Co.	East Los Angeles Water Well	LOS ANGELES	CAG994005		NMISCEL	LOS ANGELES RIVER
Caltrans	LA-105 Garfield/Ardis Ave.	DOWNEY	CAG914001	2	DCNWTRS	LOS ANGELES RIVER
Caltrans	Los Angeles River Watershed	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
CarrAmerica Realty Corp.	CarrAmerica Office Building	WOODLAND HILLS	CAG994004		DNONCON	LOS ANGELES RIVER
CH2M Hill	Whittier Narrows Early Action	SOUTH EL MONTE	CAG914001	2	DCNWTRS	RIO HONDO
Coast Packing Co.	Coast Packing Co.	VERNON	CAG994003	3	DNONCON	LOS ANGELES RIVER
Compton Municipal Water Dept.	Municipal Water Supply Wells	COMPTON	CAG994005		DMISCEL	COMPTON CREEK
Db "Ultimate"	Db "Ultimate"	LOS ANGELES	CAG994003	3	DNONCON	LOS ANGELES RIVER
DDR Urban LP	Queens Way Bay Retail Entertai	LONG BEACH	CAG994001	3	IMISCEL	LOS ANGELES RIVER
Douglas Emmett Warner CtrTower	Plaza 6, Warner Center	WOODLAND HILLS	CAG994004		DMISCEL	LOS ANGELES RIVER
Douglas Emmett Warner CtrTower	Plaza 3, Warner Center	WOODLAND HILLS	CAG994004		DMISCEL	LOS ANGELES RIVER
DTSC/England & Assoc.	Former Southland Oil Site	COMMERCE	CAG914001	2	DCNWTRS	RIO HONDO BELOW SPREADING GROUNDS

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
East Pasadena Water Co.	Water Well No. 10 and 8	PASADENA	CAG994005		IMISCEL	RIO HONDO
EMIF IV, LP c/o Hazard Mgmt	Lynwood Town Center GW Treat	LYNWOOD	CAG994004		IMISCEL	LOS ANGELES RIVER
ExxonMobil Oil Corporation	Mobil SS#11-FRN	ENCINO	CAG834001	2	HCNWTRS	LOS ANGELES RIVER
Figueroa at Wilshire LLC	Sanwa Bank Plaza	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Forest Lawn	Well No. 2A	GLENDALE	CAG994005			LOS ANGELES RESERVOIR
Former Shell SS/Equilon Enter.	Hanna's Arco (former Shell SS)	LOS ANGELES	CAG834001	2	HCNWTRS	LOS ANGELES RIVER
G & K Management Co., Inc.	Grand Promenade	LOS ANGELES	CAG994004		DMISCEL	LOS ANGELES RIVER
G & M Oil Co.	G & M Oil Co. Station #57	LYNWOOD	CAG834001	2	NMISCEL	LOS ANGELES RIVER
Glendale Adventist Med. Center	Physicians Medical Terrace	GLENDALE	CAG994003	3	DNONCON	LOS ANGELES RIVER
Glendale Docker Partnership	Central Stocker Ltd.	GLENDALE	CAG994003	3	DNONCON	LOS ANGELES RIVER
Glendale II Associates, Ltd.	Glendale Galleria Office	GLENDALE	CAG994003	3	DNONCON	LOS ANGELES RIVER
Grand Central Square	Parking Structure	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Grifols Biologicals Inc.	Blood Fractionation & Process	LOS ANGELES	CAG994003	3	DNONCON	LOS ANGELES RIVER
HANKEY INVESTMENT COMPANY	Midway Ford	LOS ANGELES	CAG834001	2	NMISCEL	LOS ANGELES RIVER
Hermetic Seal Corp.	Hermetic Seal Corp.	ROSEMEAD	CAG914001	2	HCNWTRS	RIO HONDO
Hermetic Seal Corp.	Hermetic Seal Corp.	ROSEMEAD	CAG994003	3	DMISCEL	EATON WASH
Interstate Brands Corp.	Interstate Brands	GLENDALE	CAG834001	2	HCNWTRS	LOS ANGELES RIVER
IRP Legacy Cahuenga Assoc. LLC	California Credit Union	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
J&M Oil Company (dba United Oi	United Oil Station #33	LYNWOOD	CAG834001	2	DMISCEL	LOS ANGELES RIVER
Jamison Properties	Encino Executive Plaza	ENCINO	CAG994002	3	DMISCEL	LOS ANGELES RIVER
Jet Propulsion Laboratory	Jet Propulsion Lab.	PASADENA	CAG994004		DMISCEL	DEVIL'S GATE RESERVOIR (LOWER, 405.31)
Jewish Home for the Aging	Jewish Home for the Aging	RESEDA	CAG994004		HMISCEL	LOS ANGELES RIVER

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Jones Lang la Salle	Bank of America Harbor Bldg	LOS ANGELES	CAG994004		DMISCEL	LOS ANGELES RIVER
L & R Auto Parks, Inc.	Parking Structure 220 S.Spring	LOS ANGELES	CAG994003	3	DMISCEL	LOS ANGELES RIVER
LA Co Dept of Public Works	Dominguez Gap Proj. Part 2B	CARSON	CAG994002	3	HMISCEL	LOS ANGELES RIVER
LA Co Parking Authority	Walt Disney Hall Parking	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Laeroc 1998 Income Fund, L.P.	Carbon Cannister Water Trt Sys	LOS ANGELES	CAG994003	3	DCNWTRS	LOS ANGELES RIVER
Leatherman Property	Leatherman Property	GRANADA HILLS	CAG834001	2	NMISCEL	BULL CREEK
Los Angeles City of DWP	Sepulveda Trunk Line Project	GRANADA HILLS	CAG674001	3	NMISCEL	LOS ANGELES RIVER
Los Angeles City of DWP	River Supply Conduit	LOS ANGELES	CAG674001	3	NMISCEL	LOS ANGELES RIVER
Los Angeles City of DWP	Encino Reser Water Qty Proj.	LOS ANGELES	CAG674001	3	NMISCEL	LOS ANGELES RIVER
Los Angeles City of DWP	City Trunk Line-South	LOS ANGELES	CAG674001	3	NMISCEL	LOS ANGELES RIVER
Los Angeles City of DWP	Valley Generating Station	SUN VALLEY	CAG674001	3		LOS ANGELES RIVER
Los Angeles City of DWP	Burbank Trunk Line	BURBANK	CAG674001	3		LOS ANGELES RIVER
Los Angeles City of DWP	Pollock Wells Treatment Plant	LOS ANGELES	CAG914001	2	DMISCEL	LOS ANGELES RIVER
Los Angeles City of DWP	Sepulveda Trunk Line Project	GRANADA HILLS	CAG994002	3	DCNWTRS	PACOIMA WASH
Los Angeles City of DWP	Burbank Trunk Line	BURBANK	CAG994002	3	HCNWTRS	BURBANK WESTERN WASH
Los Angeles City of DWP	Distributing Station 87	LOS ANGELES	CAG994002	3	HMISCEL	LOS ANGELES RIVER
Los Angeles County I.S.D.	W. San Fernando Courthouse	CHATSWORTH	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Maguire Partners	The Gas Company Tower	LOS ANGELES	CAG994003	3	NDRILLS	LOS ANGELES RIVER
Mammoth Apartments, LLC	Mammoth Apartments	SHERMAN OAKS	CAG994001	3	IMISCEL	LOS ANGELES RIVER
Metropolitan Water Dist. Of SC	Greg Avenue Power Plant	SUN VALLEY	CAG994003	3	DMISCEL	LOS ANGELES RIVER
Mobil Oil Corp.	Vernon Terminal	VERNON	CAG674001	3	IMISCEL	LOS ANGELES RIVER
Monterey Park, City of	Delta Plant Well No. 5	ROSEMEAD	CAG914001	2	DCNWTRS	RIO HONDO

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Monterey Park, City of	Delta Plant	ROSEMEAD	CAG914001	2		RIO HONDO
Newlowe Properties c/o HMC	Newlowe Properties c/o HMC	LOS ANGELES	CAG914001	2	DMISCEL	LOS ANGELES RIVER
One California Plaza	One California Plaza	LOS ANGELES	CAG994004		DMISCEL	LOS ANGELES RIVER
Pacific Pipeline System LLC	West Hynes Station	LONG BEACH	CAG994004		DCNWTRS	LOS ANGELES RIVER
Pacific Terminals LLC	Systems Wide Pipelines		CAG674001	3	IMISCEL	LOS ANGELES RIVER
Pacific Terminals LLC	Systems Wide Pipelines		CAG994001	3	DMISCEL	LOS ANGELES RIVER
Pasadena, City of	Garfield Well	PASADENA	CAG994005		DMISCEL	ARROYO SECO
Pasadena, City of	Well #59	PASADENA	CAG994005		DMISCEL	RIO HONDO
Pasadena, City of	Well #58	PASADENA	CAG994005		NMISCEL	LOS ANGELES RIVER
Pico Water District	Pico Water District	PICO RIVERA	CAG994001	3	DMISCEL	LOS ANGELES RIVER
Pure Effect Incorporated	LAC/USC Replacement Project	LOS ANGELES	CAG994004		DCNWTRS	LOS ANGELES RIVER
Robert Chan	B.C. Plaza	LOS ANGELES	CAG994003	3	DMISCEL	LOS ANGELES RIVER
Rubio Canon Land & Water Assoc	Rubio-Well No. 7	ALTADENA	CAG994005		DCNWTRS	ARROYO SECO
Shell Oil Products US	Shell Van Nuys Terminal	VAN NUYS	CAG674001	3	NMISCEL	SEPULVEDA FLOOD CONTROL BASIN
Shell Oil Products US	Shell Station	LYNWOOD	CAG834001	2	DCNWTRS	LOS ANGELES RIVER
Sierracin/Sylmar Corp.	Sierracin.Sylmar Corp.	SYLMAR	CAG994003	3	DNONCON	PACOIMA WASH
South Montebello Irrigation	Water Well #6	MONTEBELLO	CAG994005		DMISCEL	RIO HONDO
South Montebello Irrigation	Water Well #7	MONTEBELLO	CAG994005		DMISCEL	RIO HONDO
Southern California Edison Co.	Compton Service Cen.	COMPTON	CAG834001	2	HCNWTRS	LOS ANGELES RIVER
Southern California Gas Co.	Southern Calif. Gas-Pico Rive	PICO RIVERA	CAG674001	3		RIO HONDO
Southern California Water	Bissell Plant	BELL	CAG994005			LOS ANGELES RIVER
Southern California Water Co.	Goodyear Site	LOS ANGELES	CAG994002	3	IMISCEL	LOS ANGELES RIVER
Southern California Water Co.	Nadeau Site	LOS ANGELES	CAG994002	3	IMISCEL	LOS ANGELES RIVER
Southern California Water Co.	San Gabriel Plant	ROSEMEAD	CAG994003	3	IFILBRI	RIO HONDO TO SPREADING GROUNDS

DISCHARGER'S NAME*	FACILITY NAME	CITY	NPDES #	R	WASTE TYPE	RECEIVING WATER
Southern California Water Co.	Encinita WTP	TEMPLE CITY (RUDELL)	CAG994003	3	IMISCEL	EATON WASH
Southern California Water Co.	Century Site	PARAMOUNT	CAG994003	3	IMISCEL	LOS ANGELES RIVER
Southern California Water Co.	Gage Site Water Wells	BELL GARDENS	CAG994005		DCNWTRS	LOS ANGELES RIVER
Southern California Water Co.	Priory Site	BELL GARDENS	CAG994005		IMISCEL	LOS ANGELES RIVER
Southern California Water Co.	Otis Well No. 3	BELL	CAG994005		NMISCEL	LOS ANGELES RIVER
Southern California Water Co.	Belhaven Plant	LOS ANGELES	CAG994005		NMISCEL	COMPTON CREEK
Trillium Property, LLC	Trillium Towers	WOODLAND HILLS	CAG994004		DMISCEL	LOS ANGELES RIVER
Two Calif Plaza/Arden Realty	Two Calif Plaza/Equity Office	LOS ANGELES	CAG994001	3	DMISCEL	LOS ANGELES RIVER
U.S. Geological Survey	Los Angeles River - Hydrologic	LOS ANGELES	CAG994005		NCNWTRS	LOS ANGELES RIVER
United Storm Water, Inc.	Storm Drain Cleaning I	LOS ANGELES	CAG994004		DMISCEL	COMPTON CREEK
Univar USA Inc.	Former Vopak USA Inc.	LOS ANGELES	CAG914001	2	HMISCEL	LOS ANGELES RIVER
University Of Southern Calif.	MarlyneNorris Cancer Res Tower	LOS ANGELES	CAG994004		DMISCEL	LOS ANGELES RIVER
Walnut Park Mutual Water Co.	Well # 11	HUNTINGTON PARK	CAG994005		DMISCEL	LOS ANGELES RIVER
Warner Brothers Inc.	Warner Brothers Studio Facilit	BURBANK	CAG994003	3	IMISCEL	LOS ANGELES RIVER
Washington Mutual	Sherman Oaks Branch	SHERMAN OAKS	CAG994004		DMISCEL	LOS ANGELES RIVER
World Oil Marketing Co.	World Oil Marketing	ARTESIA	CAG834001	2	HCNWTRS	LOS ANGELES RIVER

**Major** dischargers are either (1) Publically Owned Waste Water Treatment Works (POTWs) with a yearly average flow of over 0.5 MGD, (2) industrial sources with a yearly average flow of over 0.1 MGD, or (3) those with lesser flows but with acute or potential adverse environmental impacts.

**Minor** dischargers are all other discharges that are not categorized as a Major.

**General** permits are NPDES permits that covers several facilities that have the same type of discharge and are located in a specific geographic area. A general permit applies the same or similar conditions to all dischargers covered under the general permit.

## Ratings

“1” = Major threat to water quality

“2” = Moderate threat to water quality

“3” = Minor threat to water quality

## Waste Types Categories (prior to treatment or disposal)

### First Letter of Code:

**Hazardous** – influent or solid wastes that contain toxic, corrosive, ignitable, or reactive substances (prior to treatment or disposal) managed according to applicable Department of Health Services standards

**Designated** – influent or solid wastes that contain **nonhazardous wastes** (prior to treatment or disposal) that pose a significant threat to water quality because of their high concentrations (e.g., BOD, hardness, chloride). Manageable hazardous wastes (e.g., inorganic salts and heavy metals) are included in this category.

**Nonhazardous** – influent or solid wastes that contain putrescible and nonputrescible solid, semisolid, and liquid wastes (e.g., garbage, trash, refuse, paper, demolition and construction wastes, manure, vegetable or animal solid and semisolid wastes) (prior to treatment or disposal) and have little adverse impact on water quality

**Inert** – influent or solid wastes that do not contain soluble pollutants or organic wastes (prior to treatment or disposal) and have little adverse impact on water quality. Such wastes could cause turbidity and siltation. Uncontaminated soils, rubble and concrete are examples of this category.

CNSOIL – contaminated soil

CNWTRS – contaminated groundwater

CONTAC – contact cooling water

DOMEST – domestic sewage

DOMIND – domestic sewage & industrial waste

DRILLS – drilling muds

FILBRI – filter backwash brine waters

MISCEL – dewatering, rec. lake overflow, swimming pool wastes, water ride wastewater, or groundwater seepage

NONCON – noncontact cooling water

PROCES – process waste (produced as part of industrial/manufacturing process)

STORMS – stormwater runoff

WSHWTR – washwater waste (photo reuse washwater, vegetable washwater)

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APPENDIX F . 303(d) Listed Waters/Reaches for mainland watersheds, beaches and harbors in greatest proximity to Channel Islands National Park. Watersheds are listed in order from North to South, from Point Conception in Santa Barbara County to the mouth of the Los Angeles River in Los Angeles County, south of the Palos Verdes Peninsula. Relevant jurisdictions are the Central Coast Regional Water Quality Control Board (CC-WQMB, State Regional Board #3 - or "Region 3") and the Los Angeles Regional Water Quality Control Board (LA-WQMB, State Regional Board #4 - or "Region 4"). Relevant waters from Region 3 in the table are from the *South Coast Hydrologic Unit 15* (which includes mostly first order streams draining the coastal mountains from Point Arguello to Carpinteria) and *Unit 16* (which includes San Miguel, Santa Rosa and Santa Cruz Islands), as designated by Region 3. Waters from Region 4 are listed by *Watershed Management Areas* (WMAs), which are designations of Region 4. Three of the islands in Channel Islands National Park (San Miguel, Santa Rosa, and Santa Cruz) fall under the jurisdiction of Region 3 and are contained in Unit 16. Two of the islands in Channel Islands National Park (Anacapa and Santa Barbara) fall under the jurisdiction of Region 4, and are contained in the "Channel Islands WMA". *According to the CA 303(d) lists, no impaired waters are found on any of the Channel Islands.*

Listed River Segment, Beach or Harbor	Impairments
<b>Region 3: Central Coast Water Quality Management Board</b>	
<b>Hydrologic Unit #15 (coastal streams from Pt. Arguello to Carpinteria)</b>	
Arroyo Burro Creek	Pathogens
Carpinteria Creek	Pathogens
Carpinteria Marsh (El Estero Marsh)	Nutrients Low DO Priority Organics Sedimentation/Siltation
Goleta Slough/Estuary	Metals Pathogens Priority Organics Sedimentation/Siltation
Mission Creek	Pathogens Unknown toxicity
Pacific Ocean at Carpinteria State Beach (Carpinteria Creek mouth, Santa Barbara County)	Fecal Coliform Total Coliform
Pacific Ocean at East Beach (mouth of Mission Creek, Santa Barbara County)	Fecal Coliform Total Coliform
Pacific Ocean at East Beach (mouth of Sycamore Creek, Santa Barbara County)	Total Coliform
Pacific Ocean at Gaviota Beach (mouth of Canada de la Gaviota Creek, Santa Barbara County)	Total Coliform
Pacific Ocean at Hammonds Beach (Santa Barbara County)	Fecal Coliform
Pacific Ocean at Hope Ranch Beach (Santa Barbara County)	Fecal Coliform
Pacific Ocean at Jalama Beach (Santa Barbara County)	Fecal Coliform Total Coliform
Pacific Ocean at Point Rincon (mouth of Rincon Cr, Santa Barbara County)	Fecal Coliform Total Coliform
Pacific Ocean at Refugio Beach (Santa Barbara County)	Total Coliform
San Antonio Creek (South Coast Watershed)	Sedimentation/Siltation
<b>Hydrologic Unit #16 (San Miguel, Santa Rosa and Santa Cruz Islands)</b>	
No impaired waters	

## Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
<b>Region 4: Los Angeles Regional Water Quality Control Board</b>	
<b>Channel Islands WMA (Anacapa, Santa Barbara, San Nicolas, Santa Catalina and San Clemente Islands)</b>	
No impaired waters	
<b>Miscellaneous Ventura Coastal WMA</b>	
Channel Islands Harbor	Lead (sediment) Zinc (sediment)
Channel Islands Harbor Beach	coliform
Hobie Beach (Channel Islands Harbor)	coliform
Mandalay Beach	beach closures
McGrath Beach	coliform
McGrath Lake	chlordan (sediment) coliform, fecal dieldrin (sediment) PCBs (sediment) Sediment toxicity DDT (sediment)
Ormond Beach (area 50 yds N of Oxnard Industrial Dr and a 50 yd area south of J St Dr)	coliform
Port Hueneme Harbor (Back Basins)	DDT (tissue), PCBs (tissue)
Promenade Park Beach	coliform
Rincon Beach	coliform
San Buenaventura Beach	coliform
Santa Clara River Estuary Beach/Surfers Knoll	coliform
Surfers Point at Seaside	coliform
Ventura Harbor: Ventura Keys	coliform
<b>Ventura River WMA</b>	
Canada Larga (Ventura River Watershed)	coliform, fecal, Low DO
Matilija Creek Reach 1 (Jct. With N. Fork to Reservoir)	fish barriers
Matilija Creek Reach 2 (above Reservoir)	fish barriers
Matilija Reservoir	fish barriers
San Antonio Creek (tributary to Ventura River Reach 4)	nitrogen
Ventura River Estuary	algae coliform, fecal coliform, total eutrophic Trash
Ventura River Reach 1 (estuary to Main St.)	algae
Ventura River Reach 2 (Main St. to Weldon Canyon)	algae
Ventura River Reach 3 (Weldon Canyon to confl. w/ Coyote Cr.)	Pumping, water diversions
Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd.)	Pumping, water diversions

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
<b>Santa Clara River WMA</b>	
Brown Barranca/Long Canyon	nitrate + nitrite
Elizabeth Lake	eutrophic low DO/organic enrichment pH trash
Hopper Creek	sulfate total dissolved solids
Lake Hughes	algae eutrophic fish kills odors trash
Mint Canyon Creek Reach 1	nitrate + nitrite
Munz Lake	eutrophic trash
Piru Creek (tributary to Santa Clara River Reach 4)	pH
Pole Creek (tributary to Santa Clara River Reach 3)	sulfate total dissolved solids
Santa Clara River Estuary	ChemA* (tissue) coliform toxaphene
Santa Clara River Reach 3 (Freeman Diversion to A street))	ammonia chloride total dissolved solids
Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99)	ammonia chloride nitrate + nitrite
Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)	chloride coliform
Santa Clara River Reach 9 (Bouquet Cyn Rd to abv Lang Gaging)	coliform
Sespe Creek (tributary to Santa Clara River Reach 3)	chloride pH
Torrey Canyon Creek	nitrate + nitrite
Wheeler Canyon/Todd Barranca	nitrate + nitrite sulfate total dissolved solids
<b>Calleguas Creek WMA</b>	
Calleguas Creek Reach 1 (was Mugu Lagoon)	chlordan (tissue) Copper DDT (tissue & sediment) endosulfan (tissue) Mercury nickel nitrogen PCBs (tissue) sediment toxicity sedimentation/siltation Zinc

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Calleguas Creek Reach 2 (estuary to Potrero Rd - was Calleguas Creek Reaches 1 and 2)	Ammonia ChemA* (tissue) chlordane (tissue) copper, dissolved DDT (tissue & sediment) endosulfan (tissue) fecal coliform nitrogen PCBs (tissue) sediment toxicity sedimentation/siltation toxaphene (tissue & sediment)
Calleguas Creek Reach 3 (previously Potrero Rd upstream to confluence with Conejo Ck)	Chloride nitrate + nitrite sedimentation/siltation total dissolved solids
Calleguas Creek Reach 4 (was Revolon Slough Main Branch: Mugu Lagoon to Central Ave.)	Algae Boron ChemA* (tissue) chlordane (tissue & sediment) chlorpyrifos (tissue) coliform, fecal DDT (tissue & sediment) dieldrin (tissue) endosulfan (tissue & sediment) nitrogen nitrate as nitrogen (NO3) PCBs (tissue) sedimentation/siltation Selenium sulfate total dissolved solids toxaphene (tissue & sediment) toxicity trash
Calleguas Creek Reach 5 (was Beardsley Channel)	algae ChemA* (tissue) chlordane (tissue & sediment) chlorpyrifos (tissue) dacthal (sediment) DDT (tissue & sediment) dieldrin (tissue) endosulfan (tissue & sediment) nitrogen PCBs (tissue) sedimentation/siltation toxaphene (tissue & sediment) toxicity trash

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Calleguas Creek Reach 6 (was Arroyo Las Posas Reaches 1 and 2)	ammonia chloride coliform, fecal DDT (sediment) nitrate + nitrite sedimentation/siltation sulfate total dissolved solids
Calleguas Creek Reach 7 (was Arroyo Simi Reaches 1 and 2)	ammonia Boron chloride coliform, fecal organophosphorus pesticides sedimentation/siltation sulfate total dissolved solids
Calleguas Creek Reach 8 (was Tapo Canyon Reach 1)	Boron chloride sedimentation/siltation sulfate total dissolved solids
Calleguas Creek Reach 9A (was lower part of Conejo Creek Reach 1)	algae ChemA* (tissue) chlordane (tissue) coliform, fecal DDT (tissue) dieldrin (tissue) endosulfan (tissue) hexachlorocyclohexane (HCH) (tissue) nitrate (NO <sub>3</sub> ) nitrate as nitrogen nitrite as nitrogen PCBs (tissue) sulfate total dissolved solids toxaphene (tissue & sediment)
Calleguas Creek Reach 9B (was part of Conejo Creek Reaches 1 and 2)	Algae ammonia ChemA* (tissue) chloride coliform, fecal DDT (tissue) endosulfan (tissue) sulfate total dissolved solids toxaphene (tissue & sediment) toxicity

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Calleguas Creek Reach 10: Conejo Ck-Hill Canyon (was part of Conejo Creek Reaches 2 and 3, and lower Conejo Crk/Arroyo Conejo N Fork)	Algae ammonia ChemA* (tissue) chloride coliform, fecal DDT (tissue) endosulfan (tissue) nitrite as nitrogen sulfate total dissolved solids toxaphene (tissue & sediment) toxicity
Calleguas Creek Reach 11: Arroyo Santa Rosa (was part of Conejo Creek Reach 3)	algae ammonia ChemA* (tissue) coliform, fecal DDT (tissue) endosulfan (tissue) sedimentation/siltation sulfate total dissolved solids toxaphene (tissue & sediment) toxicity
Calleguas Creek Reach 12 (was Conejo Creek/Arroyo Conejo N. Fork)	ammonia chlordan (tissue) DDT (tissue) sulfate total dissolved solids
Calleguas Creek Reach 13: Conejo Creek South Fork (was Conejo Creek Reach 4 and part of Reach 3)	algae ammonia ChemA* (tissue) chloride DDT (tissue) endosulfan (tissue) sulfate total dissolved solids toxaphene (tissue & sediment) toxicity
Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	ChemA* (tissue) DDT (tissue & sediment) nitrogen sediment toxicity toxaphene (tissue) toxicity chlordan (tissue)
Fox Barranca (tributary to Calleguas Creek Reach 6)	Boron nitrate + nitrite sulfate total dissolved solids

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Rio de Santa Clara/Oxnard Drain #3	ChemA* (tissue) chlordan (tissue) DDT (tissue) nitrogen PCBs (tissue) sediment toxicity toxaphene (tissue)
<b>Santa Monica Bay WMA</b>	
Ashland Avenue Drain	coliform low DO/organic enrichment toxicity
Ballona Creek	cadmium (sediment) ChemA* (tissue) chlordan (tissue) coliform copper, dissolved DDT (tissue) dieldrin (tissue) enteric viruses Lead, dissolved PCBs (tissue) pH sediment toxicity Selenium, total silver (sediment) toxicity zinc, dissolved
Ballona Creek Estuary	chlordan (tissue & sediment) coliform DDT (sediment) Lead (in sediment) PAHs (sediment) PCBs (tissue & sediment) sediment toxicity shellfish harvesting advisory Zinc (sediment)
Ballona Wetland	exotic vegetation habitat alteration hydromodification reduced tidal flushing trash
Lake Lindero	algae chloride eutrophic odors specific conductance trash

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Lake Sherwood	algae ammonia eutrophic low DO/organic enrichment Mercury (tissue)
Las Virgenes Creek	coliform low DO/organic enrichment nutrients (algae) scum/foam-unnatural sedimentation/siltation Selenium trash
Lindero Creek Reach 1	algae coliform scum/foam-unnatural Selenium trash
Lindero Creek Reach 2 (above lake)	algae coliform scum/foam-unnatural Selenium trash
Malibou Lake	algae eutrophic low DO/organic enrichment
Malibu Creek	coliform fish barriers nutrients (algae) scum/foam-unnatural sedimentation/siltation trash
Malibu Lagoon	benthic comm. effects coliform enteric viruses eutrophic pH shellfish harvesting advisory swimming restrictions
Marina del Rey Harbor - Back Basins	chlordan (tissue & sediment) copper (sediment) DDT (tissue) dieldrin (tissue) fish consumption advisory Lead (sediment) PCBs (tissue & sediment) sediment toxicity zinc (sediment)

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Medea Creek Reach 1 (lake to confl. with Lindero)	algae coliform sedimentation/siltation selenium trash
Medea Creek Reach 2 (abv. confl. with Lindero)	algae coliform sedimentation/siltation selenium trash
Palo Comado	coliform
Pico Kenter Drain	ammonia coliform copper enteric viruses lead PAHs toxicity trash
Santa Monica Bay Nearshore and Offshore Zone	chlordan (sediment) debris fish consumption advisory PAHs (sediment) PCBs (tissue & sediment) sediment toxicity
Santa Monica Bay Nearshore and Offshore Zone (centered on Palos Verdes Shelf)	DDT (tissue & sediment)
Santa Monica Canyon	coliform lead
Sepulveda Channel	ammonia coliform lead
Stokes Creek	coliform
Topanga Cyn Creek	lead
Triunfo Cyn Creek Reach 1	lead mercury sedimentation/siltation
Triunfo Cyn Creek Reach 2	lead mercury sedimentation/siltation
Westlake Lake	algae ammonia eutrophic lead low DO/organic enrichment
Abalone Cove Beach	beach closures DDT PCBs
Amarillo Beach	DDT PCBs

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Big Rock Beach	beach closures coliform DDT PCBs
Bluff Cove Beach	beach closures DDT PCBs
Cabrillo Beach (Outer)	beach closures coliform DDT PCBs
Carbon Beach	beach closures DDT PCBs
Castlerock Beach	beach closures coliform DDT PCBs
Dan Blocker Memorial Beach	coliform
Dockweiler Beach	beach closures coliform
Escondido Beach	beach closures DDT PCBs
Flat Rock Point Beach Area	beach closures DDT PCBs
Inspiration Point Beach	beach closures DDT PCBs
La Costa Beach	beach closures DDT PCBs
Las Flores Beach	coliform DDT PCBs
Las Tunas Beach	beach closures DDT PCBs
Leo Carillo Beach (south of County line)	beach closures coliform
Long Point Beach	coliform DDT PCBs
Lunada Bay Beach	beach closures
Malaga Cove Beach	beach closures DDT PCBs

Appendix F. Continued

<b>Listed River Segment, Beach or Harbor</b>	<b>Impairments</b>
Malibu Beach	beach closures DDT
Malibu Lagoon Beach (Surfrider)	beach closures coliform DDT PCBs
Marina Del Rey Harbor Beach	beach closures coliform
Nicholas Canyon Beach	beach closures DDT PCBs
Palos Verdes Shoreline Point Beach	pathogens pesticides
Paradise Cove Beach	beach closures coliform DDT PCBs
Peninsula Beach	coliform
Point Dume Beach	beach closures DDT PCBs
Point Fermin Park Beach	beach closures DDT PCBs
Point Vicente Beach	beach closures
Portugese Bend Beach	beach closures DDT PCBs
Puerco Beach	beach closures DDT PCBs
Redondo Beach	beach closures coliform DDT PCBs
Resort Point Beach	beach closures
Robert H. Meyer Memorial Beach	beach closures DDT PCBs
Rocky Point Beach	beach closures
Royal Palms Beach	beach closures DDT PCBs
Santa Monica Beach	beach closures coliform

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Sea Level Beach	beach closures DDT PCBs
Topanga Beach	beach closures coliform DDT PCBs
Torrance Beach	beach closures coliform
Trancas Beach (Broad Beach)	beach closures coliform DDT PCBs
Venice Beach	beach closures coliform
Whites Point Beach	beach closures DDT PCBs
Will Rogers Beach	beach closures coliform
Zuma (Westward Beach)	beach closures DDT PCBs
<b>Dominguez WMA</b>	
Cabrillo Beach (Inner) LA Harbor area	beach closures DDT (fish consumption advisory) PCBs (fish consumption advisory)
Dominguez Channel (above Vermont)	aldrin (tissue) ammonia ChemA* (tissue) chlordane (tissue) Chromium (sediment) coliform Copper (sediment) DDT (tissue & sediment) dieldrin (tissue) Lead (tissue) PAHs (sediment) PCBs (tissue) Zinc (sediment)

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Dominguez Channel Estuary (to Vermont)	aldrin (tissue) ammonia benthic comm. effects ChemA* (tissue) chlordane (tissue) Chromium (sediment) coliform DDT (tissue & sediment) dieldrin (tissue) Lead (tissue) PAHs (sediment) Zinc (sediment)
Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)	benthic comm. effects DDT (tissue) PAHs (sediment) PCBs (tissue) sediment toxicity
Los Angeles Harbor: Fish Harbor	DDT PAHs PCBs
Los Angeles Harbor: Inner Breakwater	DDT PAHs PCBs
Los Angeles Harbor: Main Channel	beach closures Copper (tissue & sediment) DDT (tissue & sediment) PAHs (tissue & sediment) PCBs (tissue & sediment) sediment toxicity Zinc (tissue & sediment)
Los Angeles Harbor: Consolidated Slip	benthic comm. effects cadmium (sediment) chlordane (tissue & sediment) Chromium (sediment) DDT (tissue & sediment) dieldrin (tissue) Lead (sediment) Mercury (sediment) Nickel (sediment) PAHs (sediment) PCBs (tissue & sediment) sediment toxicity Zinc (sediment)

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Los Angeles Harbor: Southwest Slip	sediment toxicity PCBs (fish consumption advisory) DDT (fish consumption advisory)
Machado Lake (Harbor Park Lake)	algae ammonia ChemA* (tissue) chlordan (tissue - fish consumption advisory) DDT (fish consumption advisory) dieldrin (tissue) eutrophic odors PCBs (tissue) trash
San Pedro Bay nearshore and offshore zones	Chromium (sediment) Copper (sediment) PAHs (sediment) sediment toxicity DDT (fish consumption advisory) PCBs (fish consumption advisory) Zinc (sediment)
Torrance Carson Channel	coliform Copper (sediment) Lead (sediment)
Wilmington Drain	ammonia coliform Copper (sediment) Lead (sediment)
<b>Los Angeles River WMA</b>	
Aliso Canyon Wash	Selenium
Arroyo Seco Rch 1 (d/s Devil's Gate Dam)	coliform nutrients (algae) trash
Arroyo Seco Rch 2 (W. Holly Ave. to Devil's Gate)	coliform nutrients (algae) trash
Bell Creek	coliform
Burbank Western Channel	algae ammonia Cadmium odors scum/foam-unnatural trash

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Compton Creek	coliform Copper Lead PH
Dry Canyon Creek	coliform Selenium, total
Echo Park Lake	algae ammonia Copper eutrophic Lead odors PCBs (tissue) PH
Lake Calabasas	ammonia DDT (tissue) eutrophic low DO/organic enrichment odors pH
Lincoln Park Lake	ammonia eutrophic Lead low DO/organic enrichment odors
Los Angeles River Estuary (Queensway Bay)	chlordan (sediment) DDT (sediment) Lead (sediment) PCBs (sediment) Zinc (sediment)
Los Angeles River Reach 1(u/s Carson St. to estuary)	Aluminum, total ammonia cadmium, dissolved coliform copper, dissolved Lead nutrients (algae) pH scum/foam-unnatural zinc, dissolved
Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	ammonia coliform Lead nutrients (algae) odors oil scum/foam-unnatural

Appendix F. Continued

Listed River Segment, Beach or Harbor	Impairments
Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.)	ammonia nutrients (algae) odors scum/foam-unnatural
Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	ammonia coliform Lead nutrients (algae) odors scum/foam-unnatural
Los Angeles River Reach 5 (within Sepulveda Basin)	ammonia nutrients (algae) odors oil scum/foam-unnatural
Los Angeles River Reach 6 (u/s of Sepulveda Basin)	coliform Dichloroethylene/1,1-DCE Tetrachloroethylene/PCE Trichloroethylene/TCE
McCoy Canyon Creek	coliform nitrate (NO3) nitrate as nitrogen Selenium, total
Monrovia Cyn Creek	Lead
Peck Rd Lake	chlordan (tissue) DDT (tissue) Lead low DO/organic enrichment odors
Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	coliform Copper Lead pH Trash Zinc
Rio Hondo Reach 2 (Whittier Narrows Flood Control Basin to Spreading Grounds)	coliform
Tujunga Wash (d/s Hansen Dam to Los Angeles River)	ammonia coliform Copper odors scum/foam-unnatural Trash
Verdugo Wash Reach 1 (LA River to Verdugo Rd)	algae coliform Trash
Verdugo Wash Reach 2 (above Verdugo Road)	algae coliform Trash

## APPENDIX G

### Synopses of Water Quality for Coastal WMAs in Region 4

Source:

([http://www.waterboards.ca.gov/losangeles/html/programs/regional\\_programs.html#Watershed](http://www.waterboards.ca.gov/losangeles/html/programs/regional_programs.html#Watershed))

#### **Channel Islands WMA (the southern Channel Islands)**

The U.S. Navy has facilities on San Nicolas (and a desalination plant) and San Clemente Islands with a small package treatment plant on the latter. San Clemente Island is the primary maritime training area for the U.S. Department of the Navy Pacific Fleet, U.S. Navy SEALs, and the U.S. Marine Corps. The city of Avalon is located on Santa Catalina Island and also has a small treatment plant. Water quality in the vicinity of the islands is generally good. There are some potential threats from the naval facilities and the small treatment plants; however, there is only one area (Avalon Beach) with an impairment listing, for bacteria.

#### **Miscellaneous Ventura WMA.**

This WMA consists of four separate drainage areas are typified by either small coastal streams, wetlands, or marinas: Channel Islands Harbor, Port Hueneme Harbor, Ventura Marina, and McGrath Lake. Most of the 24 NPDES permittees in the watershed discharge to coastal streams.

*Channel Islands Harbor:* The harbor is on the 2002 303(d) list for lead and zinc. During the early to mid-1980s, the State Mussel Watch Program (SMWP) found low to intermediate levels of metals and organics except for one especially high accumulation of DDT. Sediment sampling for metals conducted by Regional Board staff in 1988 revealed slightly to moderately elevated levels. Copper at one site was nearly 50 ppm and zinc was as high as 76 ppm. Arsenic was slightly elevated (4 ppm) at a sampling site located next to a drain possibly connected to a nearby agricultural field. Under the Bay Protection and Toxic Cleanup Program (BPTCP), the harbor is listed as site of concern due to DDT and silver sediment concentrations and sediment toxicity (but not recurrent toxicity); further monitoring is needed here.

*Port Hueneme Harbor:* The harbor is on the 2002 303(d) list for PAHs, DDT, PCBs, TBT, and zinc. The SMWP has found elevated levels of Cu, Zn, PAHs, and PCBs. Zinc was at elevated levels on the commercial side while PCBs were very high on the Navy side. The Navy side is suspected of using large amounts of pentachlorophenol for treatment of wood pilings. An Army Corps DEIR released in 1985 covering extension of one channel stated that water quality was good. The document also briefly discussed the port's biota which CF&G found to be "fairly healthy" and typical of southern California harbors. Sediment core samples were collected in 1985 and 1996 as part of a proposed dredge project. Relatively low levels of metals were found and no pesticides were detected. It may well be that flushing is good in the harbor and only locating a station directly next to a source will result in bioaccumulation. The BPTCP found fairly minimal levels of sediment toxicity but the harbor is considered a site of concern under the program due to accumulation of DDT, PCBs, TBT, PAHs, and zinc in mussel tissue. However, more recent monitoring

conducted as part of dredging projects have found much lower concentrations of many pollutants, at least in sediment.

Ventura Marina: The marina (the Keys area) is on the 2002 303(d) list for coliform problems. The City of Ventura monitors six stations within the Keys and the nearby Arundell Barranca (open drain carrying mostly agricultural runoff) for coliform on a regular basis. There are currently ongoing discussions concerning the possibility of re-rerouting the barranca away from the marina. The SMWP has found moderately elevated levels of metals, DDT, and chlordane in the marina from sampling conducted in the late 1980s; however, it is not listed as a site of concern under the BPTCP.

McGrath Lake: The lake is on the 2002 303(d) list for pesticides. The BPTCP found varying amounts of sediment toxicity and sediment levels of many pesticides were very high; the lake is listed as a toxic hot spot due to sediment concentrations of DDT, chlordane, dieldrin, toxaphene and endosulfan above sediment quality guidelines. A major crude oil spill into the lake occurred in late 1993 and runoff from nearby agricultural fields is ongoing. A characterization study revealed the large extent to which the sediment is contaminated; however, since the likelihood of cleanup is currently low, planning for habitat restoration proceeding.

Open Coastline: Little is known of water quality in the Ormond Beach area. The Oxnard Treatment Plant discharges secondary effluent to the ocean off of Oxnard. The facility is currently investigating approaches to remove upstream brine dischargers in order to move toward water reclamation. Part of the reclaimed water is proposed for use in a seawater intrusion barrier project to protect the Oxnard Plain ground water basin. The ocean immediately off of the coast was part of Bight'98 and the 1994 Southern California Bight Pilot Project.

### **Ventura River WMA**

The majority of water quality problems involve eutrophication (excessive nutrients and effects), especially in the estuary/lagoon although some DDT and metals have been found in mussel and fish tissue (on the 303(d) list for these). A large storm drain enters the river near the estuary and homeless persons live in and frequent the river bed. Sediment in the estuary, however, appears relatively uncontaminated and in laboratory tests conducted through the BPTCP, little sediment toxicity was found. In some subwatersheds, high TDS concentrations impair the use of water for agriculture. The watershed's water quality problems are, for the most part, nonpoint source-related. There have also been incidents of releases of toxic materials into storm drains entering the lower river.

There is only one major discharger, a small POTW (3.0 MGD) in the middle reach of the Ventura River which has recently upgraded (end of 1997) to tertiary treatment. The treatment plant effluent had been implicated in nuisance growth of aquatic plants and low dissolved oxygen found at times downstream of the discharge. For much of the year, the facility's effluent can make up two-thirds of the total river flow. The major concern was the facility's inability to meet the nutrients and suspended solids discharge limitations in its NPDES permit. Additionally, high biochemical oxygen demand (BOD) in the effluent

resulted in dissolved oxygen concentrations in the river that could not support cold water aquatic habitat. The facility was required to upgrade under a Regional Board Cease and Desist Order. The most recent monitoring has shown the quality of the effluent has significantly improved including a reduction of nitrate-nitrogen from 20 mg/l to 4 mg/l, a reduction of suspended solids from 12 mg/l to 2 mg/l, and a reduction of BOD from 10 mg/l to 2 mg/l. Dissolved oxygen levels in the river have improved dramatically to about 11 mg/l and algal growth is greatly reduced below the plant; however, nonpoint sources (agriculture and horse stables) still appear to be contributing to algal growth above the plant.

Water diversions, dams, and groundwater pumping also are thought to limit surface water resources needed to support a high quality fishery. Reduced water supplies affect water quality and thus beneficial uses, particularly with regards to the endangered steelhead trout (steelhead trout are known to utilize the River and some of its tributaries historically supported annual steelhead runs of 5000 – 6000 adults). Removal of the Matilija Dam (upper river) has recently been identified as a high priority.

### **Santa Clara River WMA**

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state; this is a high quality natural resource for much of its length. The river originates in the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean halfway between the cities of San Buenaventura and Oxnard.

Extensive patches of high quality riparian habitat are present along the length of the river and its tributaries. The endangered fish, the unarmored stickleback, is resident in the river. One of the largest of the Santa Clara River's tributaries, Sespe Creek, is designated a wild trout stream by the state of California and supports significant spawning and rearing habitat. The Sespe Creek is also designated a wild and scenic river. Piru and Santa Paula Creeks, which are tributaries to the Santa Clara River, also support good habitats for steelhead. In addition, the river serves as an important wildlife corridor. A lagoon exists at the mouth of the river and supports a large variety of wildlife.

Increasing loads of nitrogen and salts in supplies of ground water threaten beneficial uses including irrigation and drinking water. Other threats to water quality include increasing development in floodplain areas which has necessitated flood control measures such as channelization that results in increased runoff volumes and velocities, erosion, and loss of habitat. In many of these highly disturbed areas the exotic giant reed (*Arundo donax*) is gaining a foothold.

Many of the smaller communities in this watershed remain unsewered. In particular, in the Agua Dulce area of the upper watershed, impacts on drinking water wells from septic tanks is a major concern. The community is undertaking a wellhead protection effort, with oversight by Board staff. Development pressure, particularly in the upper watershed, threatens habitat and the water quality of the river. The effects of septic system use in the Oxnard Forebay area is also of concern

*IMPAIRMENTS:* Limited data (beyond mineral quality and nitrogen) is available for much of the Santa Clara River. The Santa Clara River Estuary and Beach is on the 303(d) list for coliform while a portion of the river upstream of the estuary is listed for ammonia and coliform. Portions of the river have chloride exceedances. The Estuary is also listed for DDT in fish tissue. Two small lakes in the watershed are also on the 303(d) list for eutrophication, trash, DO, and pH problems. Two major spills of crude oil into the river occurred in the early 1990s although recovery has been helped somewhat by winter flooding events. Natural oil seeps discharge significant amounts of oil into Santa Paula Creek.

### **Calleguas Creek WMA**

Aquatic life in both Mugu Lagoon and the inland streams of this watershed has been impacted by pollutants from nonpoint sources. DDT, PCBs, other pesticides, and some metals have been detected in both sediment and biota collected from surface waterbodies of this watershed. Additionally, ambient toxicity has been revealed in several studies from periodic toxicity testing in the watershed (ammonia from POTWs and pesticides such as diazinon and chlorpyrifos are implicated). Fish collected from Calleguas Creek and Revolon Slough exhibit skin lesions and have been found to have other histopathologic abnormalities. High levels of minerals and nitrates are common in the water column as well as in the groundwater. Sediment toxicity is also elevated in some parts of the lagoon. Reproduction is impaired in the resident endangered species, the light-footed clapper rail due to elevated levels of DDT and PCBs. Overall, this is a very impaired watershed. It appears that the sources of many of these pollutants are agricultural activities (mostly through continued disturbance and erosion of historically contaminated soils), which cover approximately 25% of the watershed along the inland valleys and coastal plain, although the nearby naval facility has also been a contributor. Other nonpoint sources include residential and urban activities, which are present over approximately 25% of the watershed. The remaining 50% of the watershed is still open space although there is a severe lack of benthic and riparian habitat.

Mugu Lagoon as well as the Calleguas Creek Estuary is considered a toxic hot spot owing to a BPTCP advisory level for mercury in fish, exceedance of the NAS guideline level for DDT in fish, sediment concentrations of DDT, PCB, chlordane, chlorpyrifos, sediment toxicity and degraded benthic infaunal community. Primary issues related to POTW discharges include ammonia toxicity and high mineral content (i.e., salinity), the latter, in part, due to imported water supplies.

### **Santa Monica Bay WMA**

As a nationally significant water body, Santa Monica Bay was included in the National Estuary Program in 1989. It has been extensively studied by the Santa Monica Bay Restoration Project and a watershed plan was developed in 1995. The Santa Monica Bay Watershed Council was formed in 1994 to oversee implementation of the Plan. The Restoration Project staff will be coordinating with Regional Board staff to carry out the Board's watershed approach in the Santa Monica Bay Watershed.

Though relatively small in its size compared with watersheds in other parts of the country, the Santa Monica Bay WMA embraces a high diversity in geological and hydrological characteristics, habitat features, and human activities. Almost every beneficial use defined in the Basin Plan is identified in water bodies somewhere in the WMA. Yet many of these beneficial uses have been impaired for years. While some of the impaired areas are showing signs of recovery, beneficial uses that are in relatively good condition still face the threat of degradation.

Existing and potential beneficial use impairment problems in the watershed fall into two major categories: human health risk, and natural habitat (wildlife) degradation. The former are issues primarily associated with recreational uses of the Santa Monica Bay. The latter are issues associated with terrestrial, aquatic, and marine environments. Pollutant loadings that originate from human activities are common causes of both human health risks and habitat degradation.

Of the major NPDES dischargers in the Santa Monica Bay WMA, the three POTWs (particularly the two direct ocean discharges) are the largest point sources of pollutants to Santa Monica Bay. Pollutants from the minor discharges have been estimated to contribute less than two percent of the total pollutants being discharged to the Bay.

#### **Dominguez Channel and Los Angeles/Long Beach Harbors WMA**

Two areas within Los Angeles Harbor are considered to be toxic hot spots under the BPTCP: Dominguez Channel/Consolidated Slip, based on sediment concentrations of DDT, PCB, cadmium, copper, lead, mercury, zinc, dieldrin, chlordane (all exceed sediment quality guidelines), sediment toxicity, and degraded benthic infaunal community; and Cabrillo Pier area, based on sediment concentrations of DDT, PCB and copper, sediment toxicity and issuance of a human health (fishing) advisory for DDT and PCB in white croaker and exceedances of National Academy of Science guidelines for DDT in fish and shellfish. Several locations have been listed as sites of concern under the BPTCP: Inner Fish Harbor, due to sediment concentrations of DDT, PCB, copper, mercury and zinc and sediment toxicity (not recurrent); Kaiser International, due to sediment concentrations of DDT, PCB, PAH, copper and endosulfan; Hugo Neu-Proler, due to PCB sediment concentrations; Southwest Slip, due to sediment concentrations of DDT, PCB, PAH, mercury, and chromium, and sediment toxicity (not recurrent); Cerritos Channel, due to sediment concentrations of DDT, PCB, metal, chlordane, TBT, sediment toxicity and accumulation in mussel tissue; Long Beach Outer Harbor, due to sediment concentrations of DDT and chlordane and sediment toxicity (not recurrent); and West Basin, due to sediment concentrations of DDT and PCB, sediment toxicity (not recurrent) and accumulation in clam tissue. There is need for further monitoring in all of these areas to clarify their status. Potential sources of these materials are considered to be historical deposition, discharges from the nearby POTW (especially for metals), spills from ships and industrial facilities, as well as stormwater runoff. Many areas of the harbors have experienced soil and/or groundwater contamination, which may result in possible transport of pollutants to the harbors' surface waters.

### Los Angeles Inner Harbor

Although the area is dramatically cleaner now than twenty-five years ago, parts of LA Inner Harbor are still suffering the effects of historic deposits of pollutants in the sediment and current point and nonpoint source discharges. Fish caught in the East Basin have exhibited histopathological abnormalities (liver lesions). The abnormalities are indicative of aromatic and chlorinated hydrocarbon contamination. There is also significant degradation in the biological community of a part of Inner Harbor with high levels of PCB and DDT; and toxicity of the surface water microlayer of one part of the harbor to a test fish species (larval kelp bass). Additionally, Cal EPA's Office of Environmental Health Hazard Assessment now advises against consumption of white croaker in the harbor and recommends no more than one meal every two weeks of black croaker, queenfish, and surfperches if caught in the harbor. On the other hand, the benthic community in many other areas of the inner harbor are healthy and sediments, though high in many pollutants, do not cause a great deal of toxicity in controlled lab tests.

LA Inner Harbor is on the 2002 303(d) list due to DDT, metals, PAHs, chlordane, TBT, and PCBs. Some of the contamination in sediment is historic with resuspension potential. Dominguez Channel was the recipient of runoff from the Montrose Chemical Facility which manufactured DDT for several decades until the early 1970s. There are also mostly nonpoint source inputs from several problem sites, spills, and storm drain runoff. The problems tend to be exacerbated by the poor circulation and flushing. The Port is in the process of filling in a large part of Outer Harbor and deepening some channels as part of their "2020 Plan". Pier 400, a 590-acre site of new land created by diking and filling harbor waters, was completed in April 2000. As a result, the potential exists for greater stagnation and more problems from deposition of new contaminants.

Mussel tissue data from the SMWP have documented high levels of metals, PCBs, TBT, and PAHs in mussel tissue at several locations in LA Inner Harbor. The BPTCP found a number of inner harbor areas with elevated pollutant levels but a smaller number of those have exhibited sediment toxicity.

Sediment data collected by Regional Board staff, the Port of LA, and various other researchers, have revealed several areas of heavy contamination with metals, PCBs, and DDT, and occasionally PAHs. Regional Board data show that the level of contamination within particular regions of the inner harbor vary considerably from site to site. Additionally, it is difficult to separate the effects of historic contamination from current inputs.

### Dominguez Channel

The results of sampling in 2002 found that for several chemicals, the maximum concentrations observed in Consolidated Slip sediments exceeded the NOAA ERM values. (ERM, Effects Range Medium, is the concentration threshold for a particular constituent above which 50% of samples show deleterious biological effects; ERL, Effects Range Low, is the threshold above which 10% of samples cause deleterious biological effects). Average concentrations (based on all data collected over the past 10 years) were close to or above the ERM for copper, lead, mercury, DDT, PCB and chlordane (this table was not in

the draft report). Contour maps of the contaminants show different patterns according to the chemical (lead and DDT have different distributions in Consolidated Slip) and with depth (the surficial sediments show different distributions than medium depth and deep cores). Sediment sampling for DDT was conducted in the Dominguez Channel by a consultant for Montrose during 1990; DDT levels were 300 - 13,000 ppb. NOAA's ERL and ERM for DDT in sediment are 3 ppb and 350 ppb, respectively.

Of major concern in the mid-1980s was discharge of zinc chromate as an additive in cooling water/boiler blowdown. There may have been some justification for that concern. Sediment sampling conducted by Regional Board staff in 1988 revealed zinc levels as high as 447 ppm, chromium as high as 67 ppm, and lead as high as 231 ppm.

A Region 4 study conducted in 1975 found that the aquatic biota of the Dominguez Channel were largely marine in origin and were a continuation of LA Inner Harbor biota. The number and abundance of aquatic species declined with distance inland from the harbor. A fairly abrupt decline in benthic species between Alameda and Wilmington Streets was attributed to the effects of pollution. *Capitella capitata* was one of the most abundant benthic species in the area and is generally associated with polluted areas. An absence of benthic fish species adjacent to one oil refinery was considered to be indicative of oxygen-poor bottom water. There was a degraded benthic community at several stations in Consolidated Slip during BPTCP sampling.

#### Long Beach Inner Harbor

While historic contamination is a definite problem in the older parts of the harbor (including the naval base), Pier J has only recently been constructed, utilizing some highly contaminated dredge material. Some other likely problem sites include: Cerritos Channel with its inputs at times from Consolidated Slip, a creosote manufacturing site, several oil terminals, a defunct ship repair yard (and several active ones), and the naval base, which is closed, while the attached shipyard remains open.

Contamination in the LB Inner Harbor is known to be sporadic. Little information is available on contamination in Southeast Basin except for TBT water concentrations of up to 380 ppt found in a 1988 statewide study of harbors and low levels of PCBs found in mussel tissue in 1986. The most recent SMWP data for the Inner Harbor show some areas of elevated DDT, most notably at those stations located in or near Cerritos Channel.

Moderate PCB levels were found in mussel tissue in front of the creosote facility located in Channel 2 and somewhat higher levels were found in Cerritos Channel which is likely related to its proximity to Consolidated Slip and other LA Harbor point and nonpoint sources. Long Beach Inner Harbor is on the 2002 303(d) list for DDT, PAHs, and PCBs, while San Pedro Bay is listed for DDT, PAHs, PCBs, and some metals.

#### **Los Angeles River WMA**

The Los Angeles River watershed is one of the largest in Region 4. It is also one of the most diverse in terms of land use patterns. Approximately 324 square miles of the watershed are covered by forest or open space land including the area near the headwaters

which originate in the Santa Monica, Santa Susana, and San Gabriel Mountains. The rest of the watershed is highly developed. The river flows through the San Fernando Valley past heavily developed residential and commercial areas. From the Arroyo Seco, north of downtown Los Angeles, to the confluence with the Rio Hondo, the river flows through industrial and commercial areas and is bordered by railyards, freeways, and major commercial and government buildings. From the Rio Hondo to the Pacific Ocean, the river flows through industrial, residential, and commercial areas, including major refineries and petroleum products storage facilities, major freeways, rail lines, and rail yards serving the Ports of Los Angeles and Long Beach.

Pollutants from dense clusters of residential, industrial, and other urban activities have impaired water quality in the middle and lower watershed. Added to this complex mixture of pollutant sources (in particular, pollutants associated with urban and stormwater runoff), is the high number of point source permits. Of the 1,336 dischargers enrolled under the general industrial storm water permit in the watershed, the largest numbers occur in the cities of Los Angeles (many within the community of Sun Valley), Vernon, South Gate, Long Beach, Compton, and Commerce. Metal plating, transit, trucking & warehousing, and wholesale trade are a large component of these businesses. This watershed has about twice the number of industrial stormwater dischargers as does the San Gabriel River Watershed and the most in this region.

*IMPAIRMENTS:* The majority of the LA River Watershed is considered impaired due to a variety of point and nonpoint sources. The 2002 303(d) list implicates pH, ammonia, a number of metals, coliform, trash, scum, algae, oil, chlorpyrifos as well as other pesticides, and volatile organics for a total of 107 individual impairments (reach/constituent combinations). Some of these constituents are of concern throughout the length of the river while others are of concern only in certain reaches (see chart below). Impairment may be due to water column exceedances, excessive sediment levels of pollutants, or bioaccumulation of pollutants. The beneficial uses threatened or impaired by degraded water quality are aquatic life, recreation, groundwater recharge, and municipal water supply.

APPENDIX H. Shipwrecks located in the Channel Islands National Marine Sanctuary. Table is from Ugoretz (2002). Not included in the table is the F/V Reliance which grounded and sank off the south point of Santa Rosa Island in June 2003.

Table 4-35. Shipwrecks with identified locations in the project area.

Vessel Name	Casualty Location	Year Built	Year Lost	Month	Cargo	Cause	Latitude	Longitude
<u>Aristocratis*</u>	Santa Rosa Island, SW side (near Johnson's Lee)	1943	1949	12	Coal	Navigation	330° 54 N 1200° 06 W	
<u>Blue Fin J 245</u>	Santa Rosa Island, Becher's Bay?	1930	1944	09		Unknown	330° 56 N 1190° 57 W	
<u>Chickasaw</u>	Santa Rosa Island, near South Point	1942	1962	02	Toys	Navigation	330° 53 N 1200° 07 W	
<u>Comet</u>	San Miguel Island, Wilson Rock, Simonton Cove	1886	1911	08	Lumber, 5000 board feet	Navigation, faulty chronometer	340° 03 N 1200° 23 W	
<u>Crown of England</u>	Santa Rosa Island, Ford Point	1891	1894	11	Ballast	Navigation	330° 54 N 1200° 02 W	
<u>Cuba</u>	San Miguel Island, Point Bennett	1897	1923	09	Coffee, Silver	Navigation	340° 01 N 1200° 27 W	
<u>Dante Alighieri II</u>	Santa Barbara Island, SW shore of	1937	1938	11	Fish	Navigation	330° 27 N 1190° 02 W	
<u>Del Rio</u>	Anacapa Island, 3 miles off light (Frencys Cove)	1935	1952	10	Fish	Fire	340° 00 N 1190° 24 W	
<u>Dora Bluhm</u>	Santa Rosa Island, Southwest of Bee Rock	1883	1910	05	Lumber	Navigation	330° 57 N 1200° 12 W	
<u>G. W. Prescott</u>	San Miguel Island, Point Bennett	1874	1879	08	Railroad ties	Navigation	340° 01 N 1200° 27 W	
<u>Goldenhorn</u>	Santa Rosa Island, Southwest Side	1883	1892	09	Coal, bituminous	Northeast currents, 100 miles off course, "strong unknown currents"	330° 58 N 1200° 13 W	
<u>H T P Co IX</u>	Santa Barbara Island, 4 miles off	1916	1921	01	Fish	Fire	330° 27 N 1190° 02 W	
<u>J. M. Colman</u>	San Miguel Island, Point Bennett	1888	1905	09	Lumber	Navigational	340° 01 N 1200° 27 W	
<u>Jane L. Stanford</u>	Santa Rosa Island, Skunk Pt.	1892	1929	08		Allision	330° 58 N 1190° 58 W	
<u>Kate and Anna</u>	San Miguel Island, Cuyler Harbor	1879	1902	04	Sealing outfit	Anchor chain parted	340° 03 N 1200° 21 W	
<u>Lady Christine*</u>	San Miguel Island, North West End	1988	1997	11	None	Improper Lookout	340° 03 N 1200° 23 W	
<u>Legend</u>	San Miguel Island, Point Bennett	1951	1967	08	None	Navigation	340° 01 N 1200° 27 W	
<u>Lotus</u>	Anacapa Island, off	1901	1921	09	General	Fire	340° 00 N 1190° 11 W	
<u>Magic</u>	Santa Rosa Island, Lake Anchorage?	1889	1899	08	None	Lost Mooring	330° 56 N 1190° 57 W	
<u>Patria*</u>	Santa Rosa Island, 1 mile north of East Point 100 yards off the beach, Skunk Point	1944	1954	06	Coal	Navigational error	330° 56 N 1190° 57 W	
<u>Pectan*</u>	San Miguel Island, Adams Cove	1902	1914	01	Ballast	Stormy	340° 01 N 1200° 26 W	
<u>Santa Cruz</u>	Santa Cruz Island, Prisoners Harbor	1893	1960	12		Lost mooring	340° 01 N 1190° 41 W	
<u>Santa Rosa</u>	San Miguel Island, Cuyler Harbor	1879	1899	11	Lumber	Heavy swell	340° 03 N 1200° 21 W	
<u>W T Co No. 3</u>	San Miguel Island, Point Bennett	1922	1935	07	Film crew	Unseaworthy	340° 01 N 1200° 27 W	
<u>Wampas (aka Grey Ghost)</u>	Santa Cruz Island, Valley Anchorage		1926	11	see comments		330° 59 N 1190° 39 W	
<u>Watson A. West</u>	San Miguel Island, near Point Bennett	1901	1923	02	Lumber	Navigation	340° 01 N 1200° 27 W	
<u>Winfield Scott</u>	Anacapa Island, Middle	1850	1853	12	Gold Bullion & Mail	Navigation In Fog	340° 01 N 1190° 23 W	

\*Not a total loss

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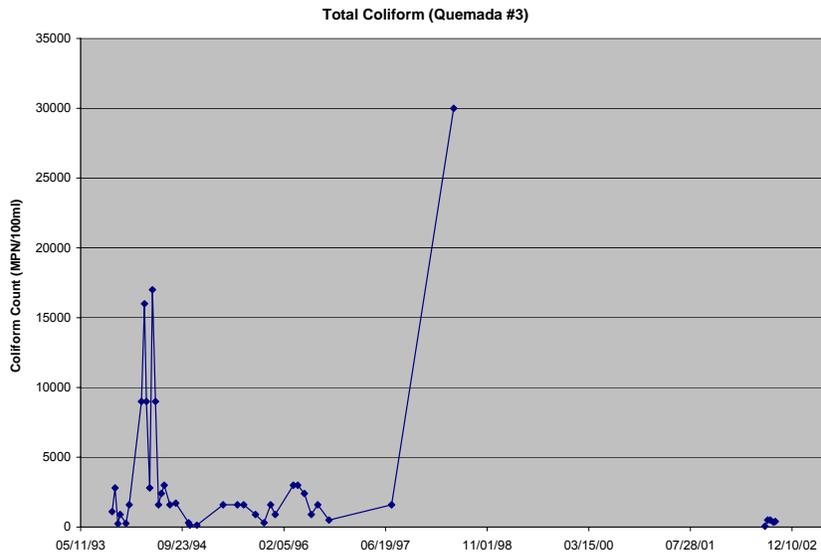


Figure 3. Time series for total coliform counts at Quemada Canyon stream site #3. California limit for Water Contact Recreation (a marine criteria) is 1000 MPN/100 ml. Figure reproduced from CINP (2002b).

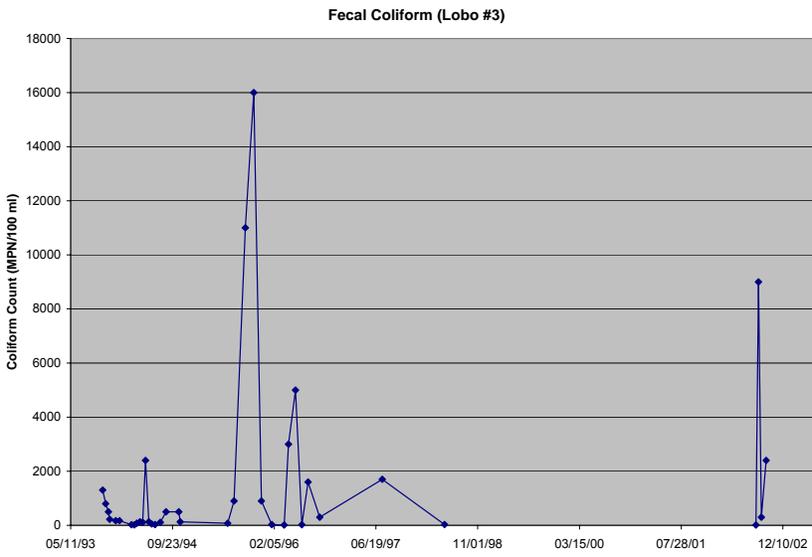


Figure 4. Time series for fecal coliform counts at Lobo Canyon stream site #3. California upper limit for fecal coliform (Freshwater Contact Recreation) is 200 MPN/100 ml (for geometric means of 5 or more samples), or 400 MPN/100ml (for single samples). Figure reproduced from CINP (2002b).

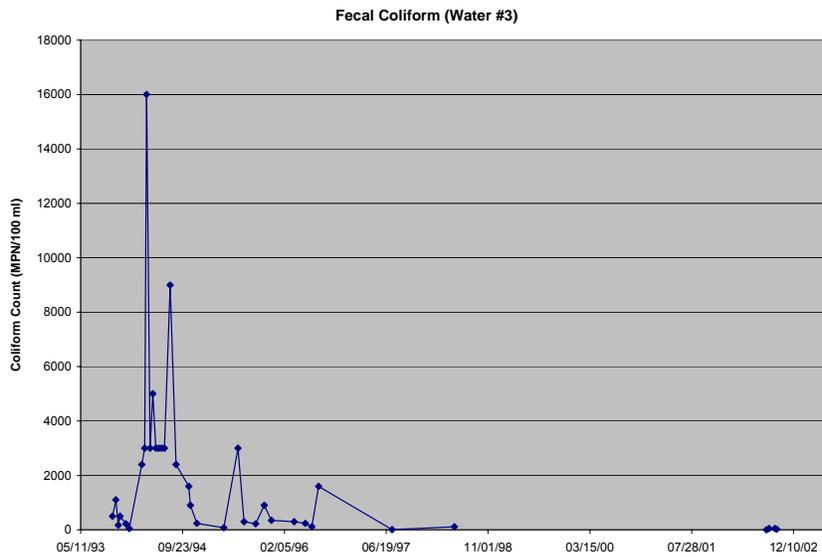
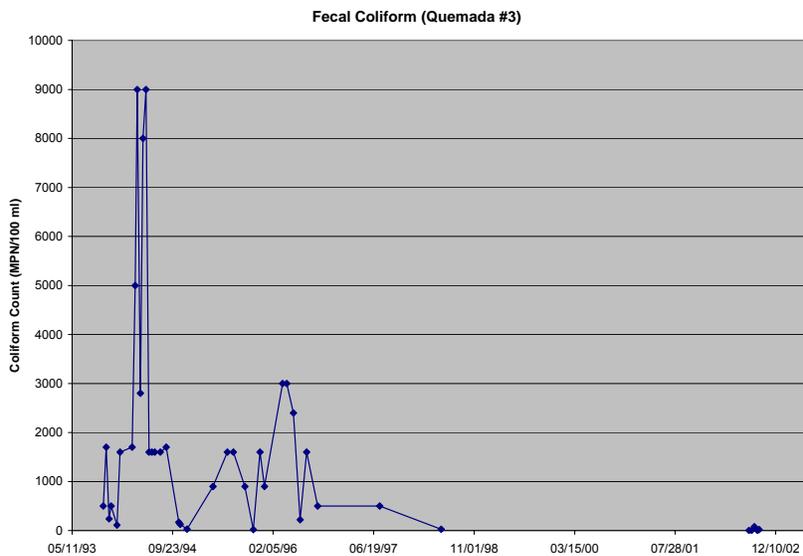


Figure 5. Time series for fecal coliform counts at Water Canyon stream site #3. California upper limit for fecal coliform (Freshwater Contact Recreation) is 200 MPN/100 ml (for geometric means of 5 or more samples), or 400 MPN/100ml (for single samples). Figure reproduced from CINP (2002b).



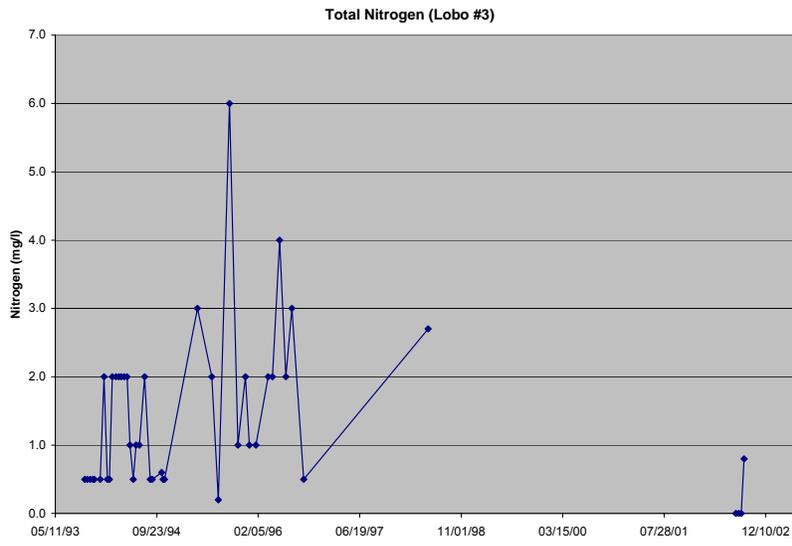


Figure 7. Time series for TN at Lobo Canyon stream site #3. Figure reproduced from CINP (2002b). EPA-recommended upper limit for TN in rivers and streams is 0.38 mg/L.

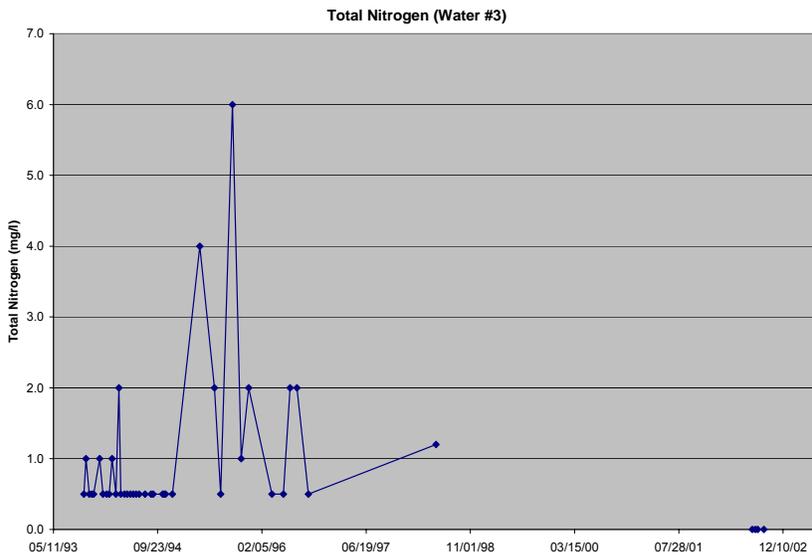


Figure 8. Time series for TN at Water Canyon stream site #3. Figure reproduced from CINP (2002b). EPA-recommended upper limit for TN in rivers and streams is 0.38 mg/L.

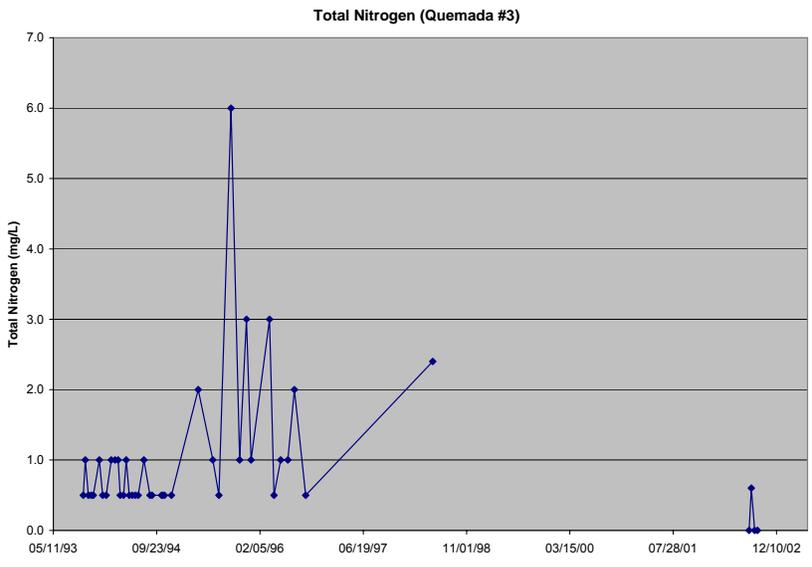


Figure 9. Time series for TN at Quemada Canyon stream site #3. Figure reproduced from CINP (2002b). EPA-recommended upper limit for TN in rivers and streams is 0.38 mg/L.

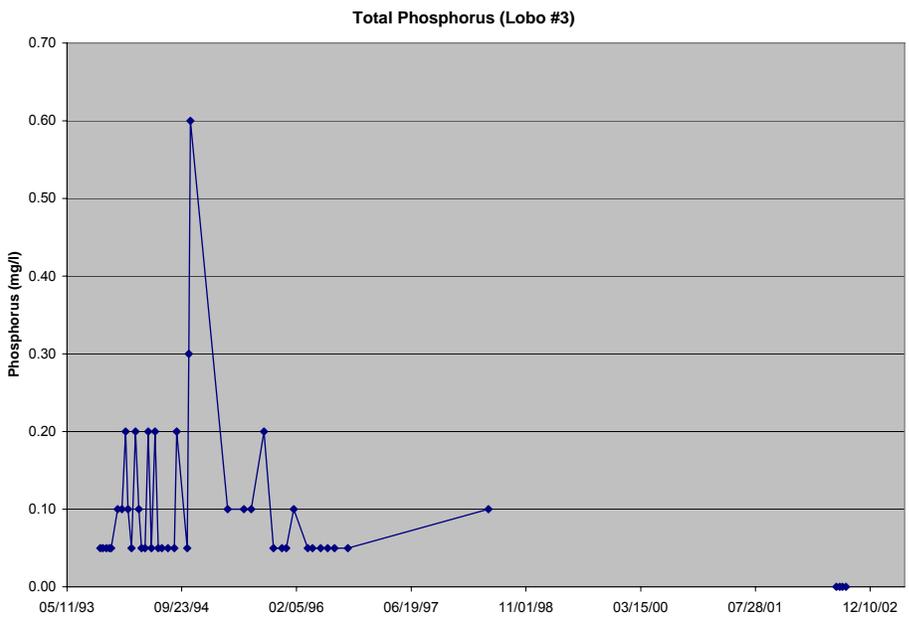


Figure 10. Time series for TP at Lobo Canyon stream site #3. Figure reproduced from CINP (2002b). EPA-recommended upper limit for TP in rivers and streams is 0.022 mg/L.

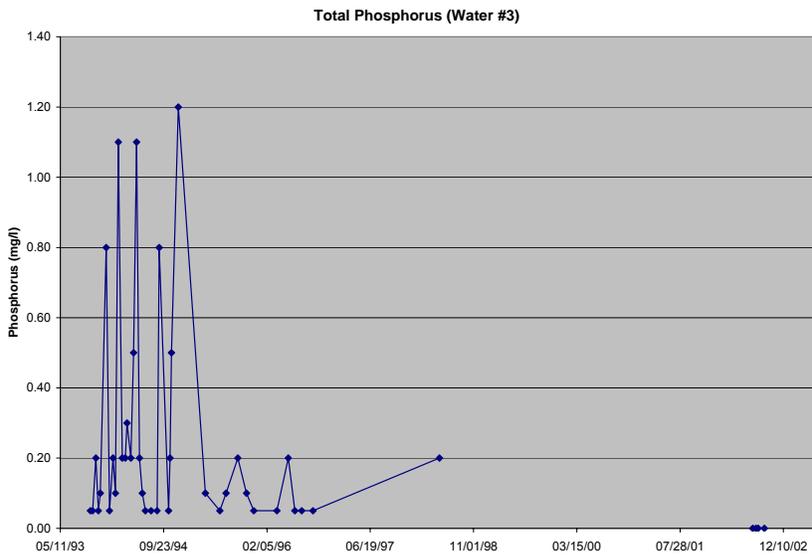


Figure 11. Time series for TP at Water Canyon stream site #3. Figure reproduced from CINP (2002b). EPA-recommended upper limit for TP in rivers and streams is 0.022 mg/L.

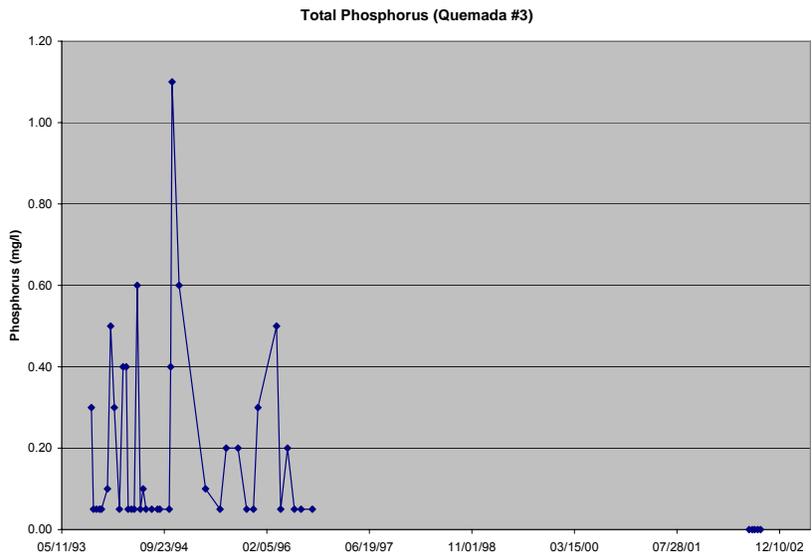


Figure 12. Time series for TP at Quemada Canyon stream site #3. Figure reproduced from CINP (2002b). EPA-recommended upper limit for TP in rivers and streams is 0.022 mg/L.

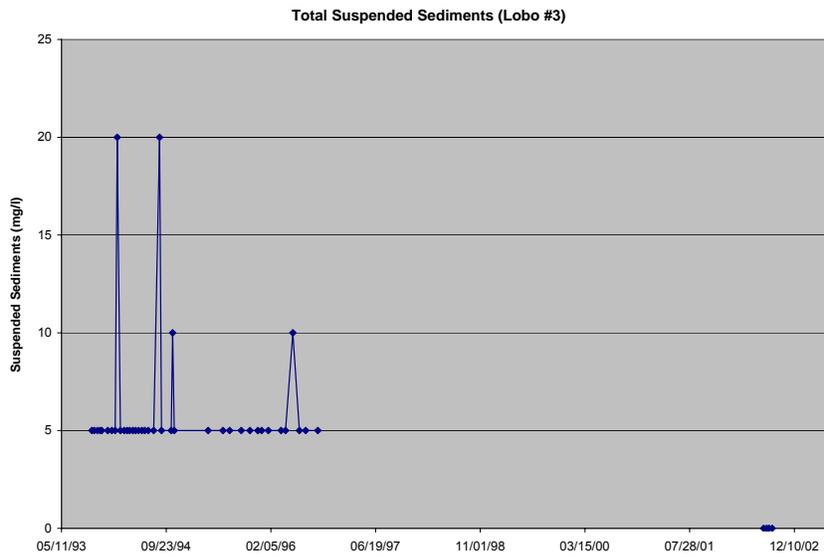
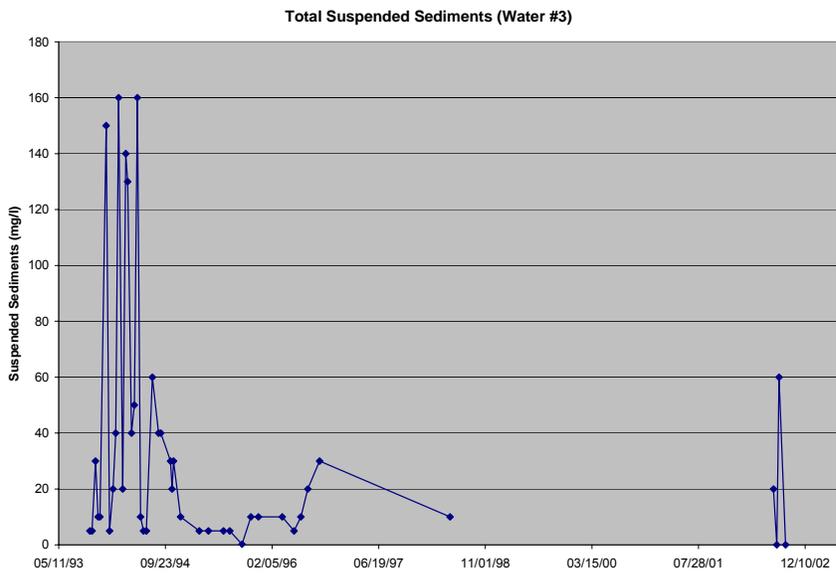


Figure 13. Time series for total suspended solids at Lobo Canyon stream site #3. Figure reproduced from CINP (2002b).



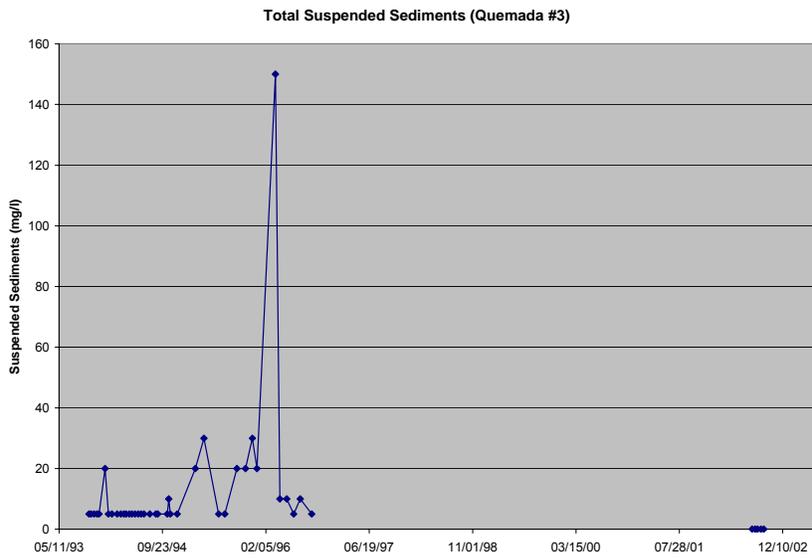


Figure 15. Time series for total suspended solids at Quemada Canyon stream site #3. Figure reproduced from CINP (2002b).



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.